House prices and the UK economy:
An overview with three scenarios
Written by: Josh Ryan-Collins and Stephen Spratt

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new economics foundation
3 Jonathan Street
London SE11 5NH
United Kingdom
Telephone: +44 (0)20 7820 6300
Facsimile: +44 (0)20 7820 6301
Email: info@neweconomics.org
Website: www.neweconomics.org

BSHF
Memorial Square
Coalville, Leicestershire
LE67 3TU
United Kingdom
Telephone: +44 (0)530 510 444
Facsimile: +44 (0)1530 510 332
Email: bshf@bshf.org
Website: www.bshf.org
1. Context

1.1. Housing and the global crisis

There is broad consensus in the empirical literature that housing markets are not efficient and that systematic mispricing can persist over long periods of time. Lagged appreciation plays a key role in this process: rising (or falling) prices beget expectations of further rises (or falls), which – for a while at least – can be self-fulfilling. Many observers, including the International Monetary Fund (IMF), the Bank for International Settlements (BIS) and the Organisation for Economic Cooperation and Development (OECD) have raised concerns about housing ‘bubbles’ and the danger of subsequent corrections.

The 1997-2006 period saw unprecedented rises in house prices across much of the developed world, which has been closely linked to the global expansion of cheap credit following the collapse of the ‘dotcom’ bubble in 2001 which led to a policy of historically low interest rates. This flood of global liquidity was channelled into housing sectors because many industrial economies had implemented broad-based financial deregulation, enabling domestic mortgage providers to access cheap and plentiful funding from international capital markets. The result was an increase in access to mortgage financing for a larger share of the population.

This period also coincided with high rates of growth of the global economy and historically benign macroeconomic conditions. As ever in a boom, the assumption appears to have been that the good times would last forever: thus expectations of rising prices on the demand side combined with expectations of lower risks on the lending side to fuel the housing boom. Both governments and households had an incentive to see these developments as permanent shifts in the economic landscape.

As we have seen, however, this was not so. Temporary ‘positive shocks’, particularly the huge expansion in credit driven by an explosion in securitization, were at the heart of the boom, with the US sub-prime mortgage crisis being the most extreme example. These shocks saw a huge increase in demand for home ownership without, in most cases, a corresponding increase in supply.

A self-perpetuating rise in prices was thus all but inevitable; this process has now gone into reverse. The IMF estimates total write-downs for all holders of U.S.-originated assets will total

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around $4 trillion, two thirds of which will be suffered by banks.\textsuperscript{5} The implications for the UK economy and the housing sector will be severe.

1.2. The UK housing market

The UK housing market is highly volatile and pro-cyclical (figure 1 and table 1), and the last decade has seen a sharp acceleration in the rate of price inflation. The reversal has been brutal: by the first quarter of 2009, real average house prices had fallen by 20 per cent since peaking in the third quarter of 2007.\textsuperscript{6}

\textit{Figure 1: UK house price inflation and house prices, 1976-2008}\textsuperscript{7}

The volatility of UK house prices is due to the interplay between highly regulated and inelastic housing supply and deregulated, credit-driven demand for home ownership. Volatility is further amplified by the comparatively high rates of home ownership (70 per cent) and mortgage debt to income ratios.

\textsuperscript{6} Nationwide Building Society (2009) \url{http://www.nationwide.co.uk/hpi/historical.htm}
1.2.1. Supply

The UK has a centralized and slow-moving planning system that has failed to keep up with rising demand in the last decade (figure 2).\(^8\) Nationally, total housing output in 2005 (233,000) was little different from what it had been in 1996 at the start of the boom (224,000), despite a doubling of real house prices.\(^9\) Private housing starts in England in the third quarter of 2008 were 55 per cent down on the previous year and only around 85,000 dwellings were expected to be built in 2008, the lowest number for decades.\(^10\)

