Construction shortfall and government intervention in the private sector housing market

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Overview

Current policy measures to deal with the shortage of housing in the UK are focused on removing planning restrictions and "micro" level interventions which allow specific groups of buyers to purchase housing they could not otherwise access. In this paper we argue that these are unlikely to be sufficient, may be unhelpful, and that a broader approach is required.

Context

It is generally acknowledged that that there is a shortage of affordable homes in the UK. According to Shelter's 'Homes for the Future' report[1] the government needs to build around 242,000 homes in England to meet demand, ignoring the backlog of households in inadequate or temporary accommodation. The Barker review[2] of 2007 also noted that construction in England would need to reach 204,000 new homes a year, and more is required if we wish to deliver real house price growth at EU levels and take social housing needs into account. For the UK as a whole these figures imply required construction of between 265,000 and 314,000 new houses per year. [3] The main drivers of this are increasing household numbers from net population growth and reductions in average household size[4].

However the supply of housing, which though inadequate in 2007, has actually substantially reduced since 2008. As figure 1 shows total UK housing completions have collapsed since the recession[5] with total supply falling from 225,000 in 2007 to around 139,000 at the end of 2010 (which is the most recently available data). The largest fall has been in private sector completions, which form the bulk of supply, falling by 45% from a peak of 197,500 in 2007. In the public sector supply continued to increase until Q3 2009 but has since fallen around

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[1] Holmans, A., Monk, S. and Whitehead, C. (2008) **"Homes for the Future - A new analysis of housing need and demand in England"** Shelter

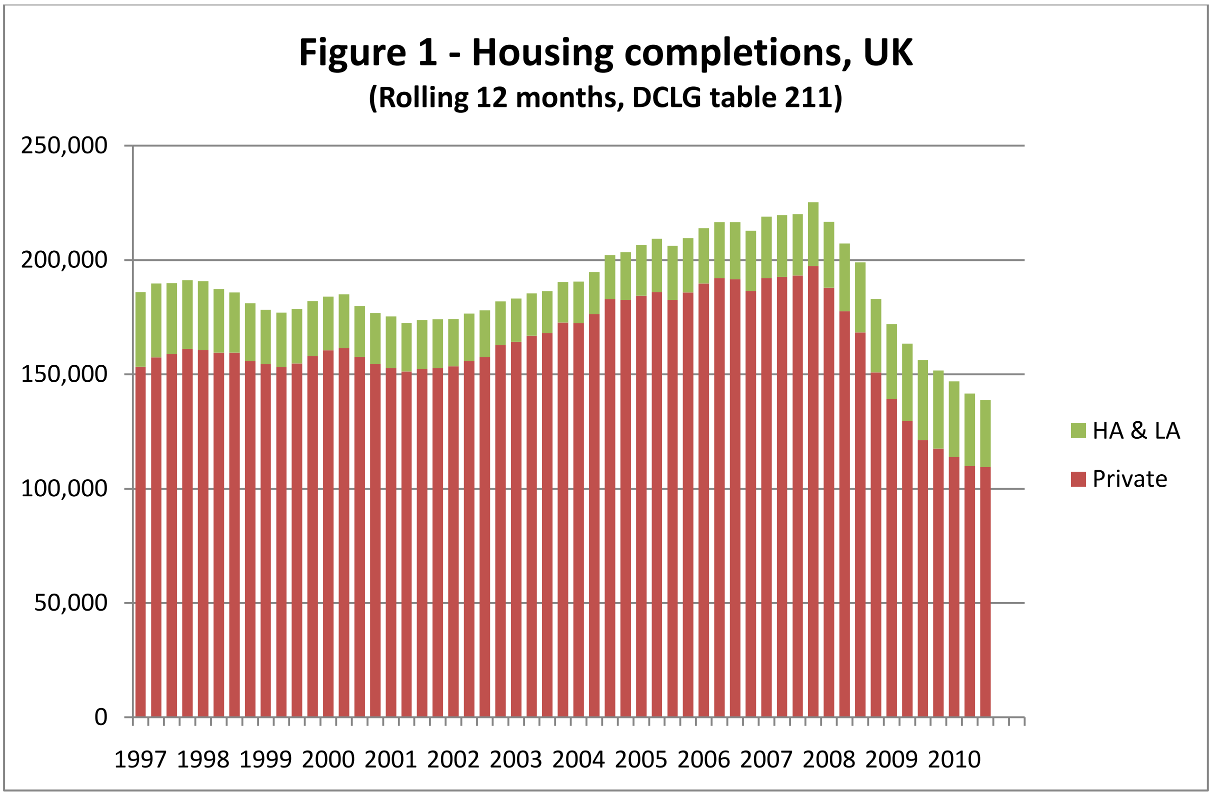
[2] Barker, K (2004) **Barker Review of Housing Supply – "Delivering Stability: Securing our future housing needs"** HM Treasury, London

[3] We use average relative housing completions over the last 3 years, which imply that UK levels are 30% higher than those exclusively for England. This assumes that the required construction 'gap' is consistent across the UK. This may be an overestimate if unmet housing demand is highest in England; but even in 2007 UK wide construction was insufficient to meet the demands of England alone.

