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Home Ownership and the UK Mortgage Market: An International Review

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Executive Summary

There is much discussion about how to reverse the decline in home ownership seen in the UK since the early 2000s. Home-ownership levels in England fell from a high of 70.9 per cent in 2003 to a low of 62.6 per cent in 2016. Levels have since recovered slightly. Nevertheless, just before the pandemic struck there were almost 1.5 million households in England who would have been owner-occupiers had the rate of home ownership remained at its early-2000s level. In this paper, we examine lessons from the UK's past and study mortgage markets in other countries to inform the debate about what measures might help reverse this trend.

Home ownership in the UK has passed through three phases over the past 40 years. A wide range of policy, regulatory and fiscal factors drove rapid acceleration in the 1980s, followed by slower growth and stagnation after 1990. The collapse in home ownership in the wake of the global financial crisis, by contrast, was primarily driven by lenders being unwilling and, to some extent, unable to take on the risk associated with high loan-to-value (LTV) lending.

This suggests that boosting home ownership will require some mechanism to extend more risky lending to first-time buyers (FTBs) once again. But this need not present us with a simple trade-off with financial stability. Other countries' mortgage markets show that there are several ways to manage these risks more effectively and therefore support home ownership.

Some countries, including Canada, Australia and the Netherlands, do this by managing *credit risk* – the risk of the lender being unable to recover the value of the loan if the borrower defaults – through widespread use of mortgage insurance for high-LTV lending. Others, like Denmark, focus on managing *interest-rate risk* – that is, the risk that rising mortgage interest rates will lead to repayments becoming unaffordable for FTBs – by increasing the availability of long-term fixed-rate mortgages. Others, most notably the United States and South Korea, do both.

These systems all succeed in lowering costs for FTBs. Whereas in the UK, monthly repayments for a typical 95 per cent LTV mortgage are 52 per cent higher than for an equivalent 75 per cent LTV loan, other countries with these institutions reduce this differential by shifting risk to state-backed or private insurers. This reduces capital-reserve requirements for lenders and enables them to offer high-LTV or loan-to-income (LTI) mortgages at lower interest rates.

International examples suggest there are three directions policy could move in to boost home ownership. First, the UK could go "back to the future" and roll back the financial regulations that have limited lending to FTBs since the financial crisis. Although successful in the past, this could be dangerous today. In an environment where interest rates are at historic lows, giving the green light to riskier lending has the potential to affect financial stability down the track if interest rates rise. There are better ways to increase home ownership by managing these risks, rather than simply dialling them up.

One such approach would be to tackle credit risk by moving towards greater use of mortgage insurance. This could involve setting up a state-backed mortgage-insurance system and encouraging the development of a private market. International experience shows that this approach is effective at lowering costs for FTBs, but incentive structures would need to be carefully designed.

An alternative or complementary measure would be to address interest-rate risk by seeking to introduce long-term fixed-rate mortgages. This would require more radical change to how mortgages are funded. But the advantage to FTBs would be that, with blunt affordability tests and LTI limits out of the way, they could potentially borrow a higher LTI multiple. This might be particularly valuable and popular in the current low-interest-rate environment.

The choice of direction depends on which risk is judged to weigh most heavily on home ownership. Credit risk has loomed large in the experience of the past 13 years. Meanwhile, 30 years of falling interest rates have muted the importance of interest-rate risk: buyers have tended to experience steadily falling rates making their debt-service costs increasingly bearable. But policy should look ahead to how these risks might evolve.

With interest rates now at unprecedented lows, it would be prudent to think that interest-rate risk is more likely to be a feature of the next 30 years than it has been of the recent past. Even if LTI constraints are not currently the main barrier facing potential FTBs, expanding the availability of long-term fixed-rate mortgages may be an important measure to stabilise home ownership and safeguard financial stability in the years ahead.

