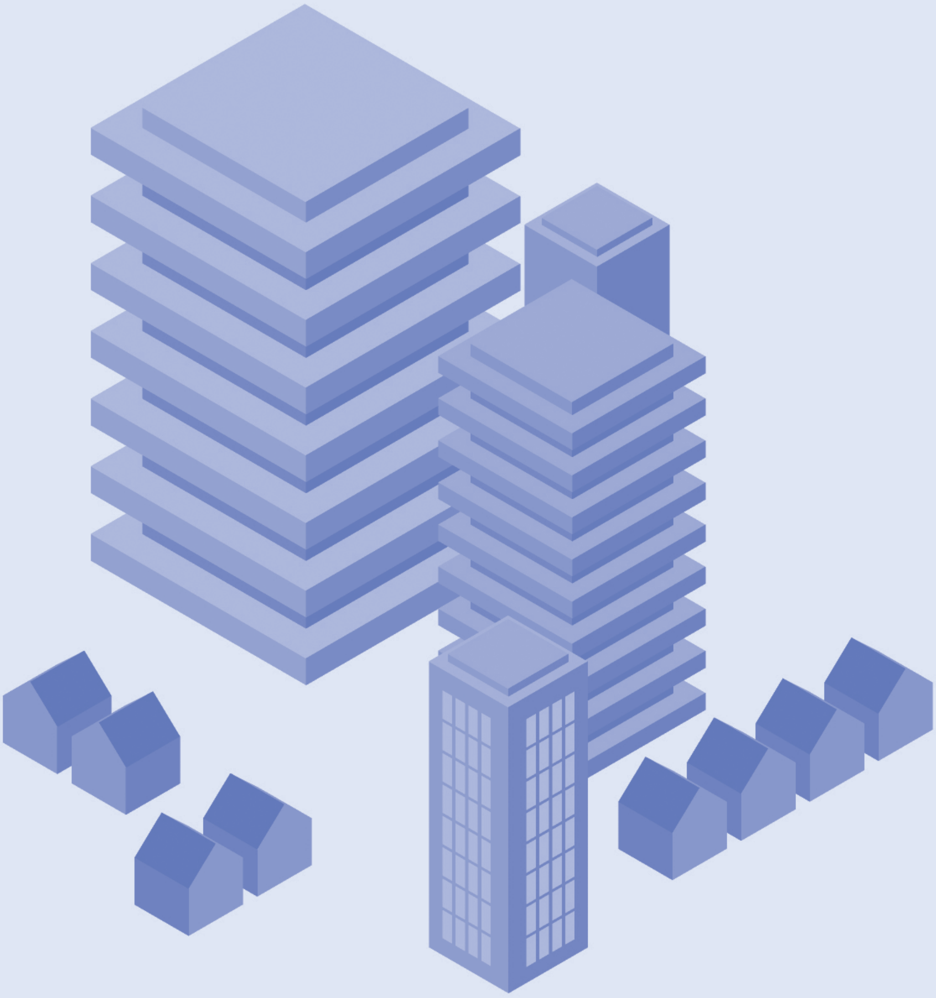
Affordable Housing Commission



A report by the Affordable Housing Commission

Defining and measuring housing affordability – an alternative approach

About us

The Affordable Housing Commission (AHC) is an independent, non-partisan group established by the Smith Institute with the support of the Nationwide Foundation. It is chaired by Lord Best with 14 leading players from across the housing world. Its core objectives are to: examine the causes and effects of the affordability crisis and how it relates to tenure, place, demographics, incomes, wealth distribution, life chances, as well as the social and economic impacts; explore and propose workable solutions (big and small); raise awareness of the concerns and solutions (among practitioners, decision-makers and the public); engage stakeholders and build a consensus for change.

Further information on the Commission can be found at Affordable Housing Commission.org. The site includes information and research on affordability issues as well as AHC focus group work and polling.

Please feel free to email any views and suggestions to info@ affordablehousingcommission.org

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Executive summary

This interim report of the Affordable Housing Commission (AHC) proposes a new measure of housing affordability in England. Rather than focusing on market rents and house prices it defines and measures housing affordability as being what people can afford, be it to rent or to buy. Viewed from the perspective of who is facing housing stress and under what circumstances, this approach replaces existing market-based definitions as encapsulated by the 'Affordable Rent' product, which misleadingly defines affordable housing as 80% of market rents regardless of a household's income.

The new measures are based on an affordability threshold at the point when rents or purchase costs exceed a third of household income (for those in work). From this starting point it seeks to capture other issues around housing quality, overcrowding, adequacy of Housing Benefit, household size and regional variations.

This alternative approach also recognises the different ways in which different groups of people experience housing stress. In place of general definitions such as 'Affordable Rent', the new definition and measures relate to four groups:

- struggling renters
- low income older households
- struggling homeowners
- frustrated first time buyers

The AHC will now be examining how the definition and measures can be effectively applied to housing policy, funding and planning to help deliver more affordability in different places, for different people. They are intended to provide a more pro-active and interventionist 'people based' approach to solving the affordable housing crisis.

The new definition and measures show that:

- 4.8m households have housing affordability problems – equivalent to a fifth of all households. This number overall has increased by over 0.5m households since 2010, with the largest rise in the Private Rented Sector (PRS)

This is made up of:

- Struggling renters: there are 2.9m struggling renters of working age, the majority of which are in the PRS
- Low income older households: There are 1m household identified as having affordability problems (the majority in non-decent homes). This number could rise if generation rent enters retirement in the expensive PRS

- Struggling homeowners: There are 0.9m struggling homeowners, and this number could increase sharply if interest rates rise

In addition, the measures for potential buyers shows:

- Frustrated first time buyers: there are 1.6m renters (mostly in the PRS) who are able to buy, but can't at present - mainly because of the time needed to save for large deposits. This is an increase of 0.6m since 2010. Furthermore, three quarters of renters have very little chance of buying a home at present

The report also finds that across all the groups:

- Those most at risk are in the PRS, where 2m tenants are under housing stress
- In the PRS four out of ten of all those in the bottom half of incomes are paying over 40% of their household income in rent
- Those renting privately are more likely to have multiple affordability issues (i.e. paying over a third of income on rent and still living in non-decent housing)
- There are 1.3m in unaffordable housing in the social housing sector, mainly owing to the shortfall in benefits. A smaller percentage of these are paying over 40% of their incomes in rent
- The report highlights that while affordability issues are often most acute in London and the South East, the challenge is spread across the whole country. The affordable housing crisis also impacts on all tenures, even if it is worse in the PRS and for those on low incomes
- The report shows that since 2010 the main reason why the number of households living in unaffordable housing has increased is due to a 'tenure shift' – more households living in the PRS where rents are higher
- Households with dependent children make up a large proportion (57%) of households facing housing affordability problems

Foreword

“Affordable” has become a much-abused word in housing circles. Governments have taken it to mean “rents or purchase costs that are lower than in the open market”. But paying rents of, say, 80% of the market level is still far beyond the means of many who need a home. At a time of national concern about levels of poverty and inequality, our Commission wanted to find out how people’s housing costs are fuelling the situation. Before proposing solutions, we wanted to be clear about the problems.

In this interim report, the Affordable Housing Commission has tried to define and measure “affordability”. We have viewed the issue from the perspective of the household, not the market place. What can people pay for their housing without risking financial and personal problems? Who is facing problems of unaffordability? What is the scale of those problems?

Defining “affordable housing”

The Commission has looked at what level of income spent on housing is likely to cause hardship and stress. The new research evidence provided for the Commission suggests that when rents or purchase costs exceed a third of the household income, for those in work, the housing costs can lead to financial difficulties, arrears, debts and consequent personal problems. And obviously the position gets much worse if that percentage of income is a lot higher: we have taken the 40% of income figure as signalling a very serious affordability issue.

Obviously, it is tougher to spend over a third of your income on housing costs if you are on a lower income than a higher one: you have less cash to spend on other essentials. So, the Commission has concentrated on those in the bottom half of the income distribution (and when applied to assessing affordability for a specific area we use local, non-national, earnings figures).

We have then “equivalised” the basis for our definition by taking the basic household as two adults and by making allowances, up and down, to cover families with children and single person households, (using the same weightings as the DWP uses for benefit calculations).

In refining our definition, we have also drawn in those with an affordability problem based on a household’s reliance on benefits. Percentages of income are meaningless here. Government calculates benefit entitlement on the basis of the household’s basic requirements for food, clothes, heating, etc. and, separately, its housing costs. If support for housing – Housing Benefit or the housing element in Universal Credit – is less than the actual rent the household must pay, the resulting shortfall must be found from borrowing or from raiding the benefits provided to cover the household’s other basic needs. The Commission is clear that in these circumstances the shortfall means the household has a real housing affordability problem (and we have factored in the position of those who are both in work and in receipt of housing support – those on "partial Housing Benefit" – where their income after housing costs takes them below the official poverty line).

Finally, the Commission has had to take on board the relationship of the cost of accommodation to its quality. It would be ridiculous to say that the affordability problem is overcome if the tenant moves into a slum that may be cheaper but is unfit for human habitation or is grossly overcrowded.

Property unfitness is a significant affordability issue in respect of older owner occupiers who live in abysmal conditions but who lack the income and the assets to upgrade their home or to acquire something better. Therefore, while avoiding the double counting of those who suffer both affordability problems and are also in unfit property, we have brought within our scope the occupiers of all those in homes classified as "non-decent" and all those in statutorily-defined overcrowding.

Who has a problem?

Using our definitions of affordability, the Commission has divided the overall picture into four different groups: struggling renters, low income older households, struggling homeowners and frustrated first-time buyers.

The way housing affordability is currently defined (and measured) as "rents or purchase costs that are lower than in the open market place" is confusing and misleading. The official crude definition of affordable homes isn't helping solve the problem – it's a level far beyond the means of many who need a home.

The Commission offers a new definition of affordability, viewing the issue from the perspective of the household, not the market place. What can people pay for their housing without risking financial and personal problems? Who is facing problems of unaffordability? What is the scale of the problem?

1. Struggling Renters of Working Age

Tenants of working age whose rent is more than 33% of their incomes (with the refinements to this definition as above) account for a tenth of all social housing tenants and over a quarter of all tenants in the Private Rented Sector (PRS). But the figure rises to 16% in social housing and to 51% in the PRS for those households of working age in the bottom half of incomes. There are 1.6m of these: 1.2m in the PRS and 0.4m in the social sector.

Within these totals the position is particularly grave for those who are spending more than 40% of income on their rent: 0.2m in social housing and 1m in the PRS. As a proportion of everyone in each sector in the bottom half of incomes, this means 9% of tenants in social housing and an alarming 40% in the PRS face very serious affordability difficulties.

Number of households under retirement age, by rent to income

Percentage of all renters

	No affordability issue	33%-39%	40%+
Social housing	87%	6%	7%
PRS	71%	6%	23%

Percentage of renters in the bottom half of income distribution

	Under 33%	33%-39%	40%+
Social housing	84%	7%	9%
PRS	49%	11%	40%

Number of renters in the bottom half of the income distribution

	Under 33%	33%-39%	40%+
Social housing	2,000,000	170,000	210,000
PRS	1,190,000	270,000	950,000

Also, within our scope are those, also of working age, whose (in-work and out-of-work) Housing Benefit leaves them short and who fall below the poverty line. After again avoiding double counting, this group adds another 0.5m households. And a further 0.7m renters are counted in to cover those (in the bottom half of incomes) living in non-decent and overcrowded conditions.

2. Low Income Older Households

Roughly 1 million older people, using our definitions, have housing affordability problems today. The majority of these are owner occupiers in non-decent housing, on low incomes – 0.6m households. The rest are tenants who are either paying over a third of their modest income on rent or are in receipt of Housing Benefit that does not cover their rent and are below the poverty line.

There are more than three times as many low-income older tenants in the social sector than in the PRS, although once again a much higher percentage of those privately renting cross our 40% plus unaffordability line.

Number of households over retirement age, by rent to income

Percentage of all renters

	No affordability issue	33%-39%	40%+
Social housing	90%	5%	5%
PRS	85%	3%	10%

Percentage of renters in bottom half of income distribution

	Under 33%	33%-39%	40%+
Social housing	89%	6%	5%
PRS	77%	6%	17%

Number of households in the bottom half of the income distribution

	Under 33%	33%-39%	40%+
Social housing	820,000	50,000	50,000
PRS	230,000	20,000	50,000

Here the Commission has a special anxiety about the future. The relatively small number of older tenants with an affordability issue today seems destined to be dwarfed by the numbers in the future when the younger generation in the PRS reaches retirement age. Those with incomes that are currently sufficient to avoid at least the worst of affordability difficulties may well find it impossible to afford their rent when their retirement income is appreciably lower. This looks like a major affordability crisis in the years ahead.

3. Struggling homeowners

Some of those who have become owners are paying a proportion of income on housing costs that risks financial and social problems.