Inelastic supply leads to large variability of house prices, as demand shocks are not met by increased production of new dwellings. Table 1 compares the UK with selected industrialized countries and shows the correlation between house price volatility and supply elasticity. The two series are negatively correlated\(^11\): countries with inelastic supply have greater volatility than those with more elastic supply.\(^12\)

### Table 1: Supply elasticity and house price volatility in selected countries\(^13\)

<table>
<thead>
<tr>
<th>Country</th>
<th>Supply elasticity</th>
<th>House price volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>0.66</td>
<td>0.13</td>
</tr>
<tr>
<td>France</td>
<td>1.09</td>
<td>0.07</td>
</tr>
<tr>
<td>Germany</td>
<td>2.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.30</td>
<td>0.23</td>
</tr>
<tr>
<td>UK</td>
<td>0.45</td>
<td>0.24</td>
</tr>
<tr>
<td>US</td>
<td>1.40</td>
<td>0.14</td>
</tr>
</tbody>
</table>

The house-building sector is now almost completely dependent on a small number of large commercial developers as successive governments have encouraged home ownership and overseen a collapse in local authority social housing programmes.

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11 Correlation describes a statistical association and does not necessarily imply causation.
13 Swank, J., Kakes, J. and Tieman, A. (2002) The Housing Ladder, Taxation and Borrowing Constraints, De Nederlandsche Bank, Staff Reports, No. 9, in Kim et al., ibid, p12
1.2.2. Demand

In contrast to its inelastic supply, the UK housing market is characterized by pro-cyclical demand amplified by a de-regulated mortgage market and a tax system that favours home ownership over other forms of tenure.

There is some consensus amongst economists that the impact of house price increases on consumption is through the ‘credit’ rather than ‘wealth’ channel in the UK. In a deregulated credit market the relaxing of collateral constraints encourages consumption through equity withdrawal. In an illiberal credit market, this collateral effect will be weaker and rising house prices (because of affordability issues) are likely to reduce rather than increase consumer spending, as in Japan and Italy. In the UK, therefore, the housing boom has been a key driver of the more general ‘boom’ in consumption, with both trends being fuelled by the availability of easy and cheap credit.

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16 Expressed as a share of disposable income, the amount of mortgage debt in the UK has risen from around 85 per cent of income at the turn of the century to 139 per cent in 2007, the highest ratio amongst the world’s leading economies (CML & Crosby (2008) Mortgage finance interim analysis, HM Treasury, London)
Since the credit crunch, however, mortgage lending has collapsed, despite the Bank of England cutting interest rates to 0.5 per cent. This illustrates the dependence of the UK mortgage market on accessing credit from international wholesale markets - about 40 per cent of UK mortgage finance was from this source. In fact, UK lenders were responsible for over half of the total European issuance of residential mortgage-backed securities (RMBS).\textsuperscript{17}

It was this ability to access credit that allowed the UK’s house price/income ratio to almost double between 1997 and the peak of the boom in 2007: first-time buyers in particular have had to borrow far more relative to their incomes than was the case in the past. This pattern has featured across a number of industrialized economies, with the notable exceptions of Germany and Japan (figure 3), which have not deregulated their mortgage markets to the same degree and so did not have the same access to cheap and easy credit.\textsuperscript{18}

Demographic projections for the UK suggest increased pressure on the housing market for many years to come, in contrast to some other European countries with declining populations. The population as a whole of 60.5 million is expected to increase by 4.4 million by 2016 and to reach 71 million by 2031, if past trends continue.\textsuperscript{19} Government household projections suggest that there will be a further 4.8 million households by 2026 – an annual growth rate of over 200,000. The majority of them will be one person households in older age groups, with 60 per cent of the growth in the southern part of the country, the area of greatest housing shortage.\textsuperscript{20}

\textit{Figure 3: House price/income ratio in selected OECD countries: 1991–2007}\textsuperscript{21}

\textsuperscript{20} ibid
The UK tax system is also highly skewed in favour of home ownership over other forms of tenure, despite the removal of tax relief on mortgage interest over the course of the 1990s. Capital gains remain completely untaxed as does ‘imputed rental income’ – the increase in disposable income that comes from not having to pay rent. There is no VAT on new housing, a feature common elsewhere in Europe. These factors have helped make housing an extremely attractive asset class compared to other asset types.