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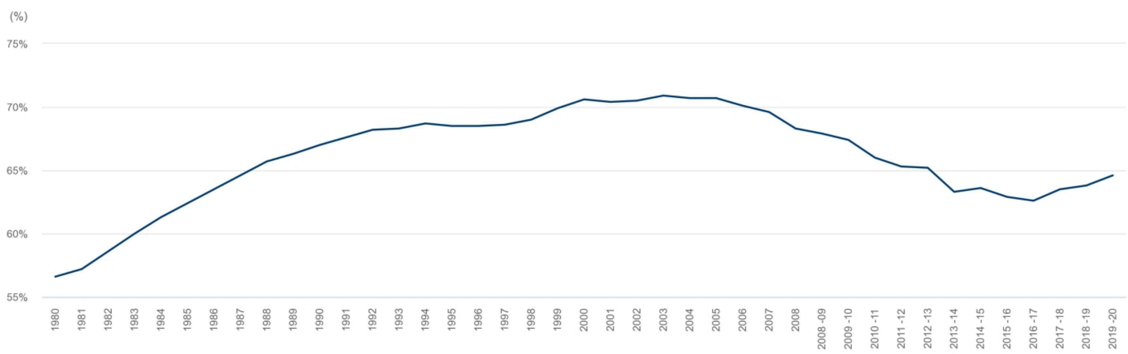
UK Home Ownership and the Mortgage Market

Rapid decline in the rate of home ownership since the start of the century has focused much policy attention on how the government might raise it. From a high of 70.9 per cent in 2003, home ownership in England then fell to a low of 62.6 per cent in 2016, before recovering slightly in the past five years. Nevertheless, just before the pandemic struck, there were almost 1.5 million households in England who would have been owner-occupiers had the rate of home ownership remained at the same level as it was in the early 2000s. Similar trends have been evident across the rest of the UK.

To understand what lies behind these trends, and therefore what policies might reverse them, it is useful to put the English home-ownership experience in a wider historical context. The story of the past 40 years consists of three phases. The first was a phase of accelerating home ownership during the 1980s, when the rate jumped by 10 percentage points, powered by a range of supportive policy measures. The second phase dates from the recession of the early 1990s to the 2008 financial crisis, a period over which the conditions of the 1980s had either run their course or were beginning to be reversed. The third phase, since the onset of the financial crisis, has been a story of changing conditions in the mortgage market that led to a fall in home ownership of 7 percentage points between 2007 and 2016, before recovering slightly towards the end of the decade.

The rest of this section takes a closer look at the various market, policy and regulatory forces that have shaped these phases and highlights the areas where policy to raise levels of home ownership might be most effective.

Figure 1 – Home-ownership rate in England since 1980



Source: English Housing Survey

Phase 1: Rapid Growth in Home Ownership During the 1980s

Home ownership in the 1980s boomed owing to a range of financial and fiscal measures designed to support it. First, the Thatcher government introduced a range of financial deregulation measures. Foreign-exchange controls were lifted, which allowed foreign banks to compete in the UK as well as permitting UK banks to access overseas funding. Liquidity restrictions on banks were eased, allowing them to massively expand their share of the mortgage market from playing a marginal role to being the dominant source of mortgage finance. Meanwhile building societies, having dominated the scene before the 1980s with over 80 per cent of mortgages, had to be allowed access to wholesale funding to remain competitive in the new environment. Despite this, their market share had fallen to around one-fifth by 2006 following a wave of demutualisations. [1]

The expansion of access to finance was enhanced by the widespread use of mortgage-indemnity insurance. These insurance policies were supposed to protect lenders in the event of their having to repossess a house and the subsequent sale being insufficient to cover the outstanding loan. Their existence is widely thought to have encouraged lenders to overextend high-LTV finance to first-time buyers during the late 1980's boom.

Financial deregulation was also accompanied by significant fiscal-policy support to boost home ownership. Right to Buy saw council-house sales running at around 100,000 per year throughout the 1980s, directly contributing to the rapid increase in home ownership. And from 1983, mortgage interest relief at source (MIRAS) extended relief to non-taxpayers.

But it wasn't all about change. Alongside the policy radicalism of the 1980s, the rent controls in place for much of the post-war period heavily limited the availability of private rented housing and continued to contribute to the rise in home ownership as it had in earlier decades, but now against a backdrop of substantially deregulated lending.