We have taken on board that part of mortgage repayments which goes to paying off the principal and accumulating a capital asset. In setting the affordability measure again at one third of income, we have only included the cost of interest as well as maintenance costs to reflect the true costs of owning. Many buyers will pay more than 33% of their earnings on monthly mortgage payments but, unlike rent payers, they are also acquiring equity with the intention of having no mortgage payments at all in the longer term.

Our definition of affordability means the numbers in this category are relatively modest: under 1m. However, these home buyers are in quite a precarious position: they face the possibility of higher interest rates and of employment and personal hazards that would lead to loss of the home. And many in this group also have the burden of being unable to "upsize" – to become "second-steppers" – if, for example, they want to start a family.

4. Frustrated First-time Buyers

Surveys repeatedly tell us that the aspiration of over 80% of tenants and adults living with parents is to own their own home. We also know that increasing numbers believe they will never be able to achieve this. To what extent is this a simple problem of affordability?

In making our calculations, we used two criteria: spending more than 33% (equivalised) of income on housing costs (mortgage interest payments only plus maintenance costs); and having the capacity to save for a deposit (of 10% of the cost of a property in the lowest decile of house prices within their region) within 5 years. On this basis we divided tenants into those who could afford to buy and those who could not.

This calculation suggests 5.5m renters are not in a position to buy a home of their own. But 1.6m could buy: 1.3m in the PRS and 0.3m in the social housing sector.

We acknowledge that this estimation of potential for more home ownership is just an indicator. It fails to take account, on the one hand, of deposits being found from 'the bank of Mum and Dad' or from an equity loan under Help to Buy (or similar deal) ; and, on the on the other hand, it ignores the unwillingness of lenders to advance mortgages to the many in insecure employment. Moreover we have not factored in the special position of those in the social housing sector with the Right to Buy.

Conclusion

Our three groups whose current accommodation is giving them a housing affordability issue – struggling renters and owners, and older people, all on lower incomes – add up to 4.8m households. This represents one in five of all households in England and almost 40% of those in the lower half of the income distribution.

A perhaps surprising number of these renters – 1.3m– are in the social housing sector where rents are lower but so are incomes. A further 1.6m are in the owner occupier sector, a large proportion of which are older homeowners in unfit property.

But it is in the PRS that the greatest problems are found, with 2m households overall in potential difficulty. These households represent 43% of all households renting privately. Moreover, the households devoting 40% or more of their incomes to rent – the group at highest risk – are mostly in the private rented sector: there are over 1m of these in the lower half of incomes.

Meanwhile, as our focus groups have expressed so clearly, many people are very frustrated at their inability to move into home ownership. Our calculations suggest 1.6m renting households have the means to buy. This suggests that for hundreds of thousands of households currently renting – the vast majority in the PRS – the aspiration of home ownership need not be thwarted simply by the problem of affordability.

The Commission will now move onward to explore the solutions to the problems we have identified, greatly helped by input from a range of powerful submissions from all parts of the housing world – for which we are immensely grateful.

Lord Best

Richard Best

Chair of the Affordable Housing Commission

Introduction

The issue of housing affordability has become the focus of public, political and policy concern. As the national opinion poll for the Commission demonstrated, the majority of the public believe there is a national housing affordability crisis. This public concern is being played out in the political arena, with both main parties highlighting the issue in their 2017 election manifestos.[1]

Despite the recognition of housing affordability as an issue there is little consensus about what it means in practice. There are arguably no guiding principles or comprehensive statutory definitions around affordability running through public policy programmes and regulations (other than the short statement in the annex to the revised 2018 National Policy Planning Framework – see annex 1). This leaves a patchwork of different meanings, with little overall coherence about objectives or guiding measures as to what constitutes affordability or who is affected.

Affordable Rent

There has also been concern (and scrutiny) amongst those in the housing world about the way the term has been used by government. In particular, the introduction of Affordable Rent model announced in 2010 has been criticised not only for the policy itself as a rent standard, but also for distorting affordability as a useful term. The government's new lexicon has led contorted and laboured demarcation in the housing world between affordable and genuinely affordable housing.

The table below (with more details in the annex) highlights these issues by summarising the very different approaches to affordability in government regulations, programmes, funding and housing support.

The introduction of Affordable Rent has moved away from housing affordability based on incomes towards rents set below market levels. Others, such as social rents, incorporate income measures alongside the cost of housing provision. Mortgage regulations have the effect of setting an income to loan ratio (in effect close to a third of housing costs). Other products, whilst aiming to (and achieving) the objective of increasing affordability offer no defined measure of it.

Why measure housing affordability?

How should housing affordability be conceptualised and what are we trying to achieve by measuring it? And, given the changing nature of housing policy under different administrations and different circumstances, what might be a sensible benchmark for assessing and measuring affordability levels and guiding policy?

Product/programme	Target/eligibility	Affordability measure
Social rents	Low income households	Based in part on local earnings
Affordable Rent	Low income households	Rents set as a proportion of market rents not income affordability
London Living Rent	Middle income households	Proportion of local median incomes adjusted for neighbourhood differences
Rent controls	All renters	Based on 'fair rent' – generally submarket but not based on affordability for individual/local community
Housing Benefit	Low income renters	Based on household incomes taking into consideration housing costs
Right to Buy	Council tenants	Sub-market prices, not shaped by income affordability (bar social rents)
Help to Buy	Middle income households	No affordability limit to prices; 45% of income limit on housing costs (including service charges and fees)
Shared Ownership	Low-middle income households	Market-led; no overarching measure of affordability
NPPF	Low-middle income households	Mainly market-led; sub-market prices not shaped by income affordability
Mortgage regulation	Mortgagor	Based in part on income to loan ratio

These are important considerations when outlining an alternative set of ways of defining and measuring housing affordability.

The following table outlines possible ways of conceptualising affordability. All six conceptions are likely to be relevant to the work of the Commission. However, definition and prediction are perhaps most germane, as they highlight who is most likely to be in need of support and most likely to be facing or experiencing housing stress. It is through the prism of these elements that this paper looks at how we might be able to measure affordability.

DESCRIPTION	describe a typical household's housing expenditure
ANALYSIS	analyse trends, compare different household types
ADMINISTRATION	administer rules defining who can access housing subsidies
DEFINITION	define housing need for public policy purposes
PREDICTION	predict ability of a household to pay the rent or mortgage
SELECTION	select households for a rental unit or mortgage

Source: David Hulchanski 'The Concept of Housing Affordability: Six Contemporary Uses of the Housing Expenditure-to-income Ratio', Housing Studies, 1995

The aim of the paper is to propose a useful and widely acceptable working definition and measure of affordability. A coherent and relevant set of measures that policymakers, planners, housing practitioners and others can use to better identify, understand and evaluate housing affordability. And, most importantly, a definition and metric of measures which can help shape viable solutions. It is also intended to be a definition and measure which resonates with the public's perceptions and expectations around affordability.

In this context, the focus group studies for the Commission provide important insights.[2] At the conceptual level they have demonstrated that for many people affordable housing refers only to homeownership or more accurately first-time buyer affordability. As such the report looks at both how affordability might be measured for those renting but also how it might be measured for those looking to buy and for existing homeowners.

Much of the focus of the report looks at the balance between incomes and housing costs. The paper examines the rent (or mortgage) to income ratio and residual income (whether a household has enough money to live on after rental costs) measures of affordability, both of which are not without faults. The paper, drawing on the evidence submitted to AHC and the views of its commissioners, puts forward a variation on a rent to income ratio which attempts to address and adjust for different household circumstances. This method is similarly used to understand affordability for existing homeowners and the affordability of buying (alongside examining the issue of raising a deposit).

The report also goes beyond rent to income measures to understand specific issues. This includes taking on board the quality of housing and issues of overcrowding. Without integrating these issues the measure could be ignoring that affordability issues manifest themselves in non-decent housing. The report also looks at the issue of rents for those on Housing Benefit in poverty. This seeks to capture concerns, especially since welfare reforms and changes to Local Housing Allowance (LHA) rates that those on very low incomes are having to use other benefits to cover their rent.

Using a variety of measures adds complexity, but affordability issues take different forms for different households. Furthermore, whichever way affordability is measured there is never going to be complete agreement. This is in part because of the technical difficulties of trying to cater for a myriad of household circumstances and factors relating to housing stress, including running costs (energy bills etc) which are relatively higher in poorer condition homes.

Measures of affordability are also deeply normative, and questions about housing need, housing stress and appropriate level of risk are, in the end, judgement calls. Nevertheless, this should not rule out having useful and informed measures, even if imperfect. Nor should it be a reason for not seeking broad agreement amongst stakeholders and the public about what we mean when we use the term affordable.

Measures of affordability

Problems around defining and measuring affordability are not new. Indeed, some question the very notion of affordability. This section looks at the main ways affordability has been measured and provides commentary around the particular benefits and drawbacks of each. By doing so it is intended to provide background information to the AHC's set of alternative measures.

Prices to earnings

An often-cited measure of affordability has been the house prices to earnings ratio. Indeed, data on this measure published by the ONS describes it as the median (or lower quartile) affordability ratio.

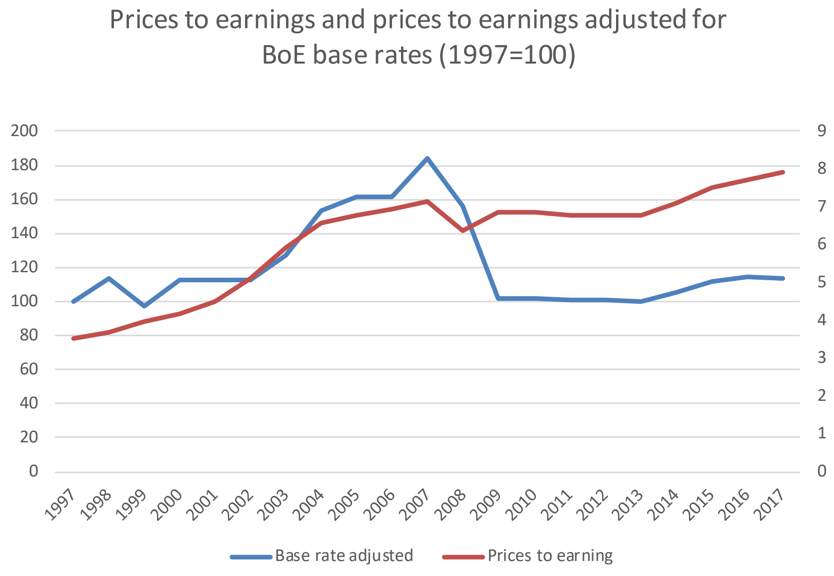
One use of the measure has been in predicting market corrections when housing becomes more unaffordable. This has typically been done by assessing the current ratio against the long-term ratio. When the ratio is above the historical trend then advocates of the measure have suggested that demand will fall and bring down prices.

The measure has the advantage of being relatively easy to calculate over time and across geographies. Despite the frequency of its use, it is questionable though whether it is a good guide to affordability levels – especially given the events of more recent years. Fundamentally it shows the price rather than the cost of housing and overlooks the impact of interest rates on prices.

As such, recent high prices to earnings ratios reflect very low nominal interest rates with households able to afford to buy properties worth more with low interest rates capitalised into (higher) house prices. In such cases prices to earnings ratio can therefore overstate affordability issues. Equally if interest rates were to rise, we would expect prices to fall but mortgage payments to adjust accordingly.

The issue of nominal interest rates becomes more pressing when examining in greater detail the dramatic growth of median house to median earnings ratio over the past 20 years. In 1997 the median house price to median earnings ratio was 3.54. By 2017 it had risen to 7.91. However, Bank of England base interest rates have fallen from 7.25% in November 1997 to 0.5% in November 2017. Under the price to earnings ratio housing could appear to be over twice as unaffordable but it ignores the fact that the cost of capital has significantly been reduced. To illustrate the point, the monthly costs of £100,000 loan as part of a repayment mortgage[3] would have been reduced from £723 in 1997 to £355 in 2017.

In this way, we could adjust the measure for inflation (left axis on the graph). By doing so we see that current levels of prices to earnings are similar to those in 1997, with a ratchetting up in the run up to the financial crisis and then a sharp correction after that. In contrast, and as demonstrated in the graph, the unadjusted rate (right axis) remains high despite low interest rates.



Note: the graph plots median house price to median earnings ratio adjusted for mortgage costs (assuming standard 25-year prepayment mortgage) based on Bank of England base rate at June of the respective year. For each year the mortgage amount is adjusted by the change in prices to earnings ratio compared with 1997.

Nevertheless, such an indicator still fails to capture two main issues with housing affordability raised in our focus groups with the public. First, it provides little insight into people struggling to pay their rent. For example, the ratio says very little about the distributional impact on housing affordability. The graph tells us what housing stress a median household might be facing but tells us little about who might face housing stress at different points below (or indeed above) the median. Secondly, it also says little about issues facing prospective homeowners seeking to buy because it does not include the impact that low nominal interest rates and high house prices may have on the ability of people to buy.

Proportion of incomes

The rent to income measure compares housing costs to incomes and thus seeks to overcome the shortcomings of the prices to earnings ratio.