To summarise, the UK’s housing sector is characterised by highly inelastic supply and volatile, pro-cyclical demand. Self-perpetuating waves of booms and busts in house prices are a perennial feature of the UK economy, and have been further fuelled by a combination of credit market deregulation and a flood of global liquidity. As we confront what is widely viewed as the worst economic downturn since the Great Depression of the 1930s, it is clear that the UK economy and its housing sector will be severely affected. The second part of this paper explores three possible outcomes in this regard.

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22 Wilcox, S. (2008) UK Housing Review 2008-09, Commentary, ch.6
2. Three possible scenarios

Uncertainty is an intrinsic feature of economic forecasting, but the current global and national economic situation is such that the level of this uncertainty is massively compounded.

With this caveat in mind, we consider three possible future scenarios. In each case we examine the likely path of house prices at the national level\(^{23}\) and discuss the possible impact of these movements on economic and social outcomes.

In terms of straight economic theory (though not necessarily real world practice) house prices in the UK should be a function of demand and supply.\(^{24}\) Following Muellbauer and Murphy, on the demand side, the key variables are:

- Incomes
- Interest rates
- Credit availability
- Demography
- Price expectations

On the supply side, the corresponding variables are:

- Land-use planning controls
- The tax system and availability of subsidies
- The structure of local government

That said, the factors that would be expected to influence the supply of housing – interest rates, housing prices etc – have little impact in the UK, particularly over the short to medium term given the very slow rate of new build. For example, even if the government hits its target of 240,000 new homes it will still add less than 1 per cent to the total stock. For the purposes of our three scenarios, therefore, we assume that the stock of housing is effectively fixed.

As a result, the differences in our scenarios are due to changes in the factors driving demand. In this respect, we assume the continuation of low real interest rates and that demographic factors remain broadly as in the recent past. Consequently, our key drivers in the scenarios outlined below are: a) incomes, b) credit availability and c) price expectations.

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23 The analysis focuses on aggregate house price movements at the national level. While we appreciate the importance of regional factors in the UK housing sector, shortage of space prevents our exploring these issues in any depth.

The price movements contained in our three scenarios are not intended to be forecasts in the full economic sense, but rather illustrative trajectories which allow us to explore the impact on social and economic outcomes of different economic recovery paths.

2.1. Scenario 1: A rapid return to ‘business as usual’

In the 2009 Budget, the Chancellor Alistair Darling gave a relatively rosy view of the UK’s economic prospects to 2011, as shown in table 2 below.

The Treasury (HMT) forecasts a sharp contraction in GDP of approximately 3.5 per cent in 2009, with positive growth starting in 2010 and rising to as much as 3.75 per cent in 2011. Consistent with our assumption of fixed housing supply, HMT forecasts little movement in investment in housing over this period.

Table 2: Contributions to GDP Growth, Budget 2009

<table>
<thead>
<tr>
<th>Percentage points, unless otherwise stated</th>
<th>2000 to 2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth, per cent</td>
<td>2¾</td>
<td>3</td>
<td>¾</td>
<td>−3¼ −3¾</td>
<td>1 to ½</td>
<td>¾ to 3¼</td>
</tr>
<tr>
<td>Main contributions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private consumption</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>−2</td>
<td>¼</td>
<td>2¼</td>
</tr>
<tr>
<td>Business investment</td>
<td>¼</td>
<td>1</td>
<td>0</td>
<td>−½</td>
<td>−½</td>
<td>½</td>
</tr>
<tr>
<td>Dwellings investment</td>
<td>¼</td>
<td>0</td>
<td>−¼</td>
<td>−½</td>
<td>−½</td>
<td>¼</td>
</tr>
<tr>
<td>Government</td>
<td>½</td>
<td>⅛</td>
<td>⅛</td>
<td>¼</td>
<td>½</td>
<td>⅛</td>
</tr>
<tr>
<td>Change in inventories</td>
<td>0</td>
<td>¼</td>
<td>−⅛</td>
<td>−½</td>
<td>−1</td>
<td>1</td>
</tr>
<tr>
<td>Net trade</td>
<td>−⅛</td>
<td>−⅛</td>
<td>⅛</td>
<td>⅛</td>
<td>⅛</td>
<td>⅛</td>
</tr>
</tbody>
</table>

