BANK OF ENGLAND

Speech

Housing – The Quiet Decade

Speech given by
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One of the many unusual features of the Covid-driven economic contractions in advanced economies has been the behaviour of housing markets. Housing markets typically slow and house prices fall in severe economic contractions.

But despite very adverse economic conditions after the initial Covid lockdown shock last spring, housing markets have been buoyant in many advanced economies and house prices have been rising. House prices grew by 5.7% on average across advanced economies in 2020, the sharpest increase since 2007[1].

Of course, what we have experienced over the past 12 months or so has been very different to a 'normal' business cycle contraction or even to the more extreme contractions that follow financial busts. Economic developments have been driven by wholly exogenous health developments and governments have provided massive fiscal support to incomes, employment, the corporate sector and in some cases like the UK, to housing markets.

It remains striking however, that following some of the sharpest economic contractions in modern history and amid great uncertainty and indeed, initially fear, about the future, housing markets have been strong.

In the UK, over the 12 months to February, house prices have risen by 9.1%, the highest growth rate since October 2014. This compares to an average annual growth rate of under 4% in the 10 years prior to the pandemic. Mortgage approvals have averaged around 85,000 per month and total transactions 111,000 per month since housing markets opened in June 2020, compared to around 60,000 and 90,000 in the prior decade, respectively.

The pre-pandemic decade, however, may not be the right comparator. The 10 years following the financial crisis appear unusual in that over that period house prices grew broadly in line with incomes, having grown at double the rate of income in the previous twenty to thirty years.

I want to look today at some of the reasons why house prices growth and housing transactions were, in UK terms, relatively subdued for the 10 years prior to Covid, and at what drives house prices and transactions. I will go on to look at why, post-pandemic, the market might be very different to the post-GFC period and some of the broader implications were house prices to resume their pre-GFC trend of rising significantly above earnings. Finally I will look, at what, if any, implications this might have for policy.

[1] Countries included in this calculation are: Australia, Belgium, Canada, Switzerland, Germany, Denmark, Spain, Finland, France, United Kingdom, Ireland, Israel, Italy, Japan, South Korea, Luxembourg, Netherlands, Norway, New Zealand, Sweden, United States. The authors acknowledge use of the dataset described in Mack, A., and E. Martínez-García. 2011. "A Cross-Country Quarterly Database of Real House Prices: A Methodological Note." Globalization and Monetary Policy Institute Working Paper No. 99, Federal Reserve Bank of Dallas.

The post financial crisis period.

In the 30 years following the liberalisation of the financial sector in the 1980s, outside recessionary periods, house prices in the UK grew consistently faster than earnings. There were two periods of particularly fast growth in house prices relative to incomes. The first was in the late 1980s, ahead of the early 1990s bust, and was driven by that liberalisation. The second was from the late 1990s up until the global financial crisis, and may have been linked to the Bank of England's independence in 1997 and the consequent reduction in interest rates as inflation expectations and risk premia fell. The upwards trend over this period generally was also driven by the secular decline in the long run equilibrium interest rate that we have seen over the past 30 years, and which makes higher levels of debt more sustainable[2].

By 2008, household mortgage debt relative to income had risen to 110% from 67% at the beginning of the decade and roughly four times its level in 1980. The debt service to income ratio remained relatively constant as the impact of higher levels of mortgage debt relative to income was offset by lower debt servicing costs.

Access to credit was easy and the cost of credit was relatively low. By 2007, the spread on a 2 year fixed rate 90% Loan-To-Value (LTV) mortgage product over risk-free rates was just 0.4pp. And a large share of mortgage products advertised were available to relatively riskier borrowers, such as 90%+ LTV or to borrowers who had recently faced repayment difficulties.

Over this period, the market was very active, with mortgage approvals averaging over 100,000 per month.

In the financial crisis and ensuing recession, house prices dropped and the market effectively froze. Transactions fell from their peak of 150,000 in December 2006 to their trough of 52,000 in January 2009. And house prices contracted by over 15% in February 2009, from a peak growth rate of over 10% in June 2007[3]. The housing recovery, as with the UK economic recovery in general, was slow and painful. House prices, led as usual by London, did not begin to return to their pre-crisis peaks until the end of 2013.

Even after the recovery, however, house price growth did not recover to pre- financial crisis rates. From 2014-2019, average house price growth was 5% and the house price to earnings ratio for the UK as a whole did not return to its pre-crisis peak until 2017, despite the slow growth in earnings in the UK recovery. In most areas outside London, the South and East, the ratio is still below its pre-crisis peak.

Activity over this period was subdued relative to the period before the financial crisis. Mortgage approvals averaged 61,000 per month. The period between home moves became longer; in 1988, households moved every 10 years on average. 30 years later, in 2017, this extended to every 17 years.

[2] See Rachel, L. and Smith, T. (2015) "Secular drivers of the global real interest rate" and Box 6 ("The equilibrium interest rate") in the August 2018 Bank of England Inflation Report for further discussion of this.
[3] Real house price growth peaked at over 20% in 2002 to 2003, but prices were still growing at around 9% in 2007 in real terms. Real prices started to contract from 2008, with the largest annual fall being 18% in early 2009.

In the years immediately following the financial crisis, households paid down debt. By early 2016 mortgage debt to income ratio had dropped to 97%. It remained around that level until Covid, due in large part to house prices growing more in line with earnings.