This method has the advantage of inherently capturing expenditure on housing that would be excluded by looking only at house prices (which ignores the impact of interest rates). It also enables us to measure the number of households paying above a set proportion of their income on housing costs.

The traditional ratio used is that households should not pay more than 30% (or a third) of household income on housing costs. This gives a more tailored indication of affordability to individual circumstances and gives some indication of distributional issues – i.e. how it is affecting different groups in different locations – which will be masked in an aggregate average earnings (or incomes) to prices ratio.

The measure is not without its critics. It has been argued, for example, that this measure can suffer from hiding under-consumption of housing. This could take the form of households living in sub-standard housing, which although it consumes under a third of the household budget would not be widely described as 'fit for habitation'. Alternatively, for those seeking to buy or who cannot afford to rent, it could result in them staying in their parent's home for longer periods. In this sense it could mask affordability issues facing various types of housing.

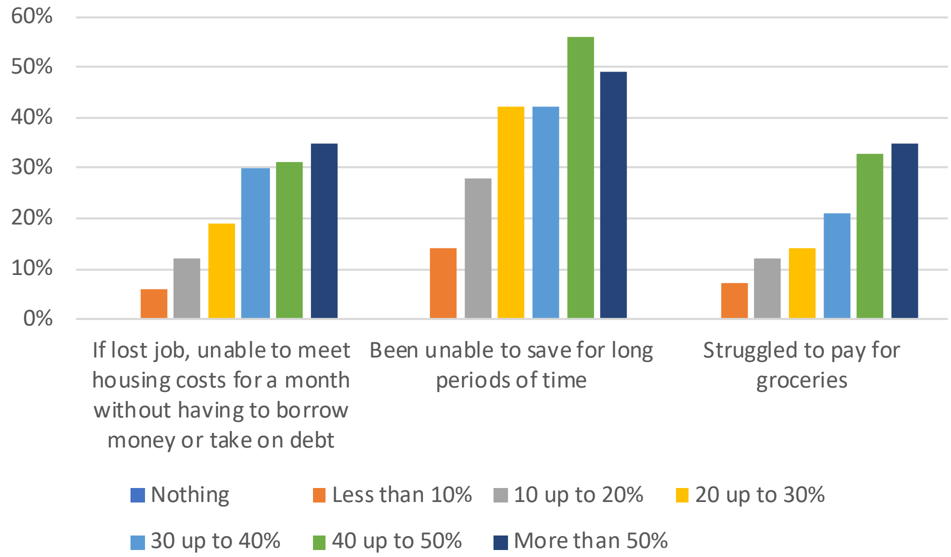
This last criticism (excluding the issue of the affordability of buying as opposed to servicing the mortgage) may be useful in trying to capture the total number of people who might be facing affordability issues so as not to miss particular household groups. However, it may be less relevant when considering what interventions could help bring down housing costs below a certain level. And, indeed, analysis of the data for this paper shows that not being able to afford an additional bedroom to adequately house a child is actually associated with high rent to income ratios.

An additional criticism of the 30% (or third) rule is that it takes little account of the level of income. If someone with a take home pay of £10,000 a month decides to spend £4,000 on housing costs then, all things being equal, few would see their housing as unaffordable (i.e. not suffering for lack of other non-housing goods) or, indeed, would view this as a matter of social policy. One method of getting around this issue is the 30:40 rule – that is to look at the bottom 40% of household income distribution to see how many pay more than 30% of the income on housing. This has been adopted in Australia where affordability problems extend beyond those on lowest incomes to those in the lowest two quintiles.

A question still remains though about what level the ratio should be set and whether it can provide an accurate guide to actual observable issues with affordability?

The polling results from the AHC's national survey indicate that there is a link between high rent to income ratios and financial stress. For example, the poll showed that struggling to pay for groceries increases as housing costs become relatively higher and similar patterns can be seen for those struggling to save or unable to pay housing costs if they lost their job.

Impact of high housing costs on rent payments, saving and standard of living



This relationship between incomes and rents has been demonstrated through an analysis of the English Housing Survey. In Geoff Meen's recent paper on housing affordability[4] he finds that that by holding for certain characteristics the probability of someone facing housing stress increases (defined by: being or having been behind in their rent or struggling to meet rent payments) if they pay over a quarter of their gross income on rent. He also notes that the relationship exists but is strongest amongst those on lowest incomes. This backs up the findings of previous research which showed the relationship between paying over a set rent to income ratio and material hardship.[5]

Income Quintile	Relative Effect
Quintile 1	1.97
Quintile 2	1.69
Quintile 3	1.58
Quintile 4	1.27
Quintile 5	1

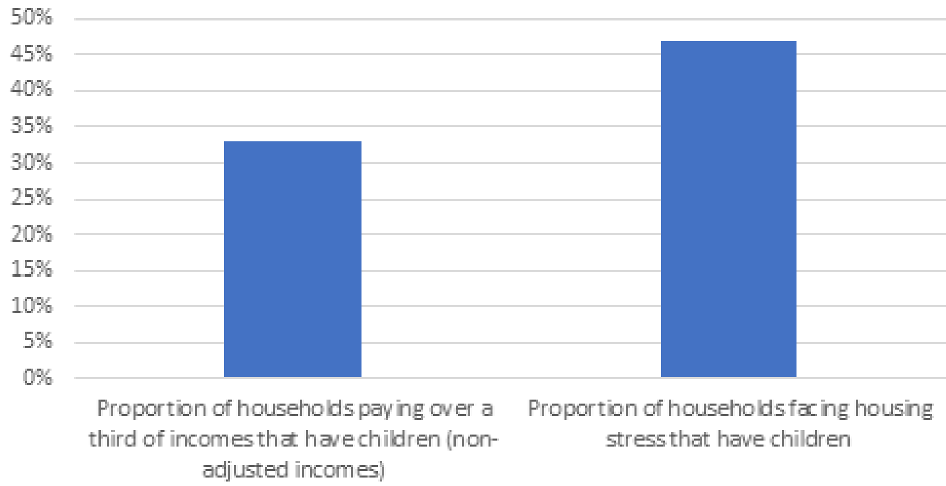
Source: Meen, G, How should housing affordability be measured? (UK Collaborative Centre for Housing Evidence, 2018)

Surplus to live on

Focusing on certain income brackets may overcome the issue of higher earners paying large sums on housing costs being classed as in unaffordable housing. However, there has been a broader criticism of the rent to income measure of affordability. This has centred on the argument that what really matters is the money a household is left with after housing costs and whether that is enough to secure a decent standard of living. The concern is that the rent to income ratio underrepresents certain households in its measure of affordability. This is something acknowledged in the methodology when testing the relationship between rent to income and affordability. Nevertheless, it still doesn't say what that original risk level is, and under-representation can follow when practically applied.

This is apparent when examining who would be identified as being in unaffordable housing if we were simply to draw a line at a third of incomes. The graph below shows that there is significant divergence in the number of households with children as a proportion of households paying over a third and the proportion of those households that are in some form of housing stress that have children. This is because household size is not factored into a simple third rent to income rule.

Proportion of households with affordability issues that have children



Source: based on FRS data; housing stress as defined in the following section

Some have sought to address this issue by proposing measures based on the difference between housing costs and incomes.[6] The difference is then compared to the cost of a minimum standard of non-housing needs. If there ends up being shortfall between the minimum basket of goods and household income after housing costs (residual income) then the housing is deemed unaffordable. Since the cost of housing factors in location and quality some have sought to consider only the cost of basic physical housing to eliminate under or over consumption. The method thus enables a measure that focuses on the distributional impact of housing costs in a more focused way than either of the indicators based on ratios.

The residual income method enables a measure which is household specific. It captures the non-housing needs of different households including size but also the specific needs of those living within the household. However, it is more difficult to calculate and depends on definitions of what non-housing needs – or a basket of goods – should include. And what different households need will differ for a range of circumstances. This is not insurmountable with the Family Resources Survey giving specific information about income, housing costs and household composition. But it would require an agreed set of household goods and services. This is also likely to vary not just for household size but also according to someone's income.[7]

One criticism is that it ignores the ability of households to borrow, which could help smooth the household incomes in a particular year to cope with a temporary shock such as redundancy. However, studies have shown that housing stress often lasts for more than a year.[8]

Perhaps more importantly it becomes very difficult to disentangle housing stress from broader financial stress. For some households rents may technically have to be negative for their residual income to be adequate to live on. It is also more difficult to factor in Housing Benefit.

What might an alternative approach need to consider?

As with all measures and indicators each will have its own shortcomings. This section of the report discusses factors which may need to be incorporated into a measure of affordability. It looks at how existing approaches could be strengthened by covering issues such as Housing Benefit and household need. These are then applied to see if there is a significant relationship between high rents to income ratios and housing stress. It also seeks to build out from a housing cost to income ratio to cover issues of quality and size to provide a more rounded idea and measure of affordability.

Factoring in Housing Benefit

The treatment of Housing Benefit (HB) is an important factor in measuring affordability as it potentially has the impact of making housing costs appear high when all costs are in fact covered by state support.[9]

When exploring how HB might be factored in it appears that it would be more difficult in the residual income model. For example, if we assume household A has:

- Housing costs = £100
- Non-housing needs = £120
- Income (excluding HB) = £100
- Housing benefit = £100

In such a circumstance the household would have a shortfall of £20 a week and their housing would be deemed not to be affordable. However, reducing housing costs would have no impact (as we would expect HB to adjust accordingly) on the residual income and therefore on housing affordability. Even if housing costs are taken to £0 their housing, under this measure, would be unaffordable. In such a scenario housing costs would have to be reduced to -£20. In short, the issue in this case is not one of housing costs but a lack of income.

The issue of housing benefit is arguably problematic for the costs to income ratio. For example, using the same example of household A, housing costs take up a relatively high proportion of household income:

£100 rent / (£100 income + £100 HB) = 50% rent to income ratio

This would suggest high levels of housing stress and affordability issues even though the tenants' rent is completely covered by HB.

However, a sensible approach would be to factor HB into housing costs rather than income and would be calculated thus:

(£100 rent - £100 HB) / £100 income = 0% rent to income ratio

The intention of adopting such an approach is not to say the household won't be facing severe financial pressures, but just that the issue for the household is not one of housing costs.

Where HB only partially covers rent, then the household could still face housing affordability issues with a large proportion of their income covering housing costs. For example:

(£100 rent - £50 HB)/ £100 income = 50% rent to income ratio

While it is important to net off HB it is also important to consider what HB is for and its adequacy. This has become particularly apparent in the debate about housing benefit for tenants in the private rented sector where Local Housing Allowance rates often fail to meet rents. It is also a criticism of the rent to income ratio from those advocating a residual income measure: that a ratio approach does not capture acute housing stress faced by those on low incomes. Therefore, measures of affordability may wish to capture where HB is simply too low that it means that households have to use money to pay for housing costs that should be used to ensure a decent standard of living. One way of doing so is to state that housing is unaffordable if HB does not meet all the rent of a household in poverty. This covers not just those out of work but also the growing numbers of people in in work poverty.

Accounting for need

It still remains the case that the income ratio might be too crude in its approach to the needs of a household. As noted, using a rent to income ratio can lead to some groups being underrepresented. It is therefore important to consider factors associated with housing stress, including household size and composition, disability and differing regional costs of living.

Household size

The most of obvious example of different levels of need is household size. The income needs of a larger household are likely to be more than that of a smaller household. For example, if household A contains two people with a combined income of £350 and rent of £100 then they would be below the threshold. Whereas a household containing one person with an income of £333 and rent of £111 then then they would be at the 33% ratio even though their income per head is greater than household B and therefore would in all probability face fewer financial (or housing stress) issues.

To overcome this we can use net equivalised household income weights to adjust household incomes relative to household size and composition, a technique used in measures of poverty. The reference household used is a two adult household and adjusts income by:

- 0.67 to the first adult;
- 0.33 to the second and each subsequent person aged 14 and over;
- 0.20 to each child aged under 14.

Disability

There has been a long debate in measures of poverty about the issue of disability, and this can be read across to whether income to rent takes enough account of the additional costs associated with disability. This can also be observed when looking at the risk factors associated with housing stress with households with at least one disabled member standing out as a group disproportionately represented.

Academics from the LSE have produced an equivalisation model for the additional costs of disability.[10] A simpler way of replicating the impact of using the median level of severity has been developed using the initial analysis. This states that the proportion of income spent on disability costs for that level of severity is between 24% to 35% of income depending on household composition. As such this method is used to adjust income to account for disability.[11]

Regional variances

Just as costs vary for someone with a disability, so too do they change by place. Costs of goods and services differ by area, not least because of differences in land values, commercial rents and the cost of labour reflecting housing costs the workforce face. As such the ONS 'Relative regional consumer price levels of goods and services'[12] data is used to reflect regional variations. This is used to deflate or inflate household incomes to account for regional variances in non-housing costs.