Phase 2: Stagnation From 1990 to 2007

From the onset of the recession in 1990 until the financial crisis of 2008, all the tailwinds that had encouraged home ownership abated. The pace of growth in home ownership slowed sharply, reaching a peak of 70.9 per cent in 2003, before drifting down to 69.6 per cent by 2007. [2] While the deregulation of the mortgage market remained largely unchanged over the period, several other developments were responsible for slowing the pace of home-ownership growth.

First, the home ownership boost of the mortgage-indemnity insurance market went into reverse as house prices began to fall. Underwriting losses on these policies are estimated to have amounted to over

£6 billion, far exceeding the premium income from writing the policies, and in some cases insurers failed to pay out. [3] The scarring experience for both insurers and lenders resulted in this form of insurance becoming much less common, and may have contributed to the tightening of lending standards that is reflected in a fall in the subsequent median loan-to-value level for first-time buyers from the late 1990s onwards.

On the policy front, Right to Buy sales dropped sharply to average less than half the rate seen in the 1980s. MIRAS was curtailed sharply in Nigel Lawson's 1988 budget and finally axed in 2000. And the abolition of rent controls in the 1988 Housing Act increased the availability of private rented housing, albeit along with substantially increased costs shifted on to tenants.

By the mid-2000s, real house prices had more than doubled in a decade, causing the price-to-income ratio to jump to around 8, well above the earlier norm of between 4 and 5. [4] This meant that first-time buyers were finding it increasingly hard to accumulate a deposit, weighing on levels of home ownership.

Phase 3: Collapse From 2008 to 2016

On the eve of the financial crisis, the home-ownership rate was slightly lower than its all-time high but still a level higher than in any but the final year of the 20th century. It then collapsed as the financial crisis took hold and was followed by a range of regulations to tighten mortgage-lending criteria in the final years before the crisis.

House prices fell sharply between 2008 and 2012. But while this eased the first-time-buyer deposit barrier for any given loan-to-value ratio, the heightened risk for lenders meant that they radically tightened their lending criteria. The median loan-to-value level for first-time buyers dropped from 90 per cent in 2007 to just 75 per cent from 2009. [5] Consequently, the annual number of loans issued between 2008 and 2012 fell to less than half of what it had been between 2000 and 2007, directly reducing the number of home-owning households by around 1 million compared to the pre-crisis rate. According to the Council of Mortgage Lenders, despite a significant fall in house prices, the typical first-time buyer deposit jumped from £12,700 to £32,300 between 2007 and 2010, creating a significantly higher barrier to home ownership. [6]

This was all but inevitable in a mortgage market where lenders were for the most part bearing all the credit risk associated with their loans. It contrasts sharply with the early 1990s period, where the volume of loans to first-time buyers remained strong throughout the period of falling prices. While misaligned incentives may have led to excessive high-LTV lending in the 1990s, the lack of any insurance mechanism caused undue retrenchment in the wake of the financial crisis.

The rapid change in lenders' appetite for risk appears to have been the proximate cause of falling home-ownership rates from 2008. But it was by no means the only factor at play. Three major regulatory changes appear to have slowed the recovery in lending volumes to first-time buyers in the wake of the crisis:

- **Basel capital rules.** Basel 2 rules came into effect in early 2008, requiring lenders to hold more capital against FTB loans because higher LTV loans were now accorded a greater risk weighting than loans where the borrower had more equity. This typically required lenders to hold four to five times more capital against high-LTV compared with low-LTV loans. [7] The fact that this coincided with the beginning of the financial crisis makes it somewhat difficult to disentangle the relative effects of the crisis and the new regulations.
- **The affordability test.** Following the mortgage market review in 2014, the Financial Conduct Authority introduced a "stress test" to ensure that borrowers would be able to afford to make their mortgage repayments if interest rates rose by 3 percentage points above the lender's standard variable rate during the first five years of the loan.
- **Macro-prudential regulations.** The Financial Policy Committee of the Bank of England was charged with using a range of tools to limit the risks building up across the financial sector. Critically, in 2014 it imposed a 15 per cent ceiling on the proportion of each institution's loans that could be issued at or above 4.5 times the borrower's income.