Table 3 gives HMT’s forecasts for household income, expenditure and savings over the same period, and predicts a similar trend as for GDP. Also, following a sharp decline in house prices in 2009, HMT forecasts a resumption of the upward trend in both house prices and the house price/income ratio from 2010. The 2009 Budget also explicitly assumes a return to ‘normal’ credit conditions by 2011.

Table 3: House sector expenditure and income, Budget 2009

<table>
<thead>
<tr>
<th>Percentage change on a year earlier, unless otherwise stated</th>
<th>2000 to 2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household consumption</td>
<td>3</td>
<td>3</td>
<td>1¼</td>
<td>−3¼ −2⅝</td>
<td>0 to ½</td>
<td>3 to 3½</td>
</tr>
<tr>
<td>Real household disposable income</td>
<td>2¼</td>
<td>¼</td>
<td>2¼</td>
<td>−1¼ −⅛</td>
<td>¼ to ⅛</td>
<td>2½ to 3⅛</td>
</tr>
<tr>
<td>Saving ratio (level, per cent)</td>
<td>4⅛</td>
<td>4⅛</td>
<td>2</td>
<td>4⅛</td>
<td>5</td>
<td>5⅛</td>
</tr>
</tbody>
</table>

26 The measure adopted throughout this paper is the HM Treasury house price/income measure.
Were these forecasts to be accurate, and growth in 2012 was maintained at 3 per cent, we might expect to see average house prices move broadly as shown in figure 4.

![Figure 4: Trajectory of UK House Prices 2007-2012 (forecast from 2009 Q2)](image)

Finally, as house prices are forecast to again rise at a faster rate than income, scenario 1 would see the house price/income ratio begin to rise again from 2011 onward. This is explicitly stated in the chart below, (figure 5) again from the 2009 Budget.

![Figure 5: House price/income ratio 1977-2010, Budget 2009](image)

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28 Source: HM Treasury and authors’ calculations
2.1.2. Implications of scenario 1

As shown above, the house price/income ratio has fallen considerably as a result of the crisis, greatly improving affordability for first time buyers assuming mortgage credit becomes less constrained. If house prices start to rise at a faster rate than incomes once again, however, this effect will be reversed, with negative implications for inequality and social justice.

The inequality produced by decreasing affordability has socio-economic, generational and spatial dimensions. If prices rise faster than incomes, it is the equivalent of a redistribution of income away from non-home owners (younger cohorts) to owners (older cohorts) as well as from low to higher income groups.

Additionally, access to ‘public goods’, such as good schools, transport links, health facilities and low crime are capitalised in house prices; therefore only those who can afford to pay high prices can access these public goods.\(^{30}\) A decline in the house price/income ratio can thus be associated with a more equitable access to a variety of public goods, as well as access to jobs, which are disproportionately located in areas with relatively high house prices.

Finally, there is every reason to think a return to ‘business as usual’ would see spatial inequalities in the UK continue to deteriorate as they did during the early years of this decade\(^{31}\), with prices again rising more rapidly in the South East due to variable rates of economic growth.

A rise in house price/income ratios, other things being equal, would also see individuals seeking to take on high levels of debt in order to secure home ownership in the expectation of higher prices in the future. The resulting increase in debt would make households and hence the overall economy more vulnerable to economic shocks.