[4] UK household growth from 2001 to 2008 averaged 213,000 per year and is forecast to average 272,000 per year to 2013. Source DCLG Table 401 / ONS.

[5] The majority of net housing supply is driven by new build completions. Other factors contribute at most 5% of net supply. Figure 1 is based on DCLG table 211.

17%. More recent data indicates a small recovery from these lows in the private sector[6], but net housing supply is still running at less than 150,000 new homes per year. Although there is debate as to the precise level of housing supply required, the current levels of house building are wholly insufficient even to meet current population growth which requires 200,000 new homes per year.[7]



Delivery constraints

We have to determine what the constraints are preventing construction from increasing supply to the required levels, so we can determine whether proposed policy responses are

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[6] The volume of new private sector orders in construction had recovered and was down 40% from its peak in the year to Q1 2011. Source: New orders in the construction industry Q1 2011, Table 1, ONS. More timely figures from the DCLG for England only show a 4% increase in private sector housing starts to Q1 2011, but there is no significant rise in completions yet.

[7] Implied by UK population increase of 0.8% (source ONS) and total UK housing stock level of 27.1 million homes (DCLG Table 101). Population forecasts are estimates and the largest uncertainty is around net migration figures. Without net migration population growth would be lower, implying a requirement 112,000 homes per year. Although we might expect migration to fall given falls in GDP, there has been no sign of this yet with net migration rising in 2011, possibly due to the lack of economic opportunities elsewhere particularly in Europe where barriers to migration into the UK are lowest.

likely to be effective[8]. A key question is whether this is due to supply side constraints, such as planning issues[9], or due to a lack of "final demand" for built housing (where final demand is defined as the demand for housing among purchasers, whether the property is purchased for owner-occupation or for buy-to-let).

Barker believed that supply side constraints on land availability were a serious issue in 2004: housing supply had become 'almost totally unresponsive, so as prices have risen, the supply of houses has not increased at all'[10]. However as figure 2 illustrates responsiveness did pick up slightly after 2002 when strong price growth occurred, and there was a significant response to price falls in 2008.

Whilst it is plausible that planning restrictions constrained housing during the period up to 2007, it does not seem likely that these supply side issues are responsible for this significant fall in housing starts. There is no evidence that planning restrictions have suddenly become more draconian[11]. It seems more likely that developers responded to price falls, and the lack of demand for new housing that these signalled. Anecdotal evidence from major construction firms backs up these findings[12].

[8] At the time of writing there is considerable interest in reforming the planning system. See DCLG (2010) **"Draft National Planning Policy Framework"** for more details.

[9] Note it is also possible that there are other supply constraints, such as the shortage of labour or material inputs. Given a recession occurred in the period shown however both of these seem implausible.

[10] This result is confirmed empirically by many others; and is a notable feature of the UK market compared to others. Most recently in Ball, M., Meen, G and Nygaard, C. (2010) **"Housing supply price elasticities revisited"** *Journal of Housing Economics* 19. Planning restrictions undoubtedly play a part in this effect, but the data set used to measure it is dominated by periods of rising house prices.

[11] Between Q1 2008 and Q2 2011 the percentage of major residential planning applications approved rose from 65% to 81%. However the number of applications made fell from 2400 to 1300. Source DCLG table P123.

[12] For example from Barrat Developments PLC 2010 Annual report: '*The key restriction on the industry remains the availability of mortgage finance…. With demand continuing to be constrained, the industry responded by opening fewer sites and controlling stock better.*'. From Berkeley Group PLC 2010 Annual report: '*the UK private domestic market remains constrained by economic and political uncertainty and the extent to which customers are able to obtain sufficient mortgage finance*'. Both firms highlight mortgage finance, which we shall discuss shortly.