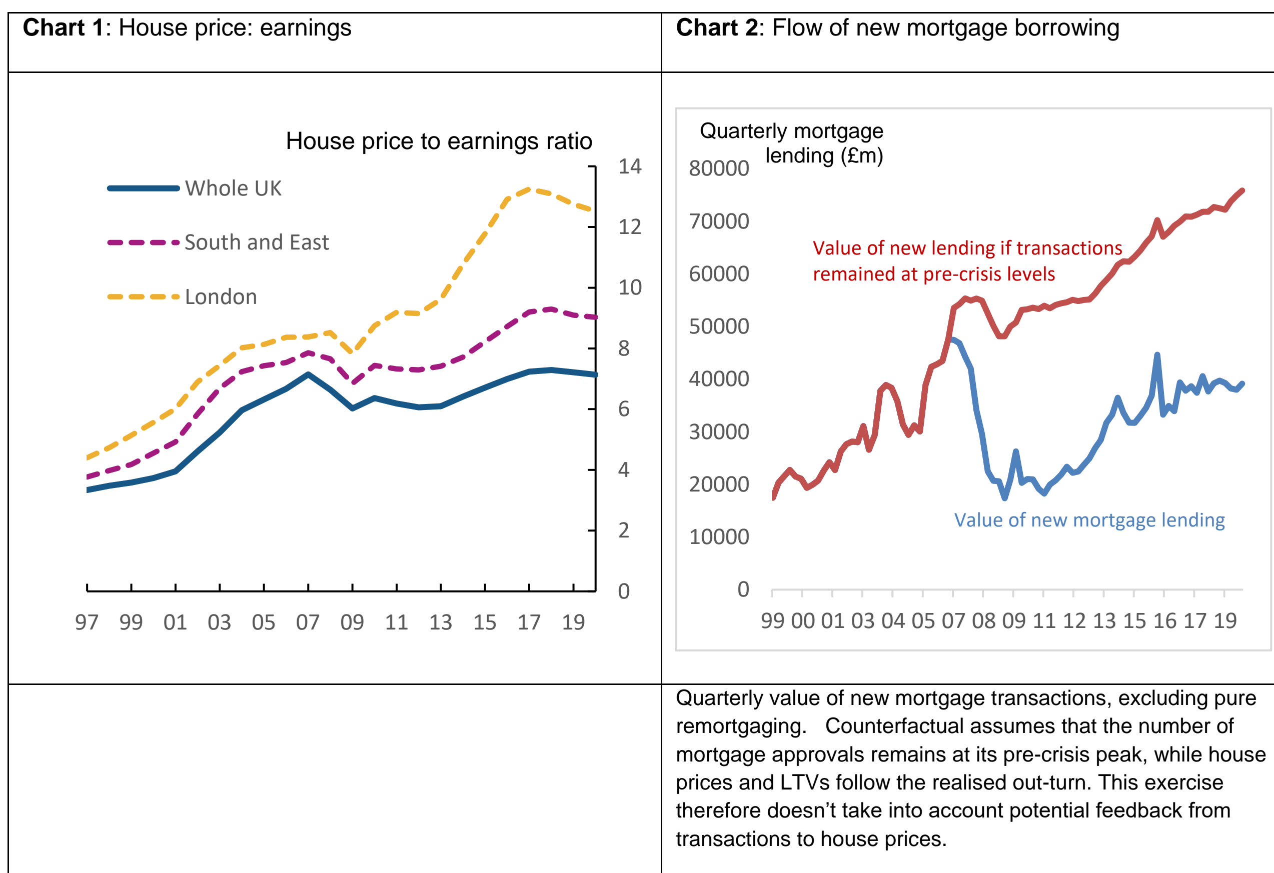
I should make clear here that London – and to a lesser extent the South and East – was very much an outlier during this period (**Chart 1**). For example, in London, house prices increased by 35% and the house price-to-earnings ratio rose by 200 percentage points. The market in London was probably driven by the sheer weight of demand given employment patterns. But investor flows – including from abroad – and migration may have also played a role. Nationally, however, the picture over this period is of a less active market more in line with economic growth and with households staying longer between house moves.

A simple thought experiment illustrates the unusual and quiet nature of the market for the UK as a whole over this period. In **Chart 2**, the blue line shows the flow of new mortgage borrowing since 2000. After rising through the first half of the decade, new lending drops of dramatically during the financial crisis.

The red line shows what the flow of borrowing would have looked like, if, taking house prices at their outturn levels, mortgage transactions had levelled off at their financial crisis peak rather than falling back.

