**House prices vs incomes in the UK**

Houses are expensive things, especially if you don’t have one. First off I should ‘fess up: I’m one of those moaning millennials (<https://www.theguardian.com/commentisfree/2016/apr/04/millennials-should-stop-moaning-theyve-got-more-degrees-and-low-rates>), part of the generation that some argue have been most hard-hit by the house price rises of the past 60 or so years, but others argue are a bunch of winging so-and-sos who don’t know how good they have it. I’ll let you decide which is closer to the truth.

As part of research for another article I’m writing, I started wondering just exactly <i>how</i> expensive houses really are, particularly when compared to recent history. All the data I use is for England only. I live in SE England, the most expensive part of the UK in terms of house prices.

I started by finding historical data on average house prices in England. The UK Office for National Statistics has been officially recording house prices only since 2016. It’s latest statistical bulletin (<https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/housepriceindex/february2018>) backdates prices only as far as 2005 (see Fig 1.).

[[Figure 2\_ Average UK house price, January 2005 to February 2018.png]]

Caption: Fig. 1. UK house prices since 2005 (Source: UK ONS, UK House Price Index: February 2018, Figure 2: Average UK house price, January 2005 to February 2018https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/housepriceindex/february2018)

So prices have increased by £75,000 since just 2005; that’s an increase of 50%. Remember, these are the average house prices, so if you live in certain areas of London or the South East, the increase is likely even higher. You can check per local authority area in Figure 5 of this report (https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housingaffordabilityinenglandandwales/1997to2016).

That’s interesting, but how about further back in time? How much did a house cost in 1990? Or 1960? Nationwide Bank (a UK mortgage provider) publishes just such historical data, although methodology changes mean it should be taken with a pinch of salt (see Note 1 below). Fig. 2 shows UK average house prices from 1955 to 2018.

[[UK\_house\_prices.png]]

Caption: Fig. 2. UK average house prices since 1955 (Source: Nationwide)

Alright, that makes it look like houses in 1955 were basically free, so I went ahead and indexed all the prices to the average price in 1955 (see Fig. 3).

[[UK\_house\_prices\_indexed.png]]

Caption: Fig. 3. UK average house prices indexed against 1955 prices (1955 price = 100) (Source: Nationwide)

Of course, the quality of houses available in 2018 may be different to that in 1955, but not by much. Based on Fig. 3, I’m going to be lazy and say that the same house bought in 2018 would cost you, on average, 101 times the price you would have paid had you bought it in 1955.

What about inflation? Of course houses cost more in 2018 that in 1955 because we’re not all earning 9s 5d a week (please no comments about whether this is an accurate wage in old money – I have absolutely no idea). This is where it starts to get interesting.

The ONS reports house prices against earnings back as far as 1998 (see Fig. 4). You can see that house price rises are outstripping wage rises by quite some margin. That means that even though your salary may be increasing, it likely isn’t increasing quick enough to keep up with the cost of buying a house. On the other hand, if you already own a house then you’re basically rolling in it.

[[Figure 2\_ Median price paid for property and annual earnings indices.png]]

Caption: Fig. 4. House prices vs earnings (Source: UK ONS, Housing affordability in England and Wales: 2016, Figure 2: Median price paid for property and annual earnings indices <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housingaffordabilityinenglandandwales/1997to2016>)

I wanted to look further back. 1998 already feels like the “modern” era of housing, where credit was easy and interest rates low – two factors likely to push up prices. The Nationwide house price data went back as far as 1952, but the UK ONS does not provide median annual earnings further back than 1998. However, they do have data on what’s called “real households' disposable income per head, CVM NSA” (See Note 2). Fig. 5 shows this real income per head against time.

[[UK\_income\_perhead.png]]

Caption: Real disposable income per head (Source: ONS Real households' disposable income per head, CVM NSA (https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/ihxy/ukea)

You can see how real income steadily climbed, plateauing slightly in the early and late 70s before continuing rising up until the Financial Crisis, since when it has basically flatlined. Note that this measure of income does not factor in the rising cost of living. In fact, many claim that real terms wages have not risen much at all since the 1970s if you factor in inflation, but we won’t get into that here.