It is unclear what impact these measures have had in preventing a full recovery in home-ownership rates, but it seems likely to have been significant. The Bank of England points out that the 15 per cent limit on loan-to-income does not appear to be a significant constraint at present. [8] On the other hand, capital-adequacy requirements seem to have driven a persistent wedge between the interest rates charged on low- compared with high-LTV mortgages: prior to the financial crisis the interest rate on a 90 or 95 per cent LTV mortgage was no more than 30 basis points above 75 per cent LTV mortgage. In the subsequent decade that difference jumped to well over 200 basis points, and remains at around 70 basis points today. [9] Other observers have emphasised the affordability impact of the stress tests, suggesting that they present an unnecessarily high barrier to ownership. [10]

Some combination of a sudden fall in lenders' post-crisis risk appetite and significantly more stringent lending restrictions to strengthen financial stability is therefore responsible for the decline in home-ownership rates from 2008 onwards.

Faced with these pressures, the government and the Bank of England took a number of steps – both financial and fiscal – to limit any disruption to mortgage availability. One was the 2012 Funding for Lending scheme, which provided funds for lending to households and businesses at cheaper rates than those available in the market. Another was the 2013 Help to Buy programme, with a mortgage guarantee aiming to revive availability of 95 per cent mortgages for first-time buyers. It is difficult to say whether home-ownership rates would have fallen further in the 2010s without these measures, but they were insufficient to fully offset the other dynamics at play.

From April 2016, with home ownership hitting new lows, then Chancellor George Osborne introduced fiscal measures to discourage buy-to-let activity in the form of a 3 per cent additional rate of stamp duty for second-home purchases and, from 2017, mortgage interest relief for landlords began to be reduced. These measures do appear to have contributed to the recovery in home-ownership rates since 2016.

Figure 2 – Positive and negative influences on home ownership, 1980–2016

Key:
green: positive
amber: neutral
red: negative

	1980–1989	**1990–2007**	**2008–2016**
Mortgage regulation	End of capital controls, the "corset", wholesale funding for building societies		Basel 3, stress tests, LTI restrictions, Funding for Lending scheme
PRS regulation	Rent controls	Assured shorthold tenancy	Assured shorthold tenancy
Mortgage insurance	Mortgage indemnity insurance	MII collapses	Help to Buy
Right to Buy	~100k sales per year	~50k sales per year	~20k sales per year

	1980–1989	1990–2007	2008–2016
Fiscal measures	MIRAS	MIRAS ended	Additional stamp duty for buy-to-let from 2016, mortgage interest relief tapered off after 2017
Deposit affordability: price-to-income ratio	Late 1980s boom raises price-to-income ratio	Rapid price-to-income growth in 2000s	Price-to-income ratio remains high