2.2. Scenarios 2(a) and (b): Serious recession, with economy ‘resetting itself’ at a lower level

Our second scenario is based on forecasts from the IMF\(^{32}\). The Fund takes a more pessimistic view of the UK’s economic prospects than does HMT, forecasting a contraction of 4.0 per cent in 2009, and a further contraction of 0.4 per cent in 2010. In keeping with this view of a more protracted recession and slower recovery, we assume GDP ‘growth’ is zero in 2011 but returns to positive territory in 2012 with growth of 1 per cent.

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Figure 6 below illustrates the potential impact of these forecasts on house prices in the UK with two contrasting trajectories. Scenario 2(a) - the bar chart - assume a return to normal credit conditions by 2011; here we see average house prices stabilise at around £130,000 before beginning to rise again as income grow from 2012 onwards. Scenario 2(b) – the line graph - in contrast, assumes that credit conditions do not return to ‘normal’ conditions, but that access to credit remains constrained, leading to a fall in house prices to around £110,000.

Source: HMT, IMF and Authors’ calculation

Figure 7 shows the evolution of the house price/income ratio for first-time buyers since the early 1980s. As we can see, after 2000 the ratio begins to rise above its historical trend (i.e. between 2-3), reaching almost 5.5 by 2007. It appears that the lax credit conditions over this period that made this possible – a tightening of credit access would thus be expected to reverse this trend.
To capture the impact of reduced credit availability on house prices, therefore, we assume that the house price/income ratio begins to fall from the end of 2009 onwards, reaching the average level seen in the 1980s of 3.0 by 2012 when the ratio stabilises.

2.2.1. Implications of Scenarios 2(a) and (b)

Where credit remains constrained, the combined effect of falling house prices and a tightening of credit conditions is likely to see reduced consumer spending and increased saving, lowering demand for goods and services. The result: falling profits and falling employment leading to lower household income, consumption and further house price falls. Given the role of expectations in driving house prices in the UK, this contraction of demand could lead to house prices falling considerably below what would be expected if supply and demand factors were the only considerations, as falling prices create self-fulfilling expectations of further falls.

Such an outcome would see large numbers of people falling into negative equity as well as sharply increased repossessions due to higher unemployment and lower incomes. Recent figures from the Council of Mortgage Lenders (CML) suggest 900,000 homeowners are already in negative equity and that there will be 75,000 repossessions in 2009. The Financial Services Authority is more pessimistic and has predicted that a 30 per cent fall in house prices (since year end 2007) could lead to 2.5 million householders and 500,000 buy-to-let mortgage

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holders being in negative equity by 2010.\textsuperscript{35} Using CML’s calculations this could lead to around 210,000 repossessions.

During the 1990s housing collapse, negative equity was concentrated amongst younger cohorts. Negative equity is now more widely spread across different age groups. Furthermore, homeowners have become more reliant on capital gains as way of funding home improvement, retirement and other expenses.\textsuperscript{36} For older people in particular, who have seen the value of their pensions significantly reduced by the collapse in stock markets, falling house prices and/or negative equity could force them to reassess their retirement options.

A long period of falling land values would have a potentially disastrous effect on the construction sector which is already heavily indebted and has little incentive to build while land values are falling. Without government funding, production of new housing stock could slow to a standstill creating a situation not dissimilar to the late 1980s when house-building rates suddenly collapsed following the combination of the recession and tailing off of local authority construction.

In contrast to these negative effects, scenario 2 would see increased affordability for first-time buyers in terms of house price/income ratios. However, if we assumed reduced access to credit, the net impact on affordability may be limited.

\textbf{2.3. Scenario 3: Economy remains in deep recession/depression for a number of years}

While scenario 2(b) assumes reduced access to credit, it is in the context of a recovering economy with rising output, employment and income. This is by no means certain, particularly when we consider the necessary deleveraging of the financial sector and the deflationary forces this may set in train.

Deflationary pressure can arise from asset sales at ‘firesale’ prices, which depress values. At the same time, attempts by consumers and firms to cut debt levels lead to lower investment, wages, consumer spending and prices.