Figure 2 - Private sector housing starts and house prices

(UK Quarterly Starts, rolling 12 months, Source DCLG Table 211; Prices England & Wales, FT Academetrics monthly index)

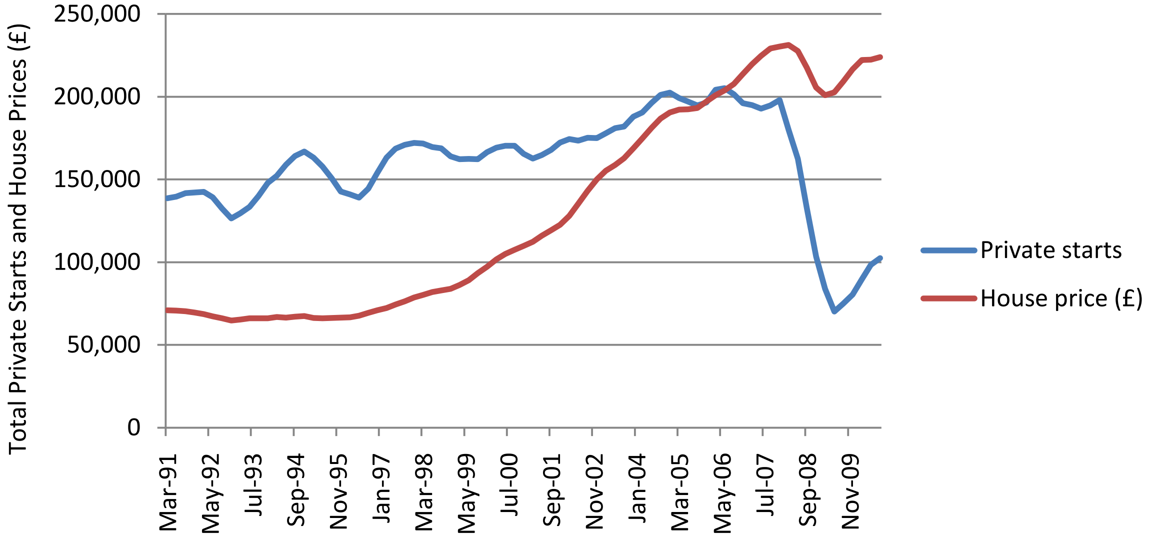


Figure 3 illustrates further that the fall in supply was part of a wider fall in transaction volumes across the entire housing market, suggesting that final demand for all housing is the problem rather than a specific problem with supply or demand of the new build sector. Since new housing is only a small proportion of the flow in the market it is also highly unlikely that the fall in overall housing transactions was caused by a reduction in the number of new houses being built.

Nevertheless the fall in supply does seem extreme given a relatively modest fall in prices, and is also higher than the fall in volumes across the market as a whole. There is also a clear contrast to the relatively small response to upward price pressure in the years prior to 2007. There are a number of explanations for this asymmetric behaviour; in particular, supply constraints could prevent expansion of construction the upside whereas there is no such 'brake' on the downside.

It may also be the case that the more severe recession of 2008-9 was particularly difficult. Lending was drastically tightened in this period, over and above even the reductions seen in 'normal' recessions. This would have had a particularly significant effect on construction which requires substantial amounts of capital to be tied up for significantly longer compared to other industries; and so is more vulnerable to rollover risk as well as requiring larger adjustments to business models to meet lending covenants. Other features of the prior housing boom such as significant “off plan” sales (which when they exist reduce the need to borrow working capital) could also have exacerbated the shock.