Chart 1: House price: earnings

Chart 2: Flow of new mortgage borrowing



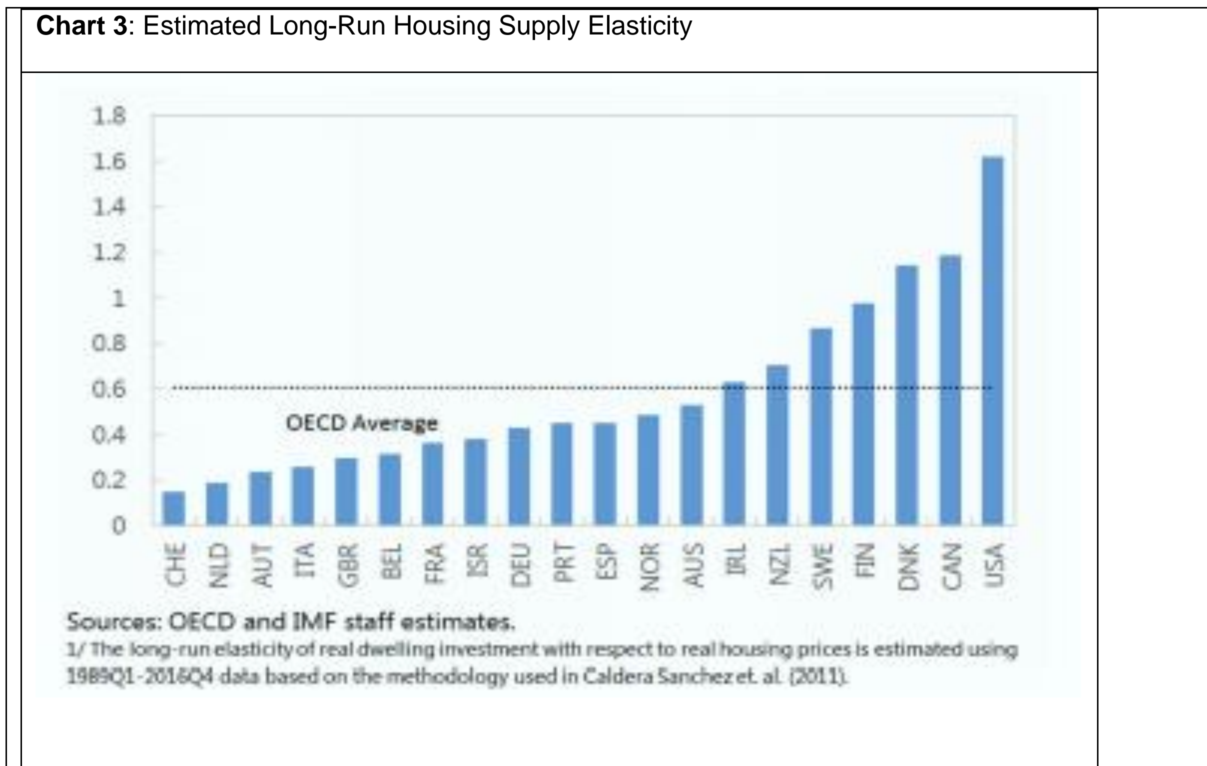
Quarterly value of new mortgage transactions, excluding pure remortgaging. Counterfactual assumes that the number of mortgage approvals remains at its pre-crisis peak, while house prices and LTVs follow the realised out-turn. This exercise therefore doesn't take into account potential feedback from transactions to house prices.

What lay behind this relatively “quiet” decade for the UK housing market? Housing is a very complex market with multiple drivers on both the supply and the demand side. There is a great deal of debate in the academic literature about the drivers of house prices and the role played by credit conditions. These provide a number of lenses through which to look at the UK housing market over this period.

Housing supply is for obvious reasons an in-elastic market in most countries. New houses take time to construct and there are multiple frictions, not least planning and other regulations. This will affect whether a boom in demand for housing is reflected in new building and increased supply, or in upward pressure on prices.

There is, however, variation between countries. The literature bears out the intuition that that the more inelastic the market, the greater the impact of demand side factors on price. The UK scores very poorly on elasticity of housing supply. The IMF estimates that the elasticity of housing supply in the UK is about half the OECD average[4] (**Chart 3**).

Chart 3: Estimated Long-Run Housing Supply Elasticity



[4] Geng (2018), “The Fundamental Drivers of House Prices in Advanced Economies”

On the demand side, the fundamental drivers of the market are population and income. But credit conditions and expectations clearly play a role, as do non- credit constrained investors who can arbitrage between the rental and the owner occupied market. It is difficult to disentangle these factors.

At a fundamental level demand for housing – whether as a renter or as an owner – is determined by the number of households, their incomes, the housing stocks and households' intrinsic preferences. And so in areas with rapid population and income growth – especially in areas where supply cannot adjust – we'd expect to see an increase in both rents and house prices.

Of the 2.2 million increase in the UK's population between 2014 and 2019, 20% was in London and 13% was in the South East. These areas have seen above average house price growth.

But as well as these fundamental drivers, house prices also depend on expectations and on whether households are able to obtain and afford the credit that will allow them to get onto the housing ladder.

There is substantial evidence, both theoretical and empirical that credit conditions – both the cost and the availability of credit – have played a leading role in driving house prices in the UK and the US. Empirical cross-country estimates vary, but would suggest that a 1% increase in the policy rate, which would translate into higher borrowing cost, all else equal, reduces house prices by around 2-11%, with the majority suggesting a drop between 6-9%.[5] The more purchasers are constrained by either the price or the availability of credit, the larger the impacts of a change in credit conditions on house prices is likely to be.[6] Credit constraints are most likely to affect first time buyers.

Conversely, the greater the proportion of purchasers that are not dependent on credit, the weaker the impact of credit conditions on prices will be. Such 'deep-pocketed' investors can act as arbitragers, selling when house prices are high and rental returns therefore low and, conversely, buying when prices are low. There is some support[7] for the existence of such an arbitrage mechanism in the UK[8].