	Relative consumer price level
London	107.2
South East	101.5
East	99.8
West Midlands	98.5
South West	102.4
East Midlands	99.6
North West	98.8
North East	98.8
Yorkshire and the Humber	97.7

Accounting for quality and space standards within a spatial context
There is a logical argument for incorporating housing standards into the definition of what is affordable. Without including space or quality standards there would be a risk that the definition of affordability advocates or gives tacit consent to policies which in effect condone the letting of unfit properties on the grounds that they are affordable.

There are various ways of measuring housing fitness, but for the sake of simplicity (rather than carrying out an exercise in redefining officially used measures of decency and overcrowding) the commonly used Decent Homes Standard and Bedroom Standard definitions are incorporated into the affordability measures of housing. This element focuses on households with the lowest incomes who have least choice to move to a decent or larger property. This is supported by an analysis of data in the English Housing Survey which highlighted a statistically significant correlation (even if the correlation is modest suggesting other factors are also important[13]) between being in the bottom half of the income distribution and either living in non-decent housing or being overcrowded.

	Bottom half of the income distribution
Overcrowded	0.112**
Non-decent housing	0.099**

Note: Analysis of English Housing Survey data. Analysis of private renters in the bottom half of the income distribution equivalised as described above. The analysis examines 2411 cases.

For the analysis in the following section about the relationship between rent levels and affordability two other methods are adopted that are the closest approximation to size and quality that are included in the Family Resource Survey. These are: someone stating that they would like but do not have enough money to keep their home in a decent state of décor; and that they would like but cannot afford enough bedrooms for every child over 10. These are included in an indicator of housing stress.

Setting a baseline
The factors outlined detail ways of ensuring that groups facing affordability issues are not under-represented in a housing cost to income measure. However, they do not provide a guide to the level or threshold for affordability.

As noted, 30% or a third of rent to income has been the historic threshold. While the idea of one week's pay for one month's rent dates back further.

In the focus groups the public were asked more explicitly what they deemed to be affordable. The groups talked about costs as a proportion of incomes and focused on a rent to income ratio between 25%-33%.

Using a ratio that compares rents to incomes means that it captures a larger cohort of renters than just ensuring minimum or basic standard of living. This in turn means that it captures the different ways that people describe affordability. Home owners, for example, were found to define affordability as being 'comfortable' after housing costs; first time buyers talk about a 'good' or 'decent' standard of living; for other renters it is more about being able to survive.

Is there a link between rent to income ratios and housing stress?

Using these factors, it is possible to develop a measure which encompasses differing household needs and factors in HB.

This measure was then tested using data from the Family Resources Survey,[14] which includes information on rents, incomes and wider questions about financial stress and hardship. These factors were used to adjust income accordingly (i.e. equivalising incomes for household composition) and account for HB on rents (and adjust income accordingly) and observe whether there is relationship between rent to equivalised incomes ratios and housing stress.

A household was deemed to be experiencing housing stress if they:

- Were behind with rent
- Had been behind with rent over the last 12 months
- Stated that their housing costs are a heavy burden or struggle
- Stated that they did not enough money to keep your home in a decent state of décor
- Stated they could not afford to have enough bedrooms for every child over 10

Housing stress is defined in the measure to reflect housing-related circumstances someone would prefer not to have if their financial situation was different. This covers being able to meet the cost of housing. It assumes that the vast majority of people would prefer to meet their rents rather than getting into arrears or face a heavy financial burden. This is something that is evidenced in discussions with tenants who had a strong aversion to getting into arrears, not least because they were worried about being evicted (something which is a cause of serious financial, housing and emotional stress).[15]

Poor housing standards are likely to be a cause of housing related stress. Indeed, there is growing evidence base that poor-quality housing and overcrowding is associated with a range of poor social outcomes, not least around mental and physical health and educational attainment.[16] As such, good quality homes of the right size for the household is seen as a basic minimum. This is evidenced in discussions for the JRF's Minimum Income Standard,[17] with participants over the past decade referring to the number of bedrooms when describing minimum housing needs. In this sense, not being able to afford to move to a home with enough rooms for a child is sign of housing stress.

The other measure around not being able to keep their home in a decent state of décor is in all probability likely to include people who are not in non-decent home. However, it is an indicator of housing quality which will go beyond minimum standards to cover perceptions of people unable to afford to keep their home in a decent condition. In this situation, a person is likely to face housing stress if they are unable to afford the housing quality standards they desire or expect.

To see if there is a relationship between high rent to equivalised income ratios and housing stress, a logistic regression was undertaken, which held for ethnicity, tenure, Housing Benefit, and the employment status of the head of household.

A variety of rent to income ratios were tested within the range the public talked about. A third of net incomes was chosen with a strong probability of housing stress.

The results show that paying over a third increases the probability of housing stress for the bottom three income quartiles. However, the model starts to become less reliable for the third quartile, with it predicting correctly fewer than one in five cases of housing stress.

	Odds ratio
Quintile 1	1.4
Quintile 2	1.4
Quintile 3	1.5
Quintile 4	0.4

As such, a third rent to income ratio for the bottom half of incomes appears to be a more reliable guide to housing affordability in respect of rents to incomes.

Total household income thresholds were used rather than just for renters as this would enable more accurate comparisons over time. The issue of using rental incomes is that there may be large compositional shifts in income levels among renters – for example an increase in relatively wealthier renters who may have previously bought. Income distribution appears on certain measures to be more stable, at least since the 1980s (see for example the Gini coefficient within the UK).[18]

By equivalising the incomes, the approach also has a closer match on household composition of those experiencing housing stress. As was noted, non-equivalised measures under-represent larger households. In the table below when you equivalise incomes for the third rent to income ratio you get a better fit for the proportion of households with children in housing stress than when you don't equivalise.

Proportion of households paying over a third that have children (non-adjusted incomes)	Proportion of households paying over a third that have children (equivalised)	Proportion of households facing housing stress that have children
33%	52%	47%

One of the criticisms of the rent to income ratio measure is that it doesn't account for broader household needs. However, analysis shows that there is link between higher rents and poorer financial outcomes.

The table below[19] shows that those paying over a third of their income on housing costs are more likely to have struggled financially and indicates that people are also more likely to be socially excluded.

	Odds ratio
Not been able to save	1.4
Cannot afford to replace worn out furniture	1.3
Money to spend each week on themselves, not on your family	1.3

Affordability issues in older age

An additional area of concern is affordability in older age. Whilst measures of affordability might not change it may be important to examine how this particular group is affected, especially given that we have an ageing society. Affordability may also become a much greater issue if Generation Rent remain in the PRS into retirement. Depending on the level of support from the state, on retirement household income will fall dramatically for this cohort whilst their rent will remain the same in the relatively more expensive PRS. By separating out older people it gives the measure a way of looking at affordability problems that may be coming down the line. It is also important because of the additional needs of older people and that the dangers of living in non-decent housing in older age regardless of tenure.

Affordability issues for homeowners

The discussion of affordability has largely focused on the rented sector. However, there are and have been in the past issues with affordability for both those wishing to be homeowners and those who are homeowners. Similar measures can be used for existing homeowners. Here however, it is important to capture the housing cost element rather than savings, with repayment of the principal creating an asset rather than being a cost. Therefore, the ratio can be applied to the mortgage interest payment plus the indicative cost of maintaining a property for existing homeowners to give a measure of affordability.

Affordability of buying

Whilst affordability for existing homeowners is not often identified as a current major policy challenge, housing affordability has risen up the agenda in part because of the decline in homeownership and specific issues faced by first time buyers.

Levels of homeownership have fallen in England from 71% in 2001 to around 63% today.[20] This has particularly affected young people. For example, in 2001 across the UK 55% of 25-34 year olds were homeowners. Today that figure stands at 35%. For the next age bracket (35-44), there has been a drop in homeownership rates from 73% to 61%.[21]

There are two components to what might be deemed affordable. The first is the proportion of incomes needed to be spent on servicing the mortgage and meeting maintenance costs. With interest rates low this might not be the major barrier for potential first-time buyers.

The other element is the cost of purchasing a house. This encompasses the deposits required to secure a mortgage.

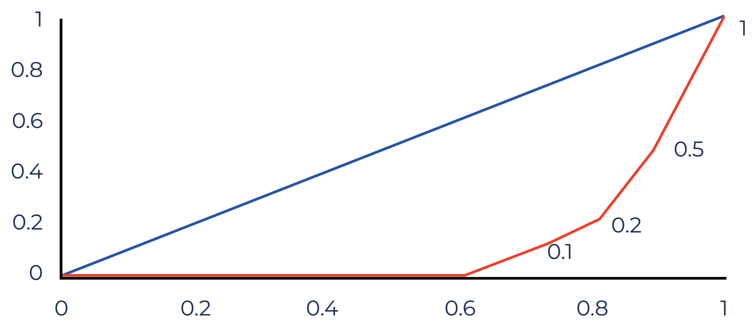
Affordable mortgage measure

A similar approach that is used for existing homeowners can be applied to determine for whom homeownership is affordable. This can be applied to different price points in a local or regional housing market to understand whether homeownership will be affordable – i.e. below the third measure. This creates a Lorenz curve which shows the distribution of affordability illustrating at what point in the housing market someone at each decile could afford to buy.

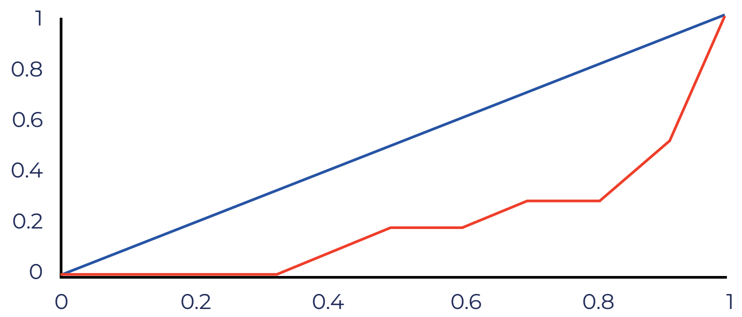
The graphs below show results from a previous study using this measure in the South East and North East.[22] The graphs plot affordability for renters under 60 assuming a 25% mortgage payment (5% deposit, 5% interest rate, 25-year term) to income (unadjusted gross household incomes) ratio.

The results show that in the South East a renter at the 6th decile cannot afford to buy any property. Whereas someone in the North East at the 6th Decile would be able to afford a property valued at the 2nd decile. What is clear from both graphs is that there is not an equal distribution between housing affordability and house prices, with first time buyers in both regions unable to afford a property valued at the same distribution of their income.

South East



North East



This can be replicated using the methodology suggested to capture equivalised household income along with the Land Registry Sales Price series (it should be noted that the house prices figures used are not mixed adjusted). The calculations are based on 10% rather than 5% deposit and also use current interest rates (2.5%), which as noted have an impact on prices. The assumed housing costs are not based on mortgage repayments. As suggested, they do not include the repayment component which is a saving not an expense. However, as noted homeowners have maintenance costs to meet. As such, these costs have to be factored in.[23]

The graphs show a slightly better picture for housing cost affordability. However, there is an added matrix that shows the time it may take to raise a deposit. The issue of the high levels of deposit required to buy a first home was raised in the focus groups for the Commission not only by aspiring first time buyers but also in the other groups with struggling renters and homeowners. Those we spoke to talked about having to save for five plus years for a deposit as being too long, and as such the aspiration of owning was unlikely to materialise.

To understand from an empirical perspective the time required to save for a deposit, savings ratios from ONS are used. Research has shown that saving ratios increase as incomes increase.[24] The ONS data puts figures on that and provides savings rates by income quintile which enables the modelling of differential savings rates for raising a deposit. This is split by equivalised net incomes. However, unfortunately it is not before housing costs (or by region) or by age.

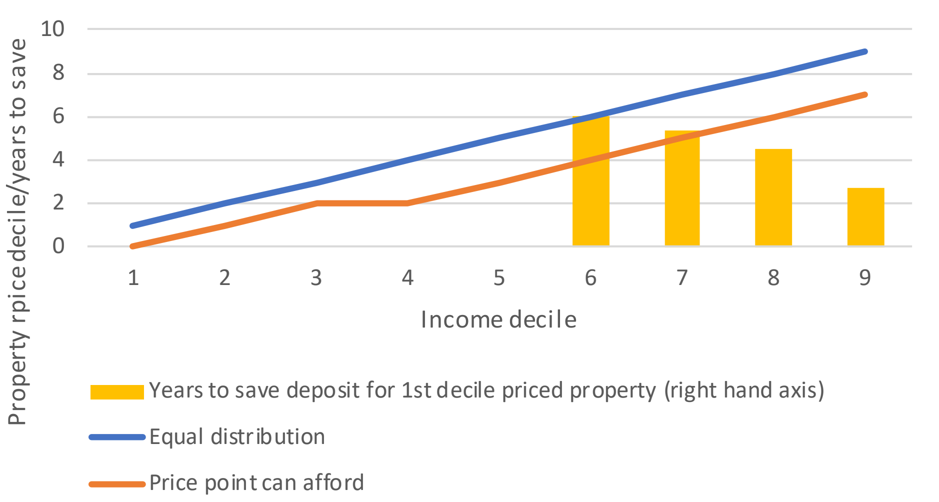
	2012	2013	Rate used
Q1	-11.2%	-12.5%	0
Q2	5.9%	6.2%	6%
Q3	7.9%	5.4%	6%
Q4	13.6%	10.2%	12%
Q5	31.5%	29.6%	30%

Source: ONS, The Distribution of Household Income, Consumption and Savings, an OECD study (2015)

Nevertheless, the data in the table provides a guide to estimate the time it may take to save. This is done using the savings ratio and applying it to the equivalised net incomes by region for those renting under retirement age.