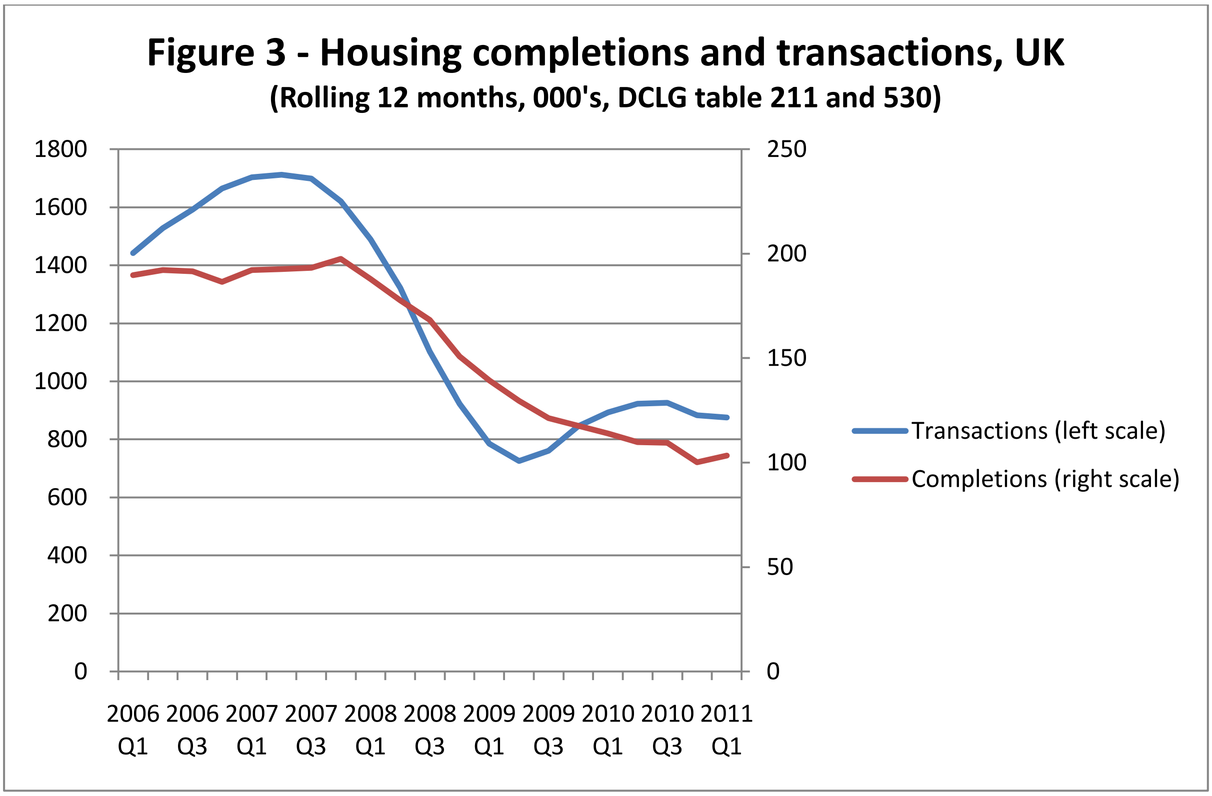
The delays in the planning system may be responsible for further problems. For example builders may apply for planning permission in an upswing in demand, but receive it in a downturn and decide not to proceed. Whereas in a downswing they will be less willing to apply for planning permission, thus increasing the length of time required for supply to respond to increases in demand.

Overall it seems plausible that there is a tendency, supported by the limited evidence in figure 2, for construction firms to adjust supply in response to the price and demand cycle, but with larger reductions in downturns. Thus over the full cycle firms will not deliver the same levels of housing as they would if they saw constant demand at the average level over the business cycle.

The ‘land banks’ of undeveloped land owned by major construction firms may also provide some explanation, as these allow firms to smooth earnings by reducing development when prices and demand fall. The presence of land banks and other industry features also may make it more difficult for new entrants to enter the building industry and take advantage of lower land prices. They could however make it easier for the firms with landbank's to smooth construction over the cycle, although in practice as firms build up landbanks when land is cheap this actually accentuates the cyclical swings in housing starts.

So while it is plausible that a theoretical constraint on supply exists, any constraint would most likely exist at or above the pre-recessionary level of house building (i.e. 200,000 units per year seen at the peak of the market in the UK or more). Consequently, the most reasonable level explanation of the current sustained drop in housing completions is the depressed level of final demand, and not constrains in the planning system.

Relaxation of supply constraints such as planning regulations will only have an effect on housing starts once overall demand has returned to a level where those constraints are having an effect. Additionally house building may remain relatively unresponsive to robust price signals, even in the absence of supply constraints.



Final demand for housing

Given that the most reasonable explanation of the decline of house building levels since 2008 is the drop off of final demand, rather than planning restrictions faced by developers, we now turn to the causes of that lower final demand.

Economic models of house price demand assume that homeowners will make purchasing decisions based on the cost of mortgage finance[13], expected price appreciation, how risky the asset is perceived to be (including the risks attached to maintaining mortgage payments in the current economic climate) and the cost of the "substitute good" – in this case, rental property.

[13] For buyers who purchase partly or entirely with cash the relevant rate is the 'opportunity cost' of interest on savings.