Now to compare real disposable income per head against house prices. But first, Fig. 6 is a visual of the bitcoin price history before the Christmas 2017 crash…just kidding: although it does resemble cryptomanic speculation, really it’s showing something called the affordability ratio (ironic, I know), which for this figure is the average house price in a given year divided by the real income per head in the same year.

[[UK\_house\_affordability.png]]

Caption: Fig. 6. Affordability ratio of UK houses (Source: ONS Real households' disposable income per head, CVM NSA (https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/ihxy/ukea) and Nationwide average house price)

You’ll notice Fig. 6 looks remarkably similar to Fig. 2. This is because wage growth has been roughly linear and a much weaker trend compared to house price growth. Interestingly, factoring in wage growth actually accentuates the house price booms (and busts), as these seem to happen in times where wage growth is low; if “work” isn’t paying well, people seek to make profit from housing instead.

**Conclusion**

The millennial’s cry of previous generations being lucky to buy houses when they were “cheap” does seem to hold up based on the affordability ratio alone. Older generations will refer to the punitively high interest rates in the past, but those rates were often accompanied by similar levels of inflation that helped their debts to evaporate away.

Houses are expensive things, especially if you don’t have one. And they are getting more and more expensive all the time. Although income can be measured in many ways, the trend is clear in that wages cannot keep up with rising house prices. This makes it tough to buy your first house because of the large, upfront deposit. As well as being somewhere to live, a house is the largest and least diversified investment a person will ever make. Houses that cost many multiples of their salaries are forcing the younger generation to plough <i>vast</i> amounts of their wealth into a single asset. This exposes them to significant investment risk and likely to prevents them from building up a decent pension or other savings.

What’s the solution? That’s a blog (or five) in itself. Building more homes wouldn’t hurt. And notice I say “homes” and not “houses”; in the densely-populated SE of England, flats (or “apartments”, if you want to make them sound cool) are remarkably uncommon. I think this is partly due to the Englishman’s desire for the house with a garden (although this is fading amongst millennials), and partly due to restrictive planning laws that allow NIMBYs to block any large development in their area. Notice the NIMBYs already have their own nice house; a classic case of climbing the ladder and pulling it up behind you.

Your comments below are appreciated, both millennials and are wiser forebears.

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Note 1 – things to bear in mind when using the Nationwide house price data

The Nationwide house price methodology has developed over time and this needs to be considered when interpreting the long run series of house prices. Maintenance in terms of updating weights for the mix-adjustment process is carried out at regular intervals.

Significant developments include:

* 1952 - 1959 Q4 Simple average of purchase price.
* 1960 Q1 - 1973 Q4 - weighted average using floor area (thus allowing for the influence of house size).
* 1974 Q1 - 1982 Q4 - weighted averages using floor area, region and property type.
* 1983 Q1 - Development of new house price methodology. A statistical ‘regression’ technique was introduced under guidance of ‘Fleming and Nellis’ (Loughborough University and Cranfield Institute of Technology). This was introduced in 1989 but data was revised back to 1983 Q1.
* 1993 - Information about neighbourhood classification (ACORN) used in the model were significantly updated following Census 1991 publication - regular updates since but typically for new postcodes.

Note 2 – median income vs real household’s disposable income per head:

I’ve contacted ONS to understand the methodology differences between these two measures of income, so hopefully I can come back to you with an update. For now, Fig. 7 shows a comparison of the two datasets for the years they overlap. You can see how the affordability ratio differs by up to 1/3 for the two measures, however the trendlines closely match so they paint a similar picture of house prices outstripping wage growth.

[[affordability\_comparison.png]]

Caption: Fig. 7 Comparison of affordability ratio for median income and real household’s disposable income per head.