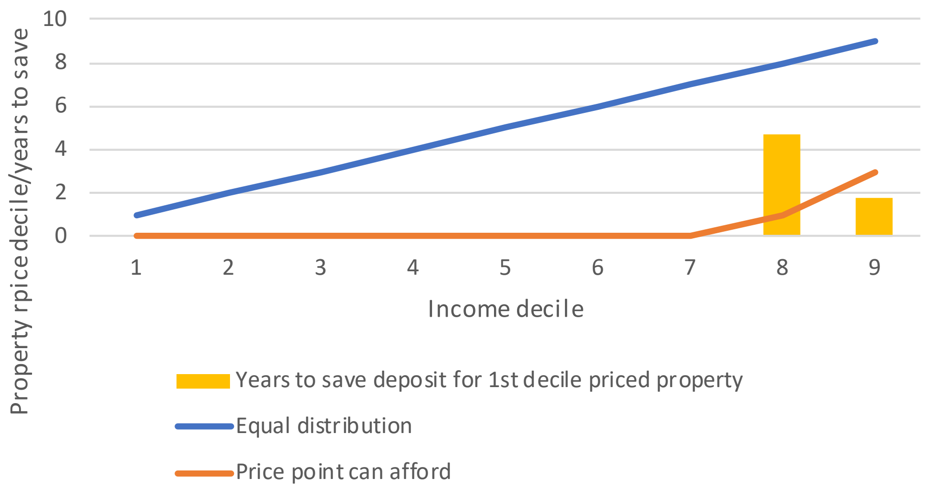
The yellow bars in the graphs show how many years it would take for someone to save a 10% deposit to a buy a property at the first decile. In the cases where the household cannot afford the mortgage and maintenance costs no timeframe for savings is provided. In some cases no timeframe is provided because those on lower incomes, according to the ONS savings rate, are unlikely to put aside money to raise a deposit.

North West



West Midlands

London



The graphs show the potential difficultly that first time buyers may face buying a property they can afford. At its extreme in London very few could afford the mortgage repayments but even in the North West where property prices are lower large numbers are likely to have affordability issues when seeking to buy because of the deposit (even if it is less of an issue than in London). This becomes more difficult still for certain groups when looking at the differences between housing cost affordability and the time it may take to save for a deposit (without the help of the 'bank of mum and dad'). In particular, we see that those just able to buy are likely to have to save for an unrealistic period or unlikely ever to be able to raise an adequate deposit. As we heard in the focus groups, this can potentially be a serious barrier to homeownership. Indeed, the English Housing Survey data covering a three-year period suggested that the number of first-time buyers equated to 5% of renters.[25]

The graphs describe affordability and the chances of buying, which provide useful insights to homeownership opportunities. However, they do not tell us at what level homeownership should be affordable. We can compare these with the past but that is not to say levels in previous years were appropriate or sustainable. Such questions, like the level of risk of housing stress for renters, move beyond empiricism to value judgements about what levels are acceptable. Equally they do not tell us how affordability measures should be used or interpreted in public policy terms, not least with regard to the difference between support for meeting rental costs and support for homeownership which enables people to meet housing costs and build up an asset. Although only factoring in housing services into an affordability measure might help.

An alternative approach: Four key groups

The analysis thus far has focused on how we might measure affordability issues and highlighted some of the key concerns the Commission heard about in the focus groups.

The report has shown the complexity of capturing housing affordability issues both methodologically but also because they are based on normative assumptions about what constitutes an unacceptable level of risk, stress and unfairness. The rationale behind the choices has been outlined, with the objective to encompass a wide group of people facing very different challenges.

Rather than split the measures explicitly by each element of the affordability challenge, the report instead focuses attention on the people that are affected by housing affordability. Of course it may not capture all dimensions of affordability, but it aims to provide a more rounded measure of affordability than either a market led approach (as in affordable rent which defines affordability as anything which is sub-market regardless of someone's actual income) or simply defining affordability in terms of social housing, which excludes other aspirations and tenures.

As such, the measure builds out from the third of costs to income ratio, to include indicators such as non-decent housing, overcrowding, inadequate levels of housing benefit and challenges of raising a deposit. The measures and factors outlined above are then brought together into four key groups. These four groups are:

Struggling renters
This group covers working age renters in the bottom half of the income distribution who are paying over a third of their income on rent; or whose home is non-decent or are living in an overcrowded property; or whose rent is not covered by their housing benefit and they are in poverty.

Low income older households
This covers those over retirement age in the bottom half of the income

distribution who are paying over a third of their income on rent (this may be small but could rapidly rise when generation rent becomes older); or are living in non-decent or overcrowded housing regardless of tenure; or whose rent is not covered by their housing benefit but are in poverty.

Struggling homeowners

This group covers those homeowners in the bottom half of the income distribution whose assumed housing costs (interest payments on their mortgage and maintenance costs) are over a third of their equivalised income.

Frustrated first time buyers

This measure captures both housing costs and buying affordability. On the former it is based on assumptions about whether a household could afford the housing costs associated with a 10th percentile priced property in their region. Like the struggling homeowners group, it examines whether a renter would be paying over a third of the income on housing costs. It also examines whether a household could save a deposit within five years.

How many and who are in unaffordable housing?

The paper has outlined how the level of unaffordable housing might be measured.

The following data outlines how many households face affordability problems and gives some information about the kinds of households affected.

In headline terms there are 4.8m households identified as having affordability problems. This equates to around a fifth (21%) of all households.

According to the groups identified there are:

- 2.9m struggling renters
- 1m low income older households with affordability issues
- 0.9m struggling homeowners

Across these three groups 2m households are in the PRS (43% of all households in the PRS), 1.5m in homeownership and 1.3m in social rented accommodation.

In addition to these numbers there are around 1.6m renters who might be able to buy and 5.5m renters for whom homeownership currently seems unlikely.

Struggling renters

The analysis is based on the measure outlined above covering rent to incomes, those in poverty for whom housing benefit does not cover their rent, and those living in non-decent or overcrowded property.

Combined there are 2.9m households who are struggling renters whose housing costs are unaffordable. This equates to 13% of all households and 27% of all renters.

Split between the measures

In total there are around 1.6m households in the bottom half of the income distribution paying over a third of their income on rent. There are 0.8m people for whom housing benefit does not cover their rent. Some of these households are also paying over a third, so avoiding double counting there are an additional 0.5m households. There also 1m renters in the bottom half of the income distribution living in non-decent housing and 0.4 in overcrowded rented housing. Avoiding double counting adds 0.6m in non-decent housing and then subsequently an additional 0.2m in overcrowded housing.

Tenure

The majority of struggling renters are in the PRS, with 1.9m of the 2.9m renting privately. This still leaves a significant number in social housing. However, affordability issues in the PRS are much greater, both in terms of high levels of rents to incomes but also households facing multiple affordability issues.

In total there are three times more households paying over a third of their income in the PRS than in social housing. This should be contextualised further by the composition of households in social housing who are less well off than in the PRS. As table highlights of those in the bottom half of the income distribution, half in the PRS pay over a third of their income while the figure in social housing is 14%.

The table also shows the high numbers in the PRS that not just pay over a third of their income on rent but in fact pay over 40%. It highlights that four in ten low-middle income private renters pay over 40% of their income on rents, in total approaching a million tenants.

Number of households under retirement age, by rent to income

Percentage of all renters

	No affordability issue	33%-39%	40%+
Social housing	87%	6%	7%
PRS	71%	6%	23%

Percentage of renters in the bottom half of income distribution

	Under 33%	33%-39%	40%+
Social housing	84%	7%	9%
PRS	49%	11%	40%

Number of renters in the bottom half of the income distribution

	Under 33%	33%-39%	40%+
Social housing	2,000,000	170,000	210,000
PRS	1,190,000	270,000	950,000

The numbers also reveal the extent to which households in the PRS are likely to face multiple affordability issues. For example, 270,000 PRS tenants pay over a third and live in non-decent housing versus 40,000 in the social rented sector.

Regions

The table below shows that London and the South East dominate the regions where affordability is most acute with a quarter of struggling renters living in the capital and seven in ten low-middle income renters living in unaffordable housing. Nevertheless, there are significant affordability problems in all regions, which is particularly apparent when we look at the proportion of struggling renters as a proportion of all renters where there is even chance of problems across the regions.

	Number in unaffordable housing	Proportion of total	Proportion of renters within region in unaffordable housing (bottom half of income distribution)	Proportion of renters within region in unaffordable housing (all incomes)
North East	320,000	5%	50%	44%
North West	700,000	13%	53%	42%
Yorkshire and the Humber	510,000	9%	52%	37%
East Midlands	360,000	7%	57%	40%
West Midlands	500,000	9%	54%	40%
East	440,000	9%	58%	36%
London	950,000	24%	72%	44%
South East	620,000	15%	69%	43%
South West	400,000	8%	57%	38%
Total	4,800,000	100%	60%	44%

When the data is split just by rent to income figures there is a clear divide by regions with London and the South East having high rates of unaffordability, with six in ten private renters in the bottom half of the income distribution paying over 40% of their income on rents. It is also noticeable that problems of affordability in the social rented sector are much smaller they are more pronounced in London and to a lesser extent in other southern regions.

	PRS			Social housing		
	under 33%	33%-39%	40%+	under 33%	33%-39%	40%+
North East	69%	9%	22%	92%	6%	2%
North West	63%	13%	24%	89%	4%	7%
Yorkshire and the Humber	62%	15%	23%	91%	4%	5%
East Midlands	44%	21%	35%	91%	4%	5%
West Midlands	58%	11%	31%	85%	9%	6%
East	52%	16%	32%	81%	9%	10%
London	34%	5%	61%	74%	9%	17%
South East	33%	7%	61%	79%	11%	10%
South West	52%	13%	35%	88%	6%	6%
England	49%	11%	39%	84%	7%	9%

Employment status

The table below outlines that the risk for those low-middle households headed by someone in full-time work are similar to those working part-time or unemployed and in absolute terms working households make up the majority of households facing affordability problems.

	Proportion of total	Proportion of renters within tenure in unaffordable housing
Full-time work	43%	66%
Part-time work	19%	61%
Unemployed	11%	60%
Full-time education	6%	77%
Other inactive	21%	48%

Household composition

The data on family type shows that households with dependent children make up a large proportion (57%) of households facing housing affordability problems.

	Proportion of total	Proportion of renters within tenure in unaffordable housing
Couple, no dependent child(ren)	11%	63%
Couple with dependent child(ren)	35%	72%
Lone parent with dependent child(ren)	22%	58%
Other multi-person households	12%	71%
One person	16%	44%

Low income older homeowners

In total there are around 0.2m older (over retirement age) households in the bottom half of the income distribution paying over a third of their income on rent or are in poverty but for whom their housing benefit does not cover all their rent. There are an additional 0.2m older renters living in non-decent or overcrowded homes and a further 0.6m older homeowners living in non-decent housing.

Tenure

For those renting, the majority of those in unaffordable housing are in social housing. However, there are relatively fewer older households in the PRS. The largest cohort among low income older households are those homeowners living in non-decent owner occupied housing.

	Proportion of total	Proportion of renters within tenure in unaffordable housing
PRS	14%	48%
Social housing	26%	28%
Owner occupiers	60%	17%

When examining affordability of renting by the rent to incomes measure, we can see that a higher number of renters are paying over a third and one in six pay over 40% of their income on rent.

Number of households over retirement age, by rent to income

Percentage of all renters

	No affordability issue	33%-39%	40%+
Social housing	90%	5%	5%
PRS	85%	3%	10%

Percentage of renters in bottom half of income distribution

	Under 33%	33%-39%	40%+
Social housing	89%	6%	5%
PRS	77%	6%	17%

Number of households in the bottom half of the income distribution

	Under 33%	33%-39%	40%+
Social housing	820,000	50,000	50,000
PRS	230,000	20,000	50,000

Regions

The data suggests that there is a variation in the levels between regions for lower income older households but less of a Greater South East versus divide, and differences more marked by more urban regions London, North West and West Midlands along with the South East having higher rates of affordability issues.

	Proportion of total	Proportion of renters within tenure in unaffordable housing
North East	4%	18%
North West	18%	32%
Yorkshire and the Humber	8%	21%
East Midlands	8%	21%
West Midlands	13%	28%
East	11%	23%
London	14%	32%
South East	15%	27%
South West	10%	23%
England	100%	26%

This is divide is largely explained by different problems by tenure with non-decency among lower income homeowners in the West Midlands and the North West appearing much higher whereas problems in the rented sector are more acute in London.