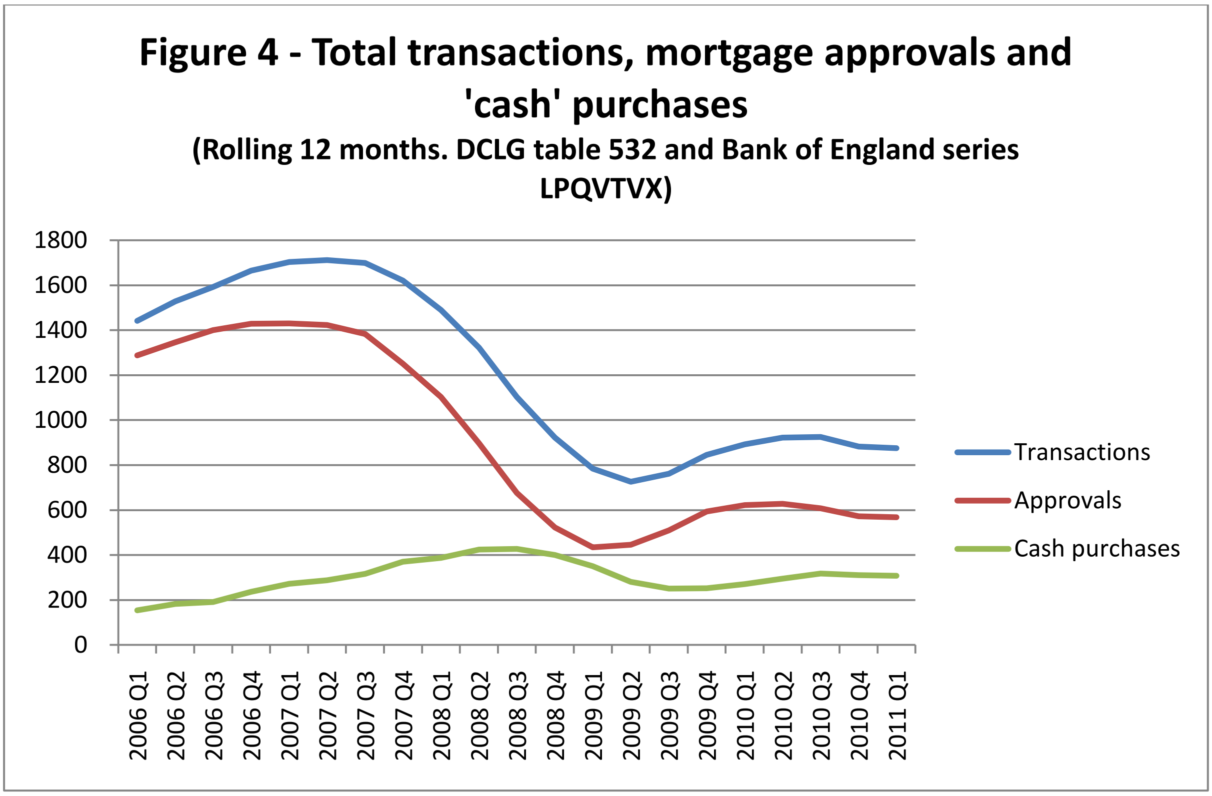
Now as mortgage interest rates are relatively low[14] and rents have risen[15] this suggests that demand would have increased, however lower expected price appreciation and higher risk aversion after recent falls would have the opposite effect and dampen demand for home ownership. Overall the reduction in transactions has been significantly higher amongst buyers requiring a mortgage than those purchasing entirely with cash[16] (figure 4). So for cash buyers at least there has been a net reduction in demand, but this has been relatively small compared to the overall market.

There are at least two explanations; the first is that since mortgage buyers are more highly leveraged they are perceiving housing purchases as much riskier given economic uncertainty and recent volatility in prices. Secondly the availability of mortgages has substantially reduced and this has created a constraint on those who need mortgages to purchase, as highlighted by construction firms. Whilst it is difficult to estimate the risk premium effect quantitatively there is significant evidence that mortgage constraints are indeed a significant problem and the explanation for this is provided below.

[14] Two year fixed rates and trackers at 75% LTV were 3.7% and 3.54% respectively in May 2011. Source Bank of England, series IUMBV24 and IUMBV34

[15] IPD Residential property index; 7.6% growth in rents in 2010.

[16] "Cash buyers" in figure 4 is the difference between the two series shown. Due to differences in timing and definition this may not be an accurate estimate but the contrast is so significant that these are second order effects.



The UK mortgage market

Since 2006 the supply of mortgage finance has declined substantially with mortgage approvals for purchase falling by more than half[17]. The main cause of this lies in the change in the mix of supply sources. Mortgage financing in the UK was traditionally sourced from retail deposits and savings however in the years up to 2007 there was a shift to wholesale funding: some short term through the interbank markets but mainly through longer term issuance of securities backed by residential mortgages (RMBS)[18]. Like other instruments in the asset backed securities markets these were a source of extremely cheap funding for banks; based on optimistic assumptions about both house price growth and the likelihood of multiple borrowers defaulting together.

When these assumptions became invalid after mid 2007 banks were no longer able to access this market without paying very high funding rates reflecting the much higher

[17] Monthly mortgage approvals for purchase averaged 48,800 in the 3 years to July 2011 compared to an average of 107,800 from January 2000 to December 2006. Other measures of availability including gross and net lending show similar, or larger, reductions.