The endgame of this process is ‘debt-deflation’, where a rising real burden of debt weighs on the economy and deflationary expectations are built into lending and investment decisions.\textsuperscript{37} In

\textsuperscript{37} The Debt-deflation hypothesis was first suggested by Irving Fisher in 1932 in ‘The Debt-Deflation Theory of Great Depressions’ – http://fraser.stlouisfed.org/docs/meltzer/fisdeb33.pdf; more recently Harvard Economist Paul Krugman has warned of the dangers of debt-deflation:
a debt-deflationary environment, the real value of debt (and real interest rates) increases even when nominal interest rates have been slashed to zero, further encouraging mortgage holders to sell at depressed rates and feeding the debt-deflation spiral.

The most worrying parallel for the UK here is Japan, which experienced persistent deflation for more than a decade following the bursting of an asset bubble in 1989. Just as the UK government has done, the Japanese government attempted to break the negative feedback loop between the financial sector and the real economy by bailing out bankrupt banks, slashing nominal interest rates to zero and then embarking on ‘quantitative easing’ – these policies all failed to arrest house price declines which fell between 50-90 per cent (depending on the region) over a 15-year period.

In the ‘debt-deflationary’ scenario depicted in figure 8 we make two key assumptions. First, that the economy continues to contract through to 2012, though at a diminishing rate: 2010 = 4 per cent; 2011 = 3 per cent; 2012 = 2 per cent. Second, that the availability of credit ‘resets’ itself at a lower level than under the previous scenario, such that only a house price/income ratio of 2.5 can be supported.

These assumptions, which are by no means implausible, lead to very sharp falls in house prices, which would more than halve from their 2007 levels by 2012.


38 Falling prices means that money is worth more – i.e. its purchasing power is greater. Unfortunately, however, the same is true for debt: falling prices means that the real value of debt rises. In contrast, inflation leads to a reduction in the real value of debt, which has led some commentators to argue that a dose of high inflation is needed in Anglo-Saxon economies mired in unsustainable debt.
2.3.1. Implications of scenario 3

A 60 per cent fall in house prices would lead to almost 5 million households falling into negative equity and over 415,000 repossessions (using CML/FSA calculations).\[40\]

The vicious circle (lower demand $\rightarrow$ lower prices $\rightarrow$ lower output $\rightarrow$ lower employment $\rightarrow$ lower incomes $\rightarrow$ lower demand) outlined above would be hugely exacerbated under this third scenario. At the same time, levels of real indebtedness would rise as prices fell creating immense hardship. While the social and economic consequences can only be guessed at, there can be no doubt of their severity.

\[40\] Market Research company GFK predicted 5 million homeowners could be in negative equity by the end of the year, based on research with 60,000 homeowners, ‘Negative equity predicted to hit 5 million homeowners in 2009’, February 18th 2009, http://www.gfknop.com/customresearch-uk/pressinfo/releases/singlearticles/003654/index.en.html
3. Concluding remarks

The different potential outcomes considered in this paper are depicted in figure 9 below and the most obvious point to make is that none of these can be considered ‘desirable’.

A return to ‘business as usual’ implies the resumption of previous trends of widening inequality (in terms of both incomes and access to public goods) and indebtedness. This is clearly even more unsustainable than was the case before the crisis. In the more optimistic of our second scenarios we also assume a return to normal credit conditions. Given the meltdown in the global financial sector this seems highly unlikely, particularly given the likelihood of much more stringent restrictions on the leverage that financial institutions are able to take on.

This leaves us with the more pessimistic scenario 2 or scenario 3 as the most likely outcomes. Neither looks appealing. Both would require significant intervention by government and a fundamental reshaping of the UK housing sector. This may well be inevitable, in which case clinging to an unreasonably optimistic view of the timing and shape of the UK’s economic recovery could prevent actions being taken now to both lessen the pain and to ease the transition to a more sustainable, balanced and equitable approach to housing in the UK.

It is beyond the scope of this short paper to make recommendations of what should be done. Here we have focused on what is, rather than what could be. Very soon, however, this more fundamental question will not just have to be asked, it will have to be adequately answered.