	PRS	Social housing	Homeownership
North East	25%	14%	18%
North West	40%	27%	32%
Yorkshire and the Humber	35%	16%	21%
East Midlands	34%	33%	17%
West Midlands	56%	21%	27%
East	50%	26%	20%
London	62%	42%	20%
South East	46%	33%	23%
South West	67%	31%	17%
England	48%	28%	23%

Struggling homeowners

The number of households that may be struggling to meet the costs of homeownership total 0.9m. This represents around 6% of all homeowners. Nevertheless, amongst the cohort of lower income homeowners with a mortgage it is much higher with over a half paying a high proportion of their income on housing costs.

This situation is most pronounced in London where nine in ten lower income homeowners are likely to be paying a high proportion of their income to meet their housing costs. Once again, it is London and southern regions which have the highest proportion of households in housing that would be deemed unaffordable.

	Number struggling	Proportion of total	Proportion of all homeowners	Proportion of lower income, working age homeowners with a mortgage
North East	30,000	3%	3%	22%
North West	100,000	11%	4%	33%
Yorkshire and the Humber	60,000	7%	3%	28%
East Midlands	50,000	5%	3%	35%
West Midlands	90,000	10%	5%	42%
East of England	110,000	12%	5%	64%
London	180,000	20%	8%	87%
South East	200,000	22%	7%	74%
South West	100,000	11%	6%	54%

The majority of those facing affordability problems are in work – and largely in full-time work. However, the risks are higher for those out of work. It is also worth noting that a significant proportion of the total is made up of those who are self-employed.

	Proportion of total	Proportion of lower income, working age homeowners with a mortgage
Full-time Employee	50%	44%
Part-time Employee	12%	53%
Self-employed	23%	65%
Unemployed	4%	71%
Permanently sick/disabled	4%	46%
Other	7%	69%

Those with children are also more likely to be affected, making up two thirds of households of struggling homeowners and are at greater risk of affordability problems.

	Proportion of total	Proportion of lower income, working age homeowners with a mortgage
No children	36%	45%
One or more children	64%	54%

First time buyers

The new AHC measures of affordability attempt to encompass the potential difficulties of renters accessing homeownership. By combining the housing costs with assumptions about raising a deposit, limited to a maximum five years savings period, which was viewed as maximum acceptable time period amongst those we spoke to in the focus groups, it is possible to capture how many people might be able to afford a property.

This shows that around 1.6m households under retirement age or 22% of all renters under retirement age might be able to afford to buy.

The majority of those able to buy are from the PRS (1.3m) and relatively fewer from the social rented sector (0.3m).

Those that have greatest chance of buying are located in the North East. Nevertheless, high proportion of renters may be able to buy in the South.

	Proportion of all	Proportion that can afford within region
North East	6%	28%
North West	15%	26%
Yorkshire and the Humber	13%	28%
East Midlands	6%	19%
West Midlands	8%	19%
East	9%	19%
London	22%	22%
South East	14%	23%
South West	7%	19%
England	100%	22%

The measure does not hold for employment status, but nevertheless the results show that the vast majority captured in the measure are in work. It thus could be possible to screen for working status given that those not working are unlikely to secure a mortgage. However, in the past a small proportion have been buyers.[26]

	Proportion of total	Proportion affordable within group
Full-time work	92%	37%
Part-time work	5%	8%
Unemployed	0%	1%
Full-time education	1%	8%
Other inactive	2%	2%

The data also highlights the extent to which households with children may struggle to buy. The table below highlights that those without children have a greater chance of buying.

	Proportion of total	Proportion affordable within group
No children	78%	31%
Children	22%	11%

Overall the data shows that below the bottom half of the income distribution buying is unlikely.

	Proportion of total	Proportion affordable within group
Decile 1	0%	0%
Decile 2	0%	0%
Decile 3	0%	0%
Decile 4	2%	4%
Decile 5	4%	8%
Decile 6	9%	22%
Decile 7	15%	46%
Decile 8	25%	95%
Decile 9	27%	100%
Decile 10	19%	100%

Changes over time

This chapter provides detail on the changes in the number of people living in unaffordable housing. The chapter aims not only to quantify shifts in the number of households in unaffordable housing but also point towards possible reasons behind growing affordability issues. In particular, the chapter looks at compositional shifts in tenure, evidence of increases in rent levels, data indicating possible changes in how housing benefits effects affordability, and also changes in affordability for retired households.

Changes since 2010

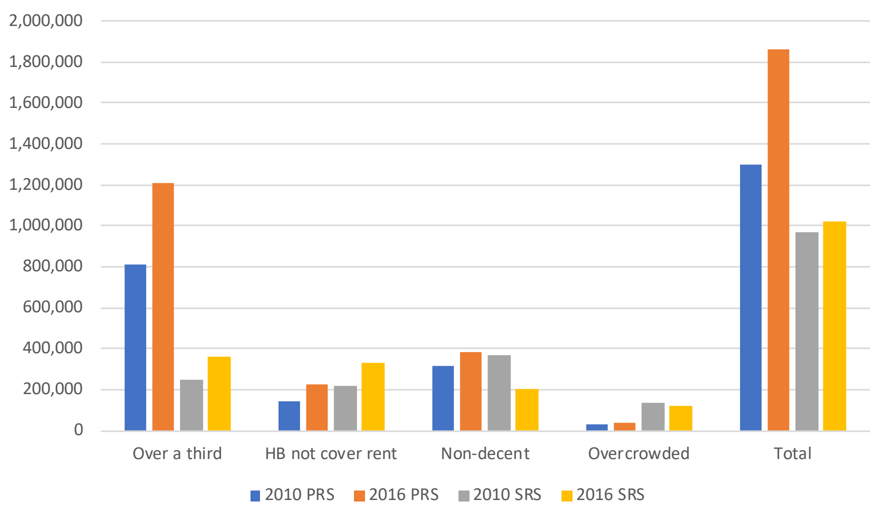
Although the period over which an accurate comparison of the measures is time limited, the data does show increasing numbers in unaffordable housing.

The data shows that the number of struggling renters has increased from 2.3m to 2.9m households. This could in part be driven by compositional changes, with the share of lower income renters shifting from the social rented sector to the PRS (with homeownership rates dropping by 390,000 households).

	PRS	SRS
2010	50%	50%
2016	43%	57%
Change in absolute terms	660,000	100,000

The graph below shows that that the rise was largely due to an increase in the numbers paying over a third of their income on rent in the PRS.

Numbers in unaffordable housing, 2010 v 2016



For older people in general on lower incomes, the situation has improved since 2010. This is largely due to the reduction in non-decent housing. There were reductions in the number of households in social housing and homeownership facing affordability problems. However, there was an increase in the PRS largely due to an increase in households paying over a third of their incomes on rent.

For struggling homeowners, the picture has remained the same with around 900,000 households with housing costs that consume over a third of their income.

The table below shows the overall picture of change with an increase of 500,000 households facing affordability problems since 2010. This is almost exclusively a result of an increase in the number of PRS households with affordability problems, seemly driven by a compositional shift to the PRS.

	2010	2016	Absolute change	Percentage change
PRS	1,420,000	2,000,000	580,000	41%
Social housing	1,250,000	1,280,000	30,000	2%
Homeownership	1,620,000	1,530,000	-100,000	-6%
Total	4,290,000	4,810,000	510,000	12%

For our three groups, excluding frustrated first-time buyers, the table below shows that growth has been amongst struggling renters with a 27% increase in the number of working age renters facing affordability problems.

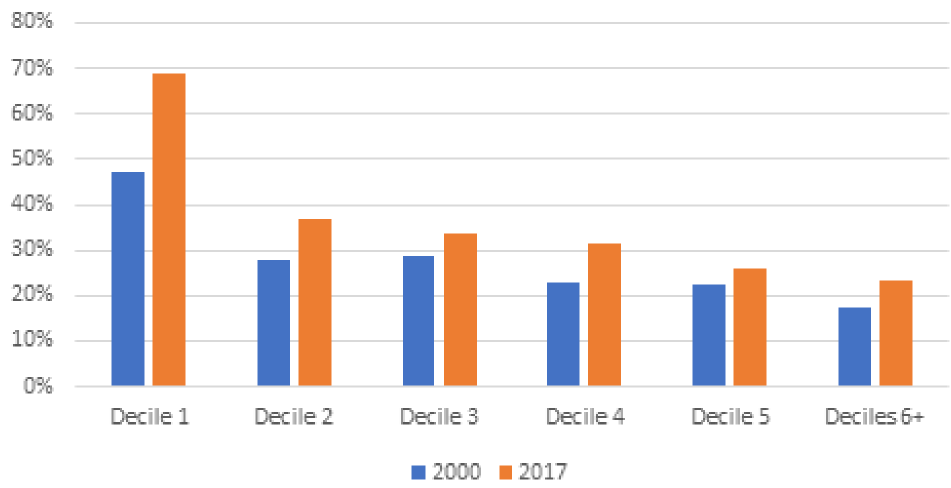
	2010	2016	Absolute change	Percentage change
Struggling renters	2,270,000	2,880,000	610,000	27%
Low income older households	1,120,000	1,020,000	-100,000	-9%
Struggling homeowners	910,000	910,000	0	0%
Total	4,300,000	4,810,000	510,000	12%

Rents over the longer term

The main metric of affordability issues is the rent to income level. In the two years examined rent to income levels have remained the same with private renters in the lower half of the income distribution not claiming housing benefit paying 41% of their equivalised income on rent in both years. This supports similar findings that renting has not become more expensive and suggests that there may not be a supply-side housing crisis.

However, looking at rents to income over a longer period then a different picture emerges. The graph below shows median incomes to median rents over the longer term and suggests there does appear to be an increase in private rents to incomes with a significant growth in the percentage point rise amongst lower income households. Indeed, for the bottom three deciles rents to incomes are in excess of a third.

Rent to income



Source: FRS, 2000 and 2017

Note: equivalised income of households renting in the private rented sector not claiming housing benefit

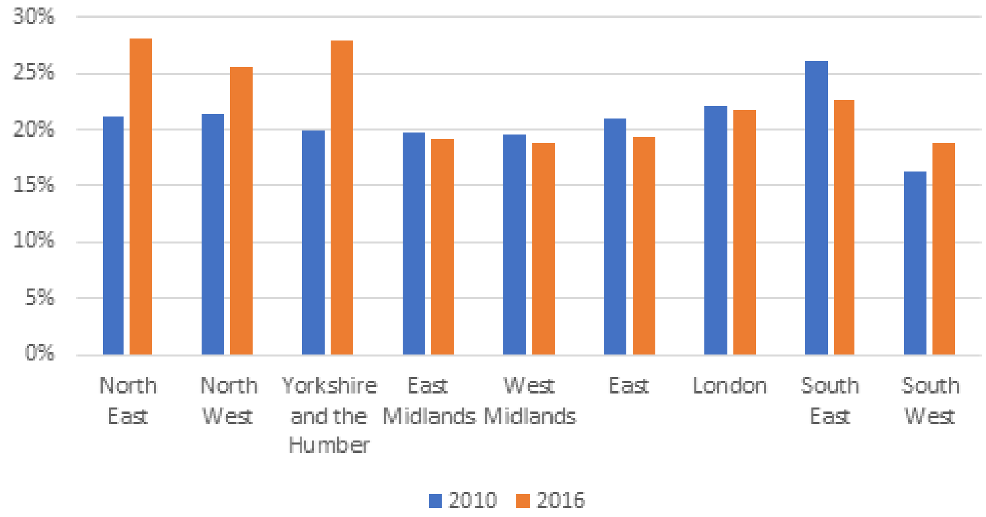
First time buyers

The situation for frustrated first time buyers highlights a nuanced picture of change. The numbers of people that cannot afford to buy has increased by 900,000 households from 2010 to 2016 while the number that could afford to buy increased too, by 340,000 households.

As a result a similar proportion of renters in both years could afford to buy, 21% of working age renters in 2010 and 22% in 2016.

In regional terms there has been some movement, with increases in the proportion who might be able to buy in Northern regions most probably because house prices have increased least over the period.

First time buyer affordability, 2010 v 2016



Conclusion

The paper has highlighted and demonstrated the link between housing stress (as well as other indicators of financial stress and social exclusion) and unaffordable housing. The definition and measures outlined capture issues with affordability in the rental sector, but are also designed to encompass affordability issues for homeowners and concerns over accessing homeownership. The objective of having a range of measure is to enable a rounded definition of housing affordability which spans different affordability problems faced by different groups.

Rather than present the measures individually they are grouped into those that may be facing different affordability challenges, covering: struggling renters, older low income households, struggling homeowners and frustrated first time buyers.

At the centre of the definition and measures is the housing costs to incomes ratio. This provides a much fuller picture of affordability issues than a definition linked to market rents (through the Affordable Rent product) or what can be achieved by looking at the affordability for the average person in the average priced house. However, the measure has faced legitimate criticism from those proposing a residual income measure who argue it underrepresents certain groups, including larger households.