[18] In 2006 £94.6bn of UK RMBS were issued, compared to £110.2bn of net lending. Although a small amount of RMBS would also have matured this implies that RMBS were responsible for around three quarters of net mortgage funding. Source AFME and Bank of England.

perceived risks[19]. Since these interest rates were far in excess of market mortgage rates, their issuance stopped. There was also a sharp reduction in the availability and use of short term wholesale funding as banks avoided the interbank market following the collapse of Northern Rock. Finally increasing bank reserves in response to regulatory changes also reduced the supply of mortgage funds further.

Although quantitative easing and other measures have improved the liquidity situation somewhat in the last few years, the RMBS market is still moribund[20]. With low savings rates due to falling real incomes it has not been possible to replace this funding from other sources.

In fact although the fall in mortgage supply has been dramatic, its effects on the market have been even greater due to the serious curtailment of lending to two groups who form the bottom rung of the 'housing ladder' – first time buyers ("FTB") and "buy to let" landlords ("BTL").[21] A lack of 'bottom rung' buyers may have a disproportionate effect on the market as a whole[22] and there are two main factors in the mortgage market that are restricting the supply of mortgage finance to these groups.

Firstly, because mortgage rates are relatively high compared to the cost of the main sources of available funding[23] banks have little incentive to lend to riskier borrowers at higher margins (as occurred to excess in the years up to 2007). Instead they can make sufficient

[19] The secondary market spread on UK prime RMBS over interbank lending rates reached 9% in 2009 and is still at around 1.75% as of May 2011; significantly higher than pre 2007 levels of around 0.10%. Source AFME Securitisation data report Q1 2011.

[20] Although RMBS have continued to be issued the majority of this has remained on bank balance sheets (and hence are not a source of new funds) rather than being placed with outside investors; e.g. in Q1 2011 only 21.8% of all European ABS issuance was placed. If this ratio holds for UK RMBS then issuance is only running at around £4.4bn per quarter, an 80% fall from the peak in 2006. Source AFME Securitisation data report Q1 2011.

[21] BTL lending has fallen from around 184,000 to 110,000 approvals per year (annualised from Q1 2007 and Q1 2011). FTB lending has fallen from around 340,000 to 190,000 approvals per year (annualised from Q1 2007 and April 2011).

[22] The ratio all transactions to bottom rung buyers to has been relatively stable over time at around 3.0. This ratio, which is the 'velocity' of the housing market, appears to be a feature of the markets structure. Therefore a fall in the number of bottom rung buyers results in a fall in transactions overall rather than an increase in the ratio.

[23] Even RMBS borrowing at around 3.01% (Two year swap rates at around 1.76% plus a spread of 1.75%) is lower than average two year mortgage rates of around 3.6% (Bank of England, Ibid). Funding sourced from deposit accounts would be even cheaper (average ISA savings rate in May 2011 is 0.55%, Bank of England series IUMWTIS).

margins lending to safer borrowers. In order of safety these are: people remortgaging who usually bought some time ago, home movers who are normally increasing their leverage but have reasonable equity from former homes, a small number of first time buyers with large deposits, “buy to let” landlords and the remaining first time buyers without large deposits.

Furthermore as the main mechanism for rationing mortgages has been higher deposit requirements homeownership has become unaffordable to an even greater number of potential ‘bottom rung’ purchasers who are constrained mainly by their ability to raise a deposit rather than by their incomes[24].

It is also worth noting that during the boom years of construction up to 2007 a high proportion of new build properties were bought by bottom rung buyers. This was due to the incentives offered in the form of gifted deposits, term discounts on mortgages and guaranteed rents; and also as many of the units constructed were small flats and starter homes which are more likely to appeal to these sectors of buyers.

It does not seem that this situation will normalise in the short term. More stringent capital requirements have led to tighter credit conditions overall. In addition , and as noted above, the RMBS market is still very quiet, with a lack of faith in complex financial instruments and house prices continuing to fall in both the UK and the key US market. Banks are unable to use significant amounts of short term wholesale funding (a strategy that was proven to be highly imprudent by the collapse of Northern Rock) and savings remain depressed[25] due to the fall in real incomes[26].

There are measures that could be taken to address this, such as setting up a US style quasi-government ‘agency’ body to guarantee mortgage backed securities. However we should

[24] This is a leverage effect. Consider a first time buyer with a £10,000 pound deposit and an income of £25,000. At a loan to value (LTV) ratio of 90% and a loan to income (LTI) ratio of 4 they can purchase a £100,000 house. If the LTV ratio falls to 80% then their purchasing power is reduced to £50,000 until they can save a higher deposit. Although this is an extreme example in practice typical LTV ratios for FTB have indeed fallen from over 90% to around 80% (source CML)

[25] More international integration of the retail banking system could help; if Asian savings can be deployed to fund UK mortgages without being funnelled through securitised instruments.