Other academic work assigns a greater role to expectations. Expectations are important to house prices as they influence both consumption choices (as housing is 'service' that people consume) and investment

[5] See e.g. Assenmacher-Wesche and Gerlach (2009), Calza, Monacelli and Stracca (2013), Goodhart and Hofmann (2008), Iacoviello and Minetti (2008), Jorda, Schularick and Taylor (2015), Sa, Towbin and Wieladek (2011)).

[6] See for example Favilukis et al. (2017) which assumes a large share of credit constrained households. A loosening in credit conditions increases a sufficient proportion of households' demand for homeownership to generate a rise in house prices. Kaplan et al. (2019) and Greenwald & Gruber (2019) in contrast assume more 'deep pocketed' investors, so that a change in credit conditions has less effect on house prices.

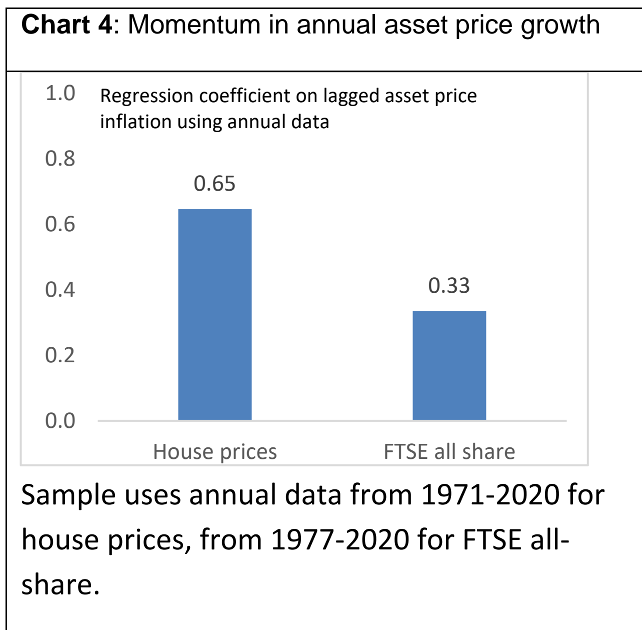
[7] Empirical evidence on this arbitrage mechanism is somewhat limited, but long-run evidence of rental yields and house prices may provide some support. In the UK, high rental yield tends to precede house price growth: see Broadbent, 2019 "Debt dynamics". There is evidence of buy-to-let investors entering the market when letting out properties is relatively profitable, driving up house prices. As yields decline, house prices also decline. These dynamics would be consistent with the arbitrage mechanism

[8] In equilibrium, rental yields (the ratio of rent to prices) is a function of risk-free rates, depreciation, a risk premium, and real house price growth. In a market with a sufficiently large share of such deep-pocketed arbitrageurs, it can be argued that the development of house prices relative to incomes can be largely accounted for by the substantial decline and then flattening out of the real risk-free interest rate over this period. Miles and Monro (2019) apply such a framework to demonstrate this. However – as I will go on to describe – this relationship does not fully explain house price moves over shorter time periods, which may be affected by credit conditions.

decisions (as housing is also an asset). In this literature, expectations of future income, future interest rates, and future house prices and can all play a role. There is some evidence that current interest rates and current house price growth have an important influence on expectations (**Charts 4 and 5**).

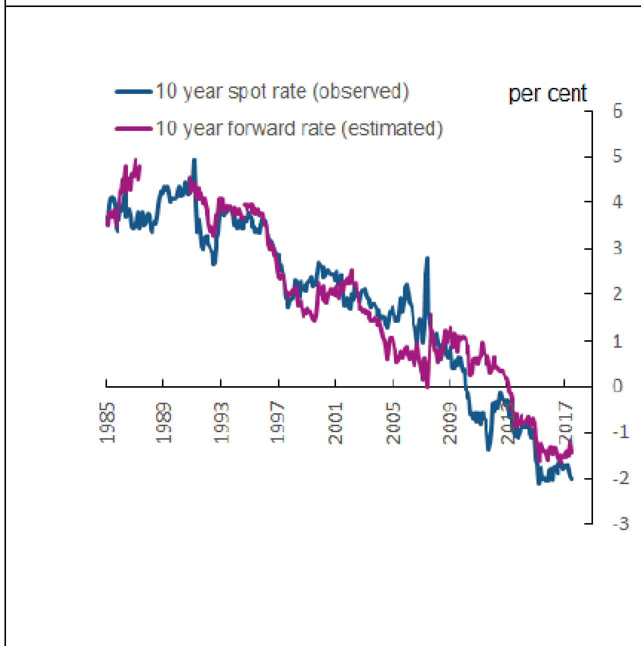
All of these factors were likely at play during the pre-Covid decade.

Chart 4: Momentum in annual asset price growth



Sample uses annual data from 1971-2020 for house prices, from 1977-2020 for FTSE all-share.

Chart 5 Interest rate expectations track actual interest rates[9]



Given the long and painful recovery from the financial crisis and the fall in house prices, expectations of future income and of future house prices were depressed. Consumer confidence hit an all-time low after the GFC and remained subdued until 2014. Expectations of future interest rates may also have been low; however to the extent that the low risk free rate in the period was associated with a recession, this may not have had an upward effect on price.

One would expect these factors to have waned following the economic expansion beginning in 2013, though real pay growth did not start to recover until some years later. Brexit uncertainty following the referendum result in 2016 is likely to have had a further general dampening effect on expectations.