To address these concerns the suggested measure adjusts household income according to household size and composition, whether household members have a disability, and for regional variances in the cost of living (beyond housing costs). This aims to ensure the measure reflects different household need. For these very reasons equivalising incomes is used when measuring poverty.

The report shows that the rent to income ratio is a good indicator of housing stress and of broader financial stress faced by households – addressing some concerns of those advocating the residual income model (alongside including a measure on the adequacy of housing benefit). It also has the advantage at a theoretical level of being able to cope with accounting for Housing Benefit, not needing to define a basket of goods for different household circumstances and incomes, and more easily disentangling housing stress from broader income stress. These measures can be assessed using national datasets and can be tracked for some time back. The rent to income ratio is also relatively easy to understand and well known, and in our focus groups with the public it was also how people conceptualised housing affordability. It can also be used for homeowners and potential first time buyers. The latter to which is added the affordability of raising a deposit in a reasonable time period.

Housing unaffordability can also manifest itself in poor quality housing or the underconsumption of housing. By adding decent homes and overcrowding into the mix the overall measure aims to ensure any definition is not implicitly justifying unfit housing because it is affordable.

These different factors can be viewed through the lens of the four groups identified as having affordability issues. By categorising those affected it is hoped that we not only put a human face to the numbers but also have some understanding of the scale of housing affordability and potential future challenges for certain groups, not least the prospect of generation rent entering retirement with a drop in incomes while their rent remains the same.

Using the measures the report shows that there are 4.8m households with affordability problems. The data suggests that while affordability issues may be most acute in London and the Greater South East they are spread across all parts of the country. It is not just a problem for high demand areas. It is also an issue across low to middle income households – even if the intensity of affordability issues is greater for those with lower-incomes. Furthermore, the data also highlights that the risk of being in unaffordable housing is greater in the PRS. However, significant numbers are facing housing stress in social housing for a variety of reasons – not least low incomes, inadequacy of housing benefit, non-decent housing (even if it is lower than other tenures) and overcrowding.

Although falling interest rates make the costs of servicing an existing mortgage more affordable there are still significant numbers of people facing high mortgage costs. Furthermore, large numbers in retirement on low to middle incomes are living in non-decent housing.

When these factors are combined one in five households in England are facing affordability issues of one kind, underlining why so many people in the country state that we have a housing affordability crisis.

The last measure is around the affordability of buying. By applying a third of equivalised income to mortgage costs we are able to see whether a renting household in each income decile would be able to buy a home at each price decile in their region. This gives a picture of affordability by region. It is also possible to examine the time it may take to save to buy, which highlights the potentially long period households without the help of the 'Bank of Mum and Dad' would need to save. When using both measures the numbers that might be able to buy is only around 22% of working-age renters.

Measuring housing affordability is not straightforward and will always be contested. However, the definitions and measures outlined aim to capture a wide range of affordability challenges facing different households. The final figures highlight the scale of the challenge but just as importantly by categorising the issues they seek to provide a better understanding and guide to where future policy interventions should be focused.

Annex 1: Affordability in housing policy

The introduction outlines how affordability has been differently defined in public policy regulations and programmes. This annex provides more detail about how the issue is incorporated into housing policy.

Rent regulations

Rent regulations of public (and private to a lesser extent today) housing are one of the main ways on ensuring affordable housing provision. Yet there is no one set definition, with Affordable Rent so designed to deliberately move the defining criteria from an income based approach to a market-led approach.

Social rents

Even social rents have not had a unified level of affordability. Levels have varied by local authority and housing association, historically reflecting when and where the housing had been built, changes in the capital and revenue subsidy available, and the different rent policies pursued by the social landlord.[27]

At the turn of the century the Labour government sought rent restructuring and convergence aimed at moving towards a national alignment in social rent (local authority and housing associated owned stock). A 2009 Consultation summarised the move as: "to gradually bring about this policy, with actual rents moving towards a national formula rent that took account of values of properties and local earnings relative to national earnings. A 'bedroom weighting' factor was also applied to try and ensure the resulting rents better reflected the perceived value of the properties being occupied. These formula rents have been increased each year since 2002 at RPI +0.5%."[28]

This policy was weighted with an affordability indicator over and above market values. So, under this approach property values were weighted by 30% in this calculation with a 70% weighting on local earnings and the bedroom factor. The full formula as described by the then Housing Corporation[29] was:

weekly rent is equal to:	70% of the average rent for the HA sector
	multiplied by relative county earnings
	multiplied by bedroom weight
	plus
	30% of the average rent for the HA sector
	multiplied by relative property value

The relative county earnings is the average manual earnings for the county in which the property is located divided by national average manual earnings.

The national averages for rents and property values and wages are those from around the year 2000, and have been uprated by inflation + formula so do not take into account relative shifts in earnings or property value growth since its inception nearly two decades ago.

It is also worth noting that whilst factoring in earnings, the initial base of the formula is the average social rent rather than an independently derived social rent based on a notion of affordability.

Affordable Rents

The Coalition Government introduced Affordable Rent as a way of delivering more sub-market housing through increased rents rather than grant funding (revenue over capital). Affordable rent is exempt from social rent regulation and typically higher than social rents. Under the rules Affordable Rents (inclusive of service charges) must not exceed 80% of gross market rent. The Gross Market rent refers to rent (inclusive of service charges) for the accommodation that might reasonably expect to be let for in the PRS, factoring in size, location and service provision. Formula rent acts as the rent floor for the property.

In such a case affordable is defined as rent which is set at below market levels. However, for many people on low incomes it is not believed to be affordable. Indeed, in a letter to tenants following a tenant's roadshow the then Housing Minister summarised the issues raised, including, according to Inside Housing, reference to tenants feeling that "affordable rents are not really affordable".[30] This is particularly the case considering that it is product which is aimed at offering "new social tenants new intermediate rental contracts that are more flexible, at rent levels between current market and social rents."[31] It is then questionable as to whether an intermediate product (i.e. Affordable Rent) is appropriate for social tenants.

London Living Rent

The Mayor of London has introduced a London Living Rent product, which is aimed at providing affordable housing for middle-income Londoners. The product aims to provide lower rents to enable people to save for a deposit to buy. The amount of rent varies across London but across the capital is said to be around two thirds of the median market rent for a two-bed property.

The eligibility criteria state that someone has to be renting in London, have a maximum household income of £60,000 and unable to buy a home in their local area. The allocations of property are determined via a local intermediate waiting list, use of priority groups identified by the borough and failing that on a first-come, first served basis. Providers of London Living Rent properties are expected to satisfy themselves that the household can afford the rent without Housing Benefit and accumulate savings.

The rent methodology is based on median household income for London and rescaled using earnings data to a borough level. The method explicitly uses a third of borough income levels to set the London Living Rent level. This can then be adjusted by a maximum of 20% above or below the median at a ward level to reflect neighbourhood prices.

This product therefore reflects local income levels to set prices but is also adjusted to reflect housing costs in the area.

Rent controls

One of the main ways that government's sought to tackle issues of housing affordability in the middle of the 20th Century was through the use of rent controls. This was not, however, explicitly about affordability, but what a 'fair rent' was deemed to be. The official view was that: "Regulated tenants are entitled to have a 'fair rent' (also referred to as a registered rent) set on their properties by a Valuation Office Agency Rent Officer. The rent officer is a statutorily appointed public official who is independent of central and local government. In determining a fair rent the rent officer must take account of the provisions of s.70 of the Rent Act 1977. Factors which will influence the rent level include the age, character, locality and state of repair of the dwelling house and the quality and quantity of any furniture provided. Rent officers are obliged to assume that there is no scarcity of comparable rented accommodation in the locality for the purposes of setting a fair rent; this has traditionally meant that these rents have been held below market levels. The rent officer must also ignore the personal circumstances of the tenant(s). Once a fair rent is registered by the rent officer it becomes the legal maximum that is chargeable for the tenancy and is reviewable every two years."[32]

As the quote above states, personal circumstances were explicitly ignored, meaning that whilst generally resulting in sub-market rents, they might be far from affordable. Although few households today are Rent Act protected tenants it does highlight how policy in the past sought to address high rent levels and how affordability was – or indeed wasn't – measured!

Housing Benefit

Whilst the previous examples have sought to regulate rents (supply-side interventions), Housing Benefit (HB) is an important component of making housing affordable for those on low incomes. Eligibility of HB is dependent on someone renting, being on a low income or in receipt of benefits and having a savings below a certain threshold. Entitlement to HB is calculated by comparing the needs and resources of the household, taking into consideration their liability for rent payments. Whilst reformed, especially in recent years, its essence remains the same; to support housing costs of low income renters. For social tenants, rents can be covered in full when they are in receipt of certain benefits.[33] In the private rented sector Local Housing Allowance (LHA) the rate a tenant can claim is limited by where they live: limited to the 30th percentile of the Broad Rental Market Area.

Homeownership

Measures aimed at helping people into homeownership have often centred on affordability. As the examples below show, the ways of targeting support have been through eligibility criteria and mechanisms aimed at providing something at a sub-market rate rather than something which might be deemed independently affordable.

Right to Buy

Perhaps still the most iconic means of supporting people into homeownership was the introduction of Right to Buy. Its introduction was explicitly about increasing affordability. The 1979 Conservative manifesto stated: "Many families who live on council estates and in new towns would like to buy their own homes but... cannot afford to".

Although the income mix of social housing tenants was more varied in the 1970s, the eligibility criteria of having to be a council tenant meant there was some focus on those on low-middle incomes. Whether it would be affordable even with heavy discounted prices would depend on a household's ability to secure a mortgage, but nevertheless made homeownership affordable – some suggesting it increased homeownership by 15 percentage points.[34]

Help to Buy

Help to Buy: Equity Loan scheme was designed explicitly to tackle purchase affordability issues many aspiring homeowners faced as a result of growing house prices. Announced at the 2013 budget George Osborne stated: "The deposits demanded for a mortgage these days have put home ownership beyond the great majority who cannot turn to their parents for a contribution."[35]

The scheme enables people to buy a new build property worth up to £600,000 in England. It enables people to buy with a 5% deposit with up to 20% (40% in London) lent from government. It is estimated to have boosted new supply by around 14% and often beneficiaries claim they would not have been able to buy the same size property without assistance.

There are no income restrictions for applicants and mortgages cannot be more than 4.5 times annual income. The scheme currently is not restricted to first-time buyers, but new reforms will do so along with a regional price cap. As such prices are not set according to an affordability metric for the local area. However, there is a maximum affordability level of monthly costs (mortgage, service charges and fees) at no more than 45% of your net disposable income.[36]

Low cost homeownership

The Housing and Regeneration Act 2008 defined social housing for the purposes of regulating social landlords as low-cost rental and low-cost homeownership accommodation. The Act notes that dwellings should be "available to people whose needs are not adequately served by the commercial housing market". This regulation covers: shared ownership arrangements, equity percentage arrangements and shared ownership trusts.

Government programmes place limits on eligibility for shared ownership schemes. For example, for Help to Buy: Shared Ownership there is an income threshold so that only those with a household income less than £80,000 (£90,000 in London) is eligible. Under the scheme limits on the rent of the unowned share of house are set and increases are limited to RPI + 0.5%.[37]

Whilst there is evidence that shared ownership makes homeownership more affordable beyond eligibility criteria and affordability tests to ensure risk of housing stress is limited, there is no overarching measure of affordability for the pricing of shared ownership properties.

NPPF definition of affordable housing

The National Planning Policy Framework perhaps gives the clearest definition by government, or by MHCLG, of what affordable housing is. In the glossary of the NPPF (annex 2), affordable housing is defined with reference to various housing products, from social rent through to low cost homeownership.

The annex covers many of the government-backed products described above. Even if eligibility is often bounded by local incomes, with the exception of social rent, its definition of affordable housing is market-led rather than defined by incomes. This has led to some scepticism from local authorities about its ability to deliver affordable housing. A cursory examination of the data of Affordable Rent level shows that in some areas a three-bedroom Affordable Rent property costs £400 per week.[38]

NPPF Anex 2

Affordable housing: housing for sale or rent, for those whose needs are not met by the market (including housing that provides a subsidised route to home ownership and/or is for essential local workers); and which complies with one or more of the following definitions:

a) Affordable housing for rent: meets all of the following conditions: (a) the rent is set in accordance with the Government's rent policy for Social Rent or Affordable Rent , or is at least 20% below local market rents (including service charges where applicable); (b) the landlord is a registered provider, except where it is included as part of a Build to Rent scheme (in which case the landlord need not be a registered provider); and (c) it includes provisions to remain at an affordable price for future eligible households, or for the subsidy to be recycled for alternative affordable housing provision. For Build to Rent schemes affordable housing for rent is expected to be the normal form of affordable housing provision (and, in this context, is known as Affordable Private Rent).

b) Starter homes: is as specified in Sections 2 and 3 of the Housing and Planning Act 2016 and any secondary legislation made under these sections. The definition of a starter home should reflect the meaning set out in statute and any such secondary legislation at the time of plan-preparation or decision-making. Where secondary legislation has the effect of limiting a household's eligibility to purchase a starter home to those with a particular maximum level of household income, those restrictions should be used.

c) Discounted market sales housing: is that sold at a discount of at least 20% below local market value. Eligibility is determined with regard to local incomes and local house prices. Provisions should be in place to ensure housing remains at a discount for future eligible households.

d) Other affordable routes to home ownership: is housing provided for sale that provides a route to ownership for those who could not achieve home ownership through the market. It includes shared ownership, relevant equity loans, other low cost homes for sale (at a price equivalent to at least 20% below local market value) and rent to buy (which includes a period of intermediate rent). Where public grant funding is provided, there should be provisions for the homes to remain at an affordable price for future eligible households, or for any receipts to be recycled for alternative affordable housing provision, or refunded to Government or the relevant authority specified in the funding agreement.