[26] Household savings rates are at 4.6%, low relative to historic norms and a fall from 6.2% in Q1 1010. Source ONS series NRJS.

consider whether increasing the supply of mortgage funds is sufficient, or indeed prudent, as a policy to promote new housing supply.

Mortgages, affordability and direct intervention

The availability of mortgages is important to allow those without considerable wealth to access the owner occupied housing market. The liberalisation of the mortgage market was certainly a factor in increasing the proportion of homeowners in the private sector. However it has also led to housing being less affordable.

In periods of high inflation and high nominal interest rates (e.g. from 1973 to the mid 1990's) borrowers faced high up front mortgage costs. This limited the amount they could borrow relative to their income, but as inflation was higher payments were reduced in real terms over time. In comparison lower interest rates and more liberal lending from the late 1990's until 2007 allowed borrowers to take on mortgages at much higher loan: income ratios which initially look more affordable, but over the full period of ownership are actually significantly worse.

This is shown in figure 5. The graph shows the proportion of post-tax income spent on mortgage servicing for an average first time buyer who bought at various points in time, over a 25 year period after their purchase[27]. The buyer who bought in 1986 (red line) was initially faced with using over 40% of their post-tax income to support mortgage interest payments; their 'upfront' affordability ratio was extremely high. However they also saw high wage inflation averaging 5% a year which quickly reduced the value of their mortgage payment relative to income; and so their average payment to support their mortgage ('total affordability') is just 16.1% of post-tax income over the total repayment period.

In contrast a buyer who purchases at 2010 prices (green line) will have a much lower upfront payment ratio due to current average mortgage rates of just 3.6%. However using current wage inflation, which is extremely low, they will see virtually no fall in the real value

[27] Using simple average house prices and incomes for first time buyers, adjusted for the average tax rate paid, and assuming each cohort of borrowers sees incomes rising at the same rate as average wages. Mortgage rates are based on BoE weighted averages. These do not include mortgage interest tax relief which applied to varying degrees before 1995. This would make the 1986 borrowers initial payment smaller and increase the affordability gap.

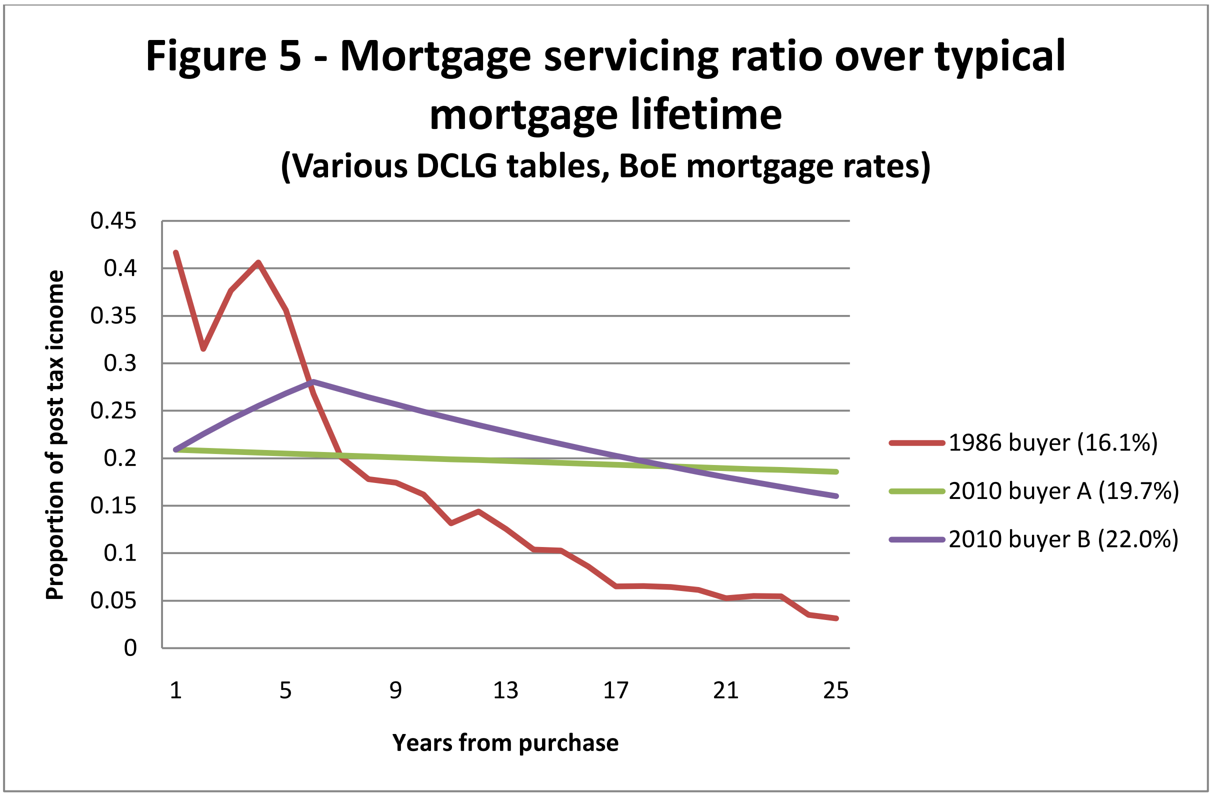
of their mortgage payments. As a result they will actually pay more, an average of 19.7% of post-tax income over the total repayment period. A buyer who bought at the peak of the market in around 2006 would face an even higher ratio.