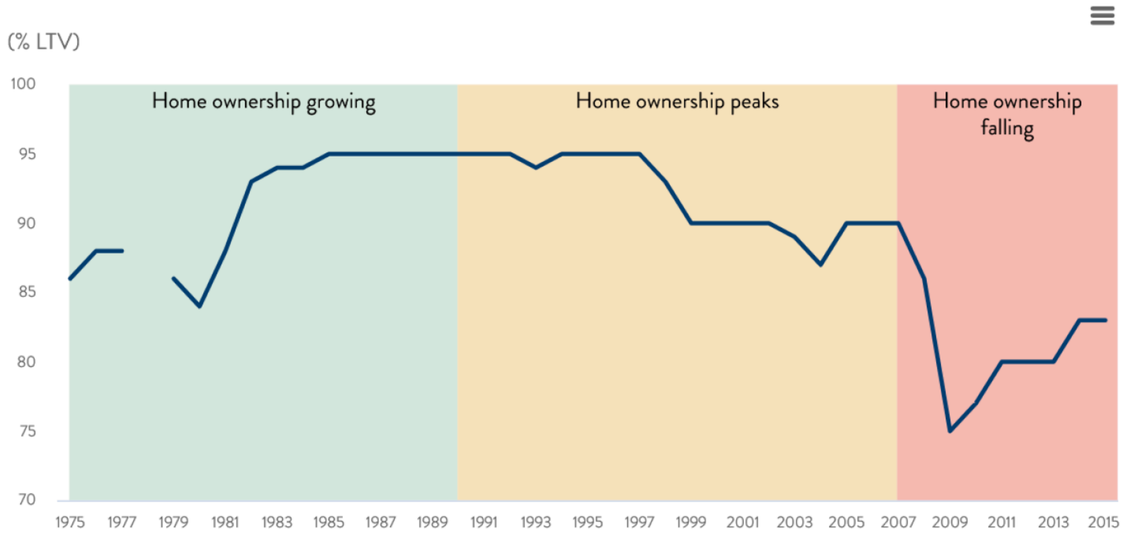
Source: TBI

Lessons

What should we learn from the experience of the past 40 years about the determinants of home ownership and the available policy levers? While a wide range of policy measures was responsible for surging home ownership in unique circumstances during the 1980s, most of those options have either run their course or are probably not desirable today. What we see from the 1990s onwards is a pattern where attitudes to and regulations around credit risk have been the critical determinant of home-ownership trends.

Home ownership has risen rapidly when lenders have been willing to take on FTB credit risk and fallen sharply when sentiment or the regulatory environment have changed. The three phases of home ownership are therefore most neatly summarised by the path of the median LTV offered to FTBs since 1980: rising in the 1980s, declining slightly in the run up to the financial crisis, and falling sharply in its aftermath.

Figure 3 – Median LTV for first-time buyers, 1975–2015



Source: UK Finance

This tells us that returning to high home-ownership rates of 70 per cent or more will inevitably mean extending mortgage finance to younger people with smaller deposits. This creates an obvious tension with the need for financial stability. But that does not mean there is an unavoidable trade-off between these two policy goals. The challenge is to identify ways in which the various risks associated with high-LTV lending can be better managed, whether with the assistance of government guarantees or through some type of market mechanism. In the next section we explore evidence from around the world on how different countries approach this dilemma.

Mortgage Institutions in Other Countries

Beyond the UK, countries have developed a range of models for managing the risks associated with high-LTV mortgages. These typically seek to manage one or both of two key risks that lenders face in extending these loans. The first is the credit risk that, in troubled economic times, borrowers will be unable to make payments and the sale of the property will be insufficient to repay the loan in full. This is dealt with by the provision of mortgage insurance, which as we have seen was common in the UK in the late 1980s and early 1990s. The second is the risk from rising interest rates, which may leave borrowers unable to afford payments that were previously manageable. This is typically dealt with by encouraging the provision of long-term fixed-rate mortgages.

In this section we explore a number of models for the management of these mortgage risks on offer around the world and draw out their salient characteristics. We also examine their effectiveness at lowering costs for FTBs and sustaining home-ownership rates.

We begin by looking at the Canadian, Australian, Dutch and Hong Kong models, which use mortgage insurance, provided either by the state or the market, to manage credit risk. We then look at Denmark, where lenders pass on the interest-rate risk but retain the credit risk. Finally, we examine the US and South Korea, whose systems have some aspects that deal with both credit risk and interest-rate risk.

Canada

The Canadian system is the most well-known example of mortgage-guarantee insurance (MGI) playing a key role. It is compulsory for loans issued by deposit-taking institutions with an LTV greater than 80 per cent; those wishing to borrow more than 80 per cent of the cost of a property must obtain MGI from either the state-run Canada Mortgage Housing Corporation (CMHC) or one of two private insurance companies – Sagen and Canada Guaranty – that provide similar products.

The CMHC has been issuing MGI since 1954. It will insure mortgages of up to 35 years, up to 95 per cent LTV, on properties worth up to CAD 1 million to borrowers who meet certain creditworthiness and affordability criteria. The borrower must have a credit score of at least 600 in most cases. Mortgage repayments must represent less than 39 per cent of their income, and their total debt-servicing costs must be less than 44 per cent of their income. The cost of mortgage insurance is a set percentage of the loan amount which varies according to the LTV ratio.