Moreover, as well as changing the expectation of future economic prospects, the financial crisis and the recession and unemployment may well have increased household risk aversion. Psychological scarring following crises can cause perceptions of risk to become overstated, and lead households to prioritise balance sheet repair in response[10].

[9] Miles and Monro, "UK house prices and three decades of decline in the risk-free real interest rate", forthcoming
10 For a more detailed discussion, see Haldane, A. (2011), "Risk off"

To help gauge the role played by these factors, we can consider the historic relationship between house prices and fundamentals and how this relationship might have evolved in the decade since the crisis[11].

The blue line in **Chart 6** shows how we might have expected mortgage debt to evolve following the crisis, based on the historic relationship between mortgage lending and fundamentals such as the housing stock and incomes.

This shows underlying demand falling in the immediate post-crisis period. This reflects weaker fundamentals. And to the extent that households' beliefs are shaped by recent trends – and there is good reason to believe that is the case - weaker expectations will be captured in weaker demand.

This fall in demand could also reflect credit conditions. In the years immediately following the crisis Bank Rate remained close to zero, but the interest rate spreads over Bank Rate charged by banks and building societies, for new mortgages, were high. This meant that interest rates on new mortgage did not fall with Bank Rate. But, as is shown in **Chart 7**, from 2013 onwards, mortgage spreads fell and the cost of mortgage credit dropped to well below pre-GFC level.

[11] I have borrowed this thought experiment from Geoff Meen. It makes a number of simplifying assumptions, notably that there would not be feedback from higher demand into house prices in the counterfactual in which credit is unconstrained. These simplifying assumptions mean that the analysis and resulting figures should be taken in context.