It could be argued that it is unrealistic to assume that low levels of current wage inflation and mortgage rates are sustainable. Using a more realistic estimate of 3% for the former, and using mortgage rates implied by market expectations of Bank of England policy rates, we obtain the blue line. Here mortgage payments increase initially as rates rise, but then fall faster relative to wages. However this is even less affordable than the profile of the green line, with a total affordability ratio of 22% of post-tax income.

Note that both 2010 and 1986 buyers experience a 'payment shock' – or a relatively fast increase in mortgage payments caused by rising interest rates. Indeed the shock experienced by the 2010 buyer as mortgage rates rise is proportionally similar to the 1986 buyer; and this buyer remains vulnerable to further shocks from lower wages or higher interest rates for much longer. The shift towards lower deposits also made borrowers more prone to negative equity.

So the recent tightening of the mortgage market has made it more difficult for people to buy, they require larger deposits and can borrow less relative to income, so only a group of relatively wealthy buyers can access the market[28] . It would require significant falls in house prices relative to incomes to allow a wider range of buyers to purchase with mortgages given current lending policies.

[28] In the early 2000's the average FTB income was almost identical to the average full time income. In 2010 it was 13% higher. Similarly the average deposit required has gone from around 1 year of pre-tax average FTB income to 1.5 years. Source DCLG various tables.



'Micro level' interventions which aim to help specific groups of buyers by providing easier access to mortgage finance, or allowing fractional ownership, have two deficiencies. Firstly the scale of these interventions is insufficient to help but a small fraction of potential buyers. Secondly by reducing constraints such as LTV on buyers they allow them to buy where this would otherwise be difficult, but only at the expense of creating potentially unaffordable ownership. [29] Such interventions contradict other policies, such as the FSA's efforts to ensure that lending policy is built around affordable mortgages[30].

It is also obvious that an increase in final demand without a substantial increase in supply is likely to lead to significant rises in house prices and reductions in affordability, such as we saw in the period from 2002-2007. So both macro and micro level interventions in the mortgage market are flawed without other measures being taken to improve supply. Conversely although those accessing the constrained mortgage market now are doing so at

[29] In fairness the current schemes are relatively new and yet to be proven. But taking the *firstbuy* scheme as an example this is a £250m scheme which begins in September and lends a 20% deposit to allow buyers with a 5% deposit to access mortgages. So the effective LTV is increased to 95%, making the borrower more vulnerable. The scheme should help 10,000 buyers although this assumes an unrealistically low average purchase price. But there are 224,000 fewer "bottom rung" buyers in the market relative to 2007. The schemes which the previous government proposed were equally inadequate.

[30] See FSA 2009 **"Mortgage market review"** Discussion paper 09/03

slightly more affordable levels than in the recent past, without house prices falling significantly home ownership will be limited to a minority of buyers.

Conclusions

Relying on the private sector to deliver required levels of new housing is fraught with problems. Removing planning constraints is unlikely to have any effect unless demand is first boosted through other mechanisms and private sector developers may not in any case respond sufficiently to price or demand signals. Without any increases in supply, improvements in demand through interventions in the mortgage market or through home purchase assistance schemes will only have the effect of increasing prices and reducing affordability; so making homeowners more vulnerable to further economic shocks.

What is required is direct and explicit intervention to ensure that construction reaches the required levels rather than relying entirely on private sector developers to make the right decision. Once this gains momentum it may well require improvements in the planning process to overcome any supply constraints.

Furthermore, while the mortgage market needs to be addressed, possibly through intervention in the wholesale funding market, this should not be at the cost of loosening of lending standards. The ratio of house prices to incomes may fall if sufficient supply is generated, but other measures to stabilise the housing market and prevent the development of asset bubbles should be considered.

Of course this should only form part of what should be a more holistic approach to providing housing supply across all sectors - owner occupied, private rental and public.