Private insurers have also been part of the market since the 1960s. Catastrophic insurance against the failure of insurers is provided by the state in exchange for a fee. Fees are kept in a guarantee fund that could be drawn upon in the event of the insolvency of an insurer. Whereas the Canadian federal government fully backs mortgages insured by CMHC, banks are only covered for 90 per cent of the losses of private insurers.

For the most part, private insurers follow the lead of CMHC and offer similar products for similar prices. One exception has been during the Covid pandemic. CHMC tightened its underwriting criteria in response to a projected fall in house prices – it increased the minimum credit score from 600 to 680 and reduced the maximum gross debt-servicing ratio from 39 per cent to 35 per cent of income and the total debt-servicing ratio from 44 per cent to 42 per cent – but this was not followed by Sagen and Canada Guaranty. This led to CMHC losing market share to the private insurers, falling to its lowest on record at 29 per cent in the fourth quarter of 2020 with Sagen becoming the largest provider in the market. [11] As a result, CMHC reversed its decision, reintroducing its previous rules in July 2021.

Mortgage insurance in Canada is effective at reducing costs for high-LTV mortgages. As mortgages insured by the CMHC are fully backed by the federal government, there is a zero per cent risk weighting under Basel 3 regulations. Privately insured mortgages attract a slightly higher risk weighting as they are only 90 per cent guaranteed by the state. As a result, there is no interest-rate spread between high- and low-LTV mortgages in Canada as there is in the UK. Although those with low deposits must pay for mortgage insurance, the relative cost of home ownership for a family with a 5 per cent deposit is still significantly lower than in the UK. Estimates from simulations suggest that, without compulsory mortgage insurance, some low-income borrowers would be unable to afford to purchase a home. However, by providing greater access to credit, the simulations suggest that compulsory mortgage insurance may encourage higher leverage and default rates, and therefore boost house prices. Removing compulsory mortgage insurance, on the other hand, would encourage richer households to purchase larger properties. [12]

Mortgage insurance has contributed to the stability of the financial system in Canada. Unlike in other countries, no Canadian banks required bailouts during the global financial crisis between 2007 and 2009. The government has effective control over the mortgages banks can offer since loans that do not conform to the CMHC's criteria do not qualify for government-backed insurance and so are less attractive to banks. However, the experience of the CMHC's attempts to tighten lending criteria in 2020 suggests that the government has less power than previously thought: CMHC had to follow the lead of private insurers to maintain its market share. This raises questions as to whether the mortgage-insurance system would be able to prevent house-price bubbles, although in this case the private insurers' decisions turned out not to be imprudent.

Australia

Australia's mortgage market is like the Canadian model in that there is significant use of mortgage-guarantee insurance against credit risk. But it is different in that the provision of mortgage insurance has been privatised. Despite lacking a government guarantee, mortgage insurance retains an important role in the mortgage market, facilitating lending at higher LTV levels.

Like Canada's CMHC, the Housing Loans Insurance Corporation (HLIC) was set up by the Australian federal government in 1965 to offer mortgage insurance with the intention of raising home-ownership levels. At that time, banks' mortgage interest rates were capped, leading to credit rationing since the cap on lending rates also placed an effective cap on interest rates offered to savers. This limited bank deposits and the funds available for mortgage lending. The availability of state-backed mortgage insurance increased the creditworthiness of building societies, which were not subject to the same regulations, enabling them to expand to become the largest providers of mortgages in Australia in the 1970s. [13]

Bank deregulation in the 1980s eased banks' constraints on mortgage lending and increased their ability to provide high-LTV lending, supported by the existence of mortgage insurance. This has continued since the HLIC was privatised in 1997. It is now owned by Genworth, which is also one of the largest providers of mortgage insurance in the US and Canada. Today, four of the largest banks have their own mortgage-insurance providers, and Genworth and QBE (another large global insurance company) are the other two main providers.

Mortgage insurance is usually required for loans where the LTV exceeds 80 per cent. Insurance is paid in a lump-sum premium and can be added to the loan balance as long as the total size of the loan does not exceed 97 per cent LTV. This is attractive to lenders as insured mortgages are subject to lower capital requirements (around 30 per cent lower), [14] and to borrowers, even though it is not compulsory, because