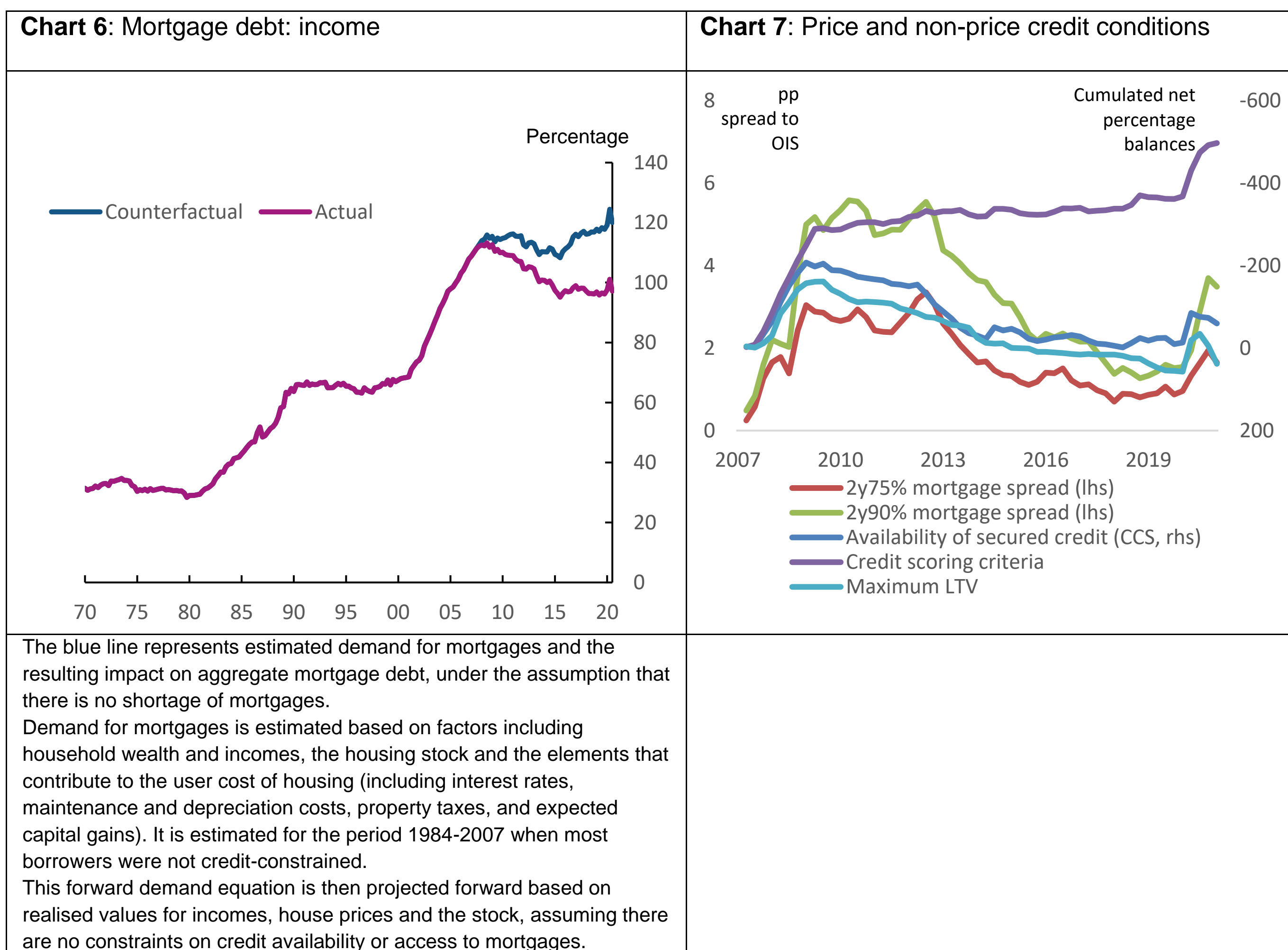


Chart 6: Mortgage debt: income

Chart 7: Price and non-price credit conditions

The blue line represents estimated demand for mortgages and the resulting impact on aggregate mortgage debt, under the assumption that there is no shortage of mortgages.
Demand for mortgages is estimated based on factors including household wealth and incomes, the housing stock and the elements that contribute to the user cost of housing (including interest rates, maintenance and depreciation costs, property taxes, and expected capital gains). It is estimated for the period 1984-2007 when most borrowers were not credit-constrained.
This forward demand equation is then projected forward based on realised values for incomes, house prices and the stock, assuming there are no constraints on credit availability or access to mortgages.

But **Chart 6** also shows a gap opening up between expected mortgage demand and the mortgage lending we've actually seen since, shown in the purple line. This reflects factors including constraints on the availability of credit, and potentially an increase in uncertainty and risk aversion in the wake of the crisis.

Alongside the increase in spreads immediately post-crisis, a similar pattern appears in non-price credit terms, which usually move over time in line with price terms as is shown in **Chart 7**. This includes the availability of higher loan to value mortgages, which can represent one of the largest credit constraints on first time buyers, particularly in high cost areas[12].

Access to credit was also affected from 2014 by the introduction of the FPC's housing measures, which constrained the flow of high loan-to-income (LTI) mortgages and set the level of the stressed interest rate

[12] Increased competition in the mortgage market may have played a role in this

affordability test applied to new borrowers[13]. These were set by the FPC to constrain the future growth of household indebtedness in aggregate and to limit the number of highly indebted households, given the evidence that high levels of household indebtedness had amplified the depth and duration of the post-GFC recession[14].

It is unclear what impact these regulatory constraints on credit may have played in house price formation. The limit on the flow of new, high LTI mortgages was not reached during the period, although there is some anecdotal evidence that, while the limit did not bite, it did constrain lenders' behaviour due to their own risk appetite. However, these limits are likely to have had some impact in some areas, particularly London, where house prices had grown fastest relative to earnings[15].

Finally, the arbitrage mechanism referred to earlier, to the extent that it exists in the UK market, and which might have resulted in 'deep pocketed investors' putting upward pressure on prices, may itself have been weakened by changes to the taxation of rental properties and the stamp duty surcharge on second homes.

There will, I am sure, be further academic investigation of the factors that drove this unusual decade in the UK housing market. My own guess is that expectations, writ large, played a strong role throughout, with the impact of the financial crisis and slow recovery being strong in the early part of the period and Brexit effects on expectations being important after 2016.

Credit constraints – both price and availability - may also have played a role for the UK market as a whole in the post-financial crisis years, but these loosened materially in the second half of the decade without a marked impact on prices or transactions suggesting that the market was not being held back by credit constrained purchasers.

London, and to a lesser extent the South East, are clearly outliers in this respect. Given the elevated level of prices relative to earnings at the start of the decade and the further sharp increase in the middle of the decade, constraints on the availability of credit, both lender-imposed and regulatory, are likely to have held back activity. Building a sufficient deposit is one of the biggest constraints facing most first-time buyers. Only 19% of renters across the UK have sufficient savings to afford a 5% deposit on the median first-time property in their region. In London and the South and East, high house prices relative to earnings mean that potential first-time buyers have to save even larger deposits in order to be able to afford their mortgages. For regions outside London and the South and East, first-time buyers' deposits are typically 48% of their incomes. In London and across regions in the South and East on average, this is 121% and 80% respectively.

[13] Since June 2014, the FPC has recommended a limit of 15% on the proportion of new mortgages extended at or above 4.5 times a borrower's income. Building on the FCA's rules, the FPC has also recommended that lenders assess whether borrowers could meet their mortgage payments if their mortgage interest rate switched to the contractual reversion rate and increased by 3 percentage points.

[14] The FPC published its most recent review of the housing tools in the December 2019 *Financial Stability Report*.

[15] Tripathy et al, "Macroprudential Policy, Mortgage Cycles and Distributional Effects: Evidence from the UK" show that constrained banks issued fewer high LTI mortgages after the FPC's policy was introduced. They also find evidence supporting the macroprudential benefits of the policy. The local areas with greater exposure to constrained lenders experienced smaller declines in house prices in the aftermath of the EU referendum in June 2016, when house prices fell across most UK regions.

The distinction between expectations effects and credit constraints matters in another way. To the extent that demand for housing is simply subdued by dampened household expectations about the future, there is no 'loss' to households. If however, demand for housing is held back by credit constraints, transactions which are desired are 'lost'. One needs to be careful however about assuming that relaxation of credit constraints will lead to all otherwise 'lost' transactions taking place.

The thought experiment I carried out earlier suggested that almost 10 million additional transactions would have occurred from 2007 to 2020 had transactions remained at their-pre financial crisis level. But this assumed that house prices remained at the actual levels we saw over the period. In the absence of increased supply, the evidence suggests that much of the additional demand would have fed into higher prices, raising indebtedness in the short term but eventually choking off the additional demand.