National Planning Policy Framework, July 2018, Ministry of Housing, Communities and Local Government

Mortgage affordability - regulation

Following the financial crash there has been a tightening of mortgage regulation. The objective of the Mortgage Market Review, for example, was to strengthen affordability assessments to prevent consumers from taking on unaffordable mortgages. On the back of the review, the Financial Policy Committee recommended to the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA) that lenders be required to consider the impact of likely future interest rate increases on affordability – initially a three-percentage point rise above base rates rising in 2017 to a three-point increase in the firms' standard variable rates. The review also stated that "the PRA and the FCA should ensure that mortgage lenders do not extend more than 15% of their total number of new residential mortgages at loan to income ratios at or greater than 4.5. This recommendation applies to all lenders which extend residential mortgage lending in excess of £100 million per annum."[39]

Whilst lenders use more detailed metrics of affordability (including credit checks and monthly outgoings as well as local market conditions), the 4.5 times incomes ratio provides a threshold for what is deemed affordable. Calculated as a monthly mortgage fee it results in a maximum of a 32% of income spent on housing costs for a 25-year repayment mortgage if lending rates increased to 5% (and 24% of income at 2.5% rate).[40]

Annex 2: Details of the regression analysis

The analysis examined 4,931 cases when weighted covering 8.8m households in the rented sector. The analysis was based on data from 2016-17 Family Resources Survey.

Of the weighted cases examined 41% of households are in housing stress as defined in the text and 23% of all renting households pay over a third of their equivalised household income on rent. Cases are weighted, as described in the text, according to the OECD equivalisation scale, by relative regional cost of living; and by prevalence of a disability.

The analysis held for the following factors:

- Ethnicity (5 categories: white; mixed/ multiple ethnic groups; Asian/Asian British; Black/African/Caribbean/Black British; other ethnic group)
- Employment status (11 categories: Full-time Employee; Part-time Employee; Full-time Self-Employed; Part-time Self-Employed; Unemployed; Retired; Student; Looking after family/home; Permanently sick/disabled; Temporarily sick/injured; Other Inactive)
- Tenure (4 categories: local authority; housing association; private rented unfurnished; private rented furnished)
- Receipt of housing benefit (2 categories: yes; no)
- The independent variables were tested for multicollinearity. Each variable had a VIF of under 2.

Equivalised incomes were split into quartiles (for all households regardless of tenure). The regression analysis showed that there was a significant relationship between paying over a third and increased chance of housing stress.

	B	S.E.	Wald	Sig.	Exp(B)
Quartile 1	0.345	0.003	17237.801	0.000	1.411
Quartile 2	0.365	0.004	9678.004	0.000	1.440
Quartile 3	0.378	0.006	4478.950	0.000	1.459
Quartile 4	-0.885	0.017	2799.264	0.000	0.413
Bottom half	0.454	0.002	49528.473	0.000	1.575
Top half	0.306	0.005	3708.658	0.000	1.358

There was however a noticeable difference in the Nagelkerke pseudo-R-squared values and also the number of false negatives in the model for the second highest income quintiles. As such, the model appeared to be most robust and relationship between affordability and housing stress strongest amongst households in the bottom half of the income distribution.

	Housing stress (percentage correct)	No stress (percentage correct)	Nagelkerke R Square
Quintile 1	87.5	44.0	0.198
Quintile 2	33.1	84.9	0.111
Quintile 3	12.6	97.8	0.116
Quintile 4	96.8	19.8	0.184
Bottom half	67.2	62.8	0.176
Top half	13.4	97.4	0.113

Annex 3: Details on the measures and numbers

The following table outlines the assumptions for the affordability measures and the numbers it covers. The numbers capture both the number affected and how much each measure adds to the overall total. To capture housing quality the numbers are largely based on data from the English Housing Survey. However, the data on struggling homeowners is based on the Family Resources Survey which includes more detailed information on mortgage interest payments. The dataset includes purchase price of property and date which is adjusted in line with regional house price data produced by Nationwide. Regional house price information used for first time buyer measure is based on Land Registry data.

1. Struggling renters

Category	Assumptions	Numbers	Additional numbers (no double counting)
Paying over a third	Over a third Equivalised for 2 person household as norm; disability; region (see paper for more detail) Rents less HB (incomes net of HB) Under retirement age Bottom 50% of incomes	SH = 0.4m PRS = 1.2m	
Housing benefit doesn't cover rent	Not retired On HB Under a third on rent But HB does not cover all rent In poverty (60% median household income AHC)	SH=0.4m PRS=0.4m	SH= 0.3m PRS=0.2m

Non-decent	Living in non-decent housing Bottom 50% of incomes	SH= 0.3m PRS=0.7m	SH= 0.2m PRS=0.4m
Overcrowded	Living in overcrowded property (bedroom standard) Bottom 50% of incomes	SH=0.2m PRS=0.2m	SH = 120k PRS = 40k
Total	All of the above		SH=1.0m PRS 1.9m All= 2.9m

2. Low income older households

Definition	Assumptions	Numbers	Additional numbers (no double counting)
Struggling older renters	Retired On HB Either: Under a third on rent but HB does not cover all rent in poverty (60% median household income AHC) Or: paying over a third on rent	SH = 0.1m PRS = 0.1m	SH = 0.1m PRS = 0.1m
Renters in non-decent housing/ overcrowded housing	Non-decent/ overcrowded housing Bottom 50% of income distribution	SH=150k PRS= 80k	SH=120k PRS = 50k

Older homeowners in non-decent housing	Over retirement age Bottom 50% of incomes Own outright In non-decent housing	0.6m	0.6m
Total			SH:0.3m PRS:0.1m HO:0.6m All: 1m

3. Struggling homeowners

Definition	Assumptions	Numbers
Struggling homeowners	Homeowners paying over a third on mortgage interest payments and maintenance and expenditure costs (2% of property value) Under retirement age Bottom half of income distribution	HO= 0.9m

4. Frustrated First time Buyers

Definition	Assumptions	Numbers
First time buyers	Not paying a third of income on mortgage interest payments of property at 10th percentile in region Under 60 25yr mortgage; interest rate 2.5%; deposit 10% Plus maintenance and expenditure costs (2% of property value)	That could afford to buy SH = 1.4m PRS = 2.9m

First time buyer savings	Can save a 10% deposit for a property at the 10th percentile in region within 5 years Net equivalised income Savings rates based on ONS savings by deciles	That could afford to buy SH = 0.3m PRS = 1.3m
Total	As above: household that can do both.	That could afford to buy SH = 0.3m PRS = 1.3m Total: 1.6

End notes

1 The 2017 Conservative manifesto stated: “We have not built enough homes in this country for generations, and buying or renting a home has become increasingly unaffordable.” While the 2017 Labour Party manifesto stated “Britain has a housing crisis – a crisis of supply and a crisis of affordability”

2 See ‘Defining Affordability - AHC Focus Groups’ https://www.affordablehousingcommission.org/news/2019/2/14/publication-defining-affordability-focus-groups

3 Based on base rates for 25 years

4 Meen, G ‘How should housing affordability be measured?’ (UK Collaborative Centre for Housing Evidence, 2018)

5 Bramley, G ‘Affordability, poverty and housing need: triangulating measures and standards’, Journal of Housing and the Built Environment (Springer), 2012

6 For example, Burke, T, Stone, M and Ralston, L ‘The residual income method: a mew lens on housing affordability and market behaviour’ (Australian Housing and Urban Research Institute, 2011); Stone, M ‘What is Housing Affordability? The Case for the Residual Income Approach’ (University of Massachusetts Boston, 2006); Padley M and Marshall, L ‘Defining and measuring housing affordability in the private rented sector using the minimum income standard’, Loughborough University Institutional Repository, 2016

7 This could be done by using JRF’s ‘Minimum Income Standard’

8 Meen, G op cit

9 Universal Credit may change the payment arrangements between landlords and social tenants, but direct payments do not impact the points made about the reduction in housing costs leading to reduced HB levels

10 Zaidi, B and Burchardt, T ‘Comparing incomes when needs differ: Equivalisation for the extra costs of disability in the UK’ (2003)

11 Packar, G ‘Disability poverty in the UK’ (Leonard Cheshire Disability, 2008) cited in MacInnes, T et al ‘Disability, long term conditions and poverty’ (NPI, 2014)

12 ONS, ‘Relative regional consumer price levels of goods and services, UK: 2016’ (2018)

13 For example, Julie Rugg and David Rhodes' recent review of the PRS highlighted that length of tenure was associated with increased chance of living in a non-decent home – Rugg, J and Rhodes, D 'The Evolving Private Rented Sector Its Contribution and Potential' (University of York, 2018)

14 This study uses Family Resources Survey data: Department for Work and Pensions, National Centre for Social Research, Office for National Statistics, Social and Vital Statistics Division. (2018). Family Resources Survey, 2016-2017. [data collection]. UK Data Service. SN: 8336, http://doi.org/10.5255/UKDA-SN-8336-1

15 For example, see Hunter, P 'Safe as Houses: The impact of universal credit on tenants and their rent payment behaviour in the London boroughs of Southwark and Croydon, and Peabody' (Smith Institute, 2017).

16 See: The Marmot Review, 'Fair Society, Healthy Lives' (2010); Gibson, M 'Housing and health inequalities: A synthesis of systematic reviews of interventions aimed at different pathways linking housing and health' Health and Place 17 (2011) 175-184; Office of the Deputy Prime Minister, 'The Impact of Overcrowding on Health & Education: A Review of Evidence and Literature' (2004)

17 The Minimum Income Standard (MIS) is a benchmark based on what the public think different households need for a decent minimum living standard.

18 See for example OECD Data: https://data.oecd.org/inequality/income-inequality.htm

19 The same methodology used to test the link between housing costs and housing stress was deployed. The respective Nagelkerke R square scores were: .365; .317; .291

20 English Housing Survey, 50th Anniversary Report

21 IFS, 'Barriers to homeownership for young adults' (2018) figures taken from Labour Force Survey 1996–2017 data

22 Meen, G 'How should housing affordability be measured?' (UK Collaborative Centre for Housing Evidence, 2018)

23 OBR, 'Forecasting House Prices' (2014) assumes maintenance (current running costs) and depreciation (long-term replacement costs) to be 1% per year

24 Dynan, K et al 'Do the Rich Save More?' Journal of Political Economy, 2004, vol. 112, no. 2

25 '2015-16 English Housing Survey First time buyers Report', Annex Table 3.5: Previous tenure of first time buyers, 1995-96, 2005-06 and 2015-16. Authors calculations based on number of households in the rented sector. Figures are

for those households moving from the rented sector into homeownership. The proportion for first time buyers, including new households, is 7% of renters.

26 For example, see 'English Housing Survey 2015 to 2016: first time buyers '(DCLG) annex table 2.1 which shows that retired or unemployed are not amongst first time buyers – but once were.

27 House of Commons Library, 'Rent setting: social housing (England)' (2017)

28 'The Reform of Council Housing Finance' (July 2009)

29 The Housing Corporation, 'Rent influencing regime: Implementing the rent restructuring framework' (2001)

30 *Inside Housing* "What Alok Sharma was really told by tenants" 26 January 2018

31 HM Treasury, 'Spending Review 2010', October 2010

32 http://researchbriefings.files.parliament.uk/documents/SN00638/SN00638.pdf

33 Employment and support allowance (income-related), jobseeker's allowance (income-based income support, pension credit guarantee.

34 Disney, R and Luo, G 'The Right to Buy public housing in Britain: a welfare analysis' (IFS, 2016)

35 Budget 2013: Chancellor's statement

36 Homes England 'Help to Buy Buyers' Guide (2018)

37 HMG, 'Capital Funding Guide', 2016: https://www.gov.uk/guidance/capital-funding-guide/1-help-to-buy-shared-ownership

38 HCA, 'Statistical Data Return 2016 to 2017'

39 FCA, 'Interest rate stress test' (2016)

40 The BSA using Bank of England data for September 2018 puts average rate for a 2 year fixed rate with 75% LTV at 1.71% and Standard Variable Rate at 4.39%. BSA, Average quoted mortgage interest rates at banks and building societies, 2018

Defining and measuring housing affordability.

The Affordable Housing Commission's second phase of research will be focussed on what interventions are needed to reduce the number of households in unaffordable housing.

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