I want to look at one other aspect of the market over this quiet decade – distributional impact. Distributional effects are not a part of the Bank's statutory primary objectives of price and financial stability. This is not because they do not matter. They certainly do, and access to housing is included in the Government's economic policy, which the Bank has a secondary objective to support[16]. It is because these are issues primarily for elected authorities rather than technocratic ones, and there are more effective tools to address them.

One cannot ignore that housing booms shift wealth towards existing and generally older homeowners and can therefore widen intergenerational inequity.

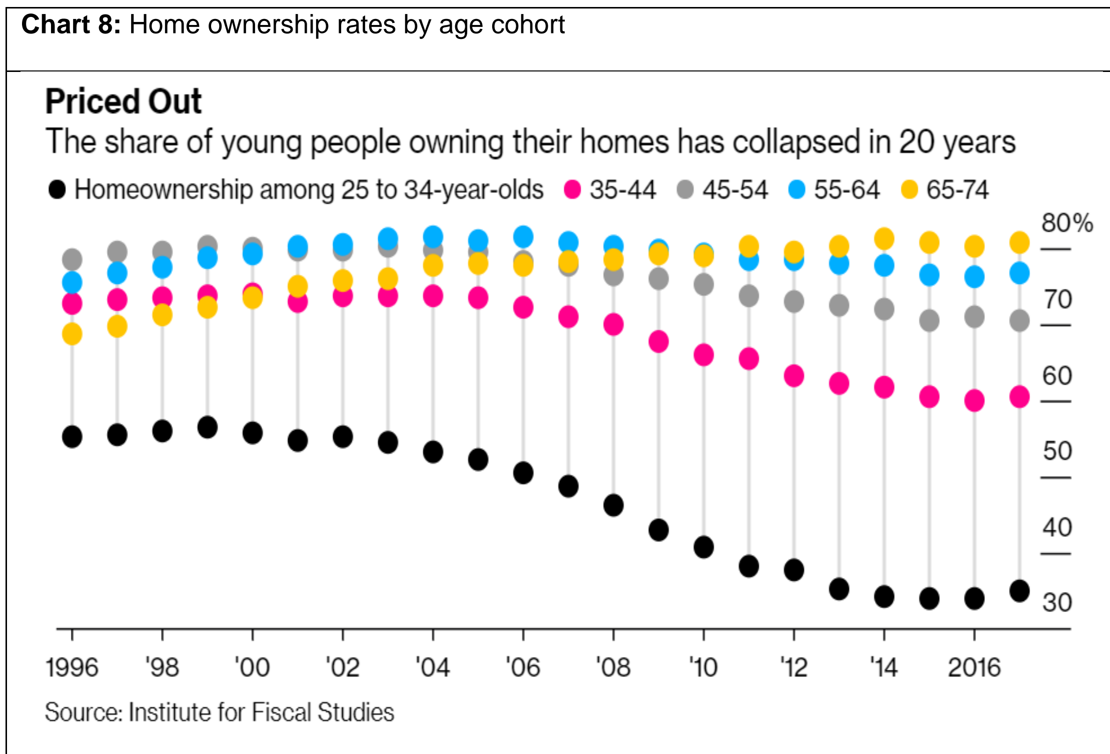
The large increase in house prices in the decade leading up to the financial crisis came with a large expansion in mortgage debt. Much of the £664bn increase in household mortgage debt over that period represented borrowing by first time buyers and those moving up the housing ladder to finance an increase in housing wealth for those further up the ladder. Moreover, an increase in house prices often leads to higher rents which are predominantly paid as transfers from non-home owners to existing home owners, potentially even further restricting the ability of prospective first time buyers to put a foot on the housing ladder.

As well as increasing intergenerational inequity, this shift in housing wealth also risks widening inequity within the younger generation going forwards as housing wealth is passed down within families[17]. 40% of FTBs received help with raising their deposit in 2018-2019 relative to 25% in the mid-90s, showing an increasing reliance on family wealth to purchase the first home[18]. The 'Bank of Mum and Dad' is already estimated to be the 10th most important lender in the UK[19]

[16] The FPC's 2021 remit letter can be found here: https://www.bankofengland.co.uk/letter/2021/march/remit-for-the-fpc-2021. The Bank of England also has a Public Sector Equality Duty under the Equalities Act.
[17] It is important to note that the Gini coefficient overall has not risen over this period.
[18] Report based on Nationwide data
[19] Legal and General calculations

The intergenerational impact of the pre-financial crisis housing boom can also be seen in how the age profile of first time buyers and homeowners has shifted. Over the 1998-2008 period and immediately following the financial crisis, the share of young people buying their homes effectively collapsed (**Chart 8**). From 2014, the share has stabilised.

Chart 8: Home ownership rates by age cohort



The price-to-earnings ratio for first time buyers for the UK as a whole shows a similar pattern, rising sharply from 1998-2008, but then growing at a much more moderate rate after the crisis. London, however, shows a very different picture a consequence of the sharp rise in house prices from 2012-2017.

The comparison of the pre-Covid decade outside London with the decade that preceded it, is I think a helpful illustration of the impact, when supply elasticity is low, on inter and perhaps intra generational equity that can result from a highly active market in which prices consistently grow faster than incomes.

As I highlighted at the outset of this speech, over the past year the UK housing market has returned to pre-financial crisis levels of activity and rates of price growth.

Public and banking sector support has played a huge part in this. Furlough schemes and interest payment holidays have limited distressed sales through the Covid crisis, which would otherwise have pushed down on house prices.

In addition, a combination of pent up demand from the initial lockdown in which the UK housing market was closed and the substantial tax incentive provided by the stamp duty holiday - which was announced in July

and which will be tapered out over the course of this year – has fuelled the strength in demand for housing. After an initial tightening, credit conditions have dropped back broadly to pre-Covid levels.

One would expect the market to cool down when public support to the economy in general and the housing market in particular is withdrawn over the course of the year, as is currently planned. Previously, we've seen transactions spike prior to the end of stamp duty holidays, followed by a brief trough before transactions start to recover, consistent with a large share of the impact coming through shifts in the timing of transactions, rather than an aggregate increase in demand.[20]

But there may also be some reasons to believe that the recent increase in demand for housing, and perhaps the composition of that demand, which has driven the UK market in recent months reflects some more persistent drivers and that the market will not fall back to its pre-pandemic decade performance when the tax incentives have gone. A survey conducted by Nationwide in April found that, amongst homeowners moving or considering a move as a result of the pandemic, three-quarters of them said they would still be moving or considering moving even if the stamp duty holiday hadn't been extended. Moreover, the stamp duty holiday in Scotland has already come to an end with no material drop-off in demand.

There has been a clear shift in attitudes towards remote working – both by employees and employers - as a result of the pandemic.

According to the Understanding Society Covid special survey, half of respondents who have been working from home during the last year report wanting to work from home often or always once social distancing measures end, compared to just over one in ten prior to the pandemic. The Bank's Decision Maker Panel also suggests that employers' expectations have shifted, with the share of firms expecting their employees to work from home at least one day a week beyond 2022 tripling relative to 2019.

A structural shift in more working from home is likely to lead to preferences for larger homes, with less weight attached to considerations around commuting times relative to pre-pandemic.

There is also likely to be a regional dimension to any such behavioural shift in the housing market. Remote working considerations would point to a shift away from urban areas like London and towards suburban areas and further out. Post pandemic health-related concerns about densely populated metropolitan centres might also encourage such a shift.

[20] Estimates vary as to whether such holidays have any aggregate impact. For example, Best and Kleven (2013) estimated that about a third of the impact of the 2008-09 holiday was solely due to timing, but that there was an aggregate increase in transaction volumes. In contrast, Besley et al (2016) look at the same episode and find no aggregate impact, only a shift in transaction timing. See https://obr.uk/docs/dlm_uploads/Working-paper-No.10-1.pdf for discussion.

Financial considerations may accentuate any such effect, given the gap in affordability in London and the South East relative to other parts of the UK. Credit constrained renters in high cost areas might take advantage of new norms of working to move from high-price areas of the UK to lower-price ones.

There may be some early indications that such a shift has begun to occur with prices rising faster outside metropolitan areas. As of March this year, annual house price growth has been in the 13-14% range for the North of England and the 10-12% range for the Midlands, Wales and Scotland, with London the laggard at just under 4%. But even if it has begun, is far too early to say whether or not it will be sustained. Preferences expressed during the pandemic and lockdown may not be a good guide to post-pandemic behaviour.

If it occurred, such a shift would reverse decades of movement in the other direction and might see closing of the gap between London and other high cost areas.

It is not clear what impact a more buoyant housing market along these lines would have on prices, mortgage indebtedness distribution of housing wealth. Even if prices rise in newly popular locations and the volume of mortgage transactions increased, there could be offsetting effects. First-time buyers of properties outside high cost metropolitan areas who would otherwise have bought in those areas would take on less debt than they would otherwise have done. And existing owner-occupiers who moved from such areas to other areas in the UK might in fact reduce their debt in doing so. Supply may also be more able to respond to demand outside city centres.

Policy

The FPC introduced its housing measures in 2014 following the evidence from the post-financial crisis recession that aggregate household indebtedness and the prevalence of highly indebted cohorts had amplified the recession and its impact on the financial system. The tools therefore aim to enhance the resilience of the financial system.

The measures aim to act as general structural ‘guardrails’ rather than as a countercyclical tool, though the FPC reviews their calibration periodically. Such a review is in train and be completed by the end of this year.

As I have set out, since the introduction of the tools the housing market, outside London, has been relatively quiet by UK standards. But, as I have also explained, there are likely to be many factors behind this in addition to the FPC’s housing measures. The Bank has published extensive analysis on the impact of the tools and a forthcoming “Bank Overground” post will examine the extent to which the measures have acted as a constraint on renters entering the housing market.

This analysis finds that minimum affordability requirements and lenders’ internal limits on loan-to-values are likely to have been the dominant constraint for most renters. It estimates that only 2% of renters would have

been able to afford the median-priced first-time home in their region had they not been constrained by the affordability test.

It is not clear how, were it to continue, the recent awakening of the UK housing market from its 10 years of snooze would affect aggregate indebtedness and the impact of the FPC's measures. There are reasons to believe that a more active market, driven by a structural shift in housing preferences as a result of behavioural change and new working patterns could look very different, including in its distributional effects, to the periods of housing boom we have seen over the past 40 years.

If, however, the self-reinforcing dynamics of past periods began to re-emerge – strong demand, fast growth of prices relative to incomes, easy credit conditions and high levels of transactions – the FPC's measures would certainly begin to have a stronger impact in constraining the increase in aggregate mortgage indebtedness.

But that, of course, is what they are intended to do.

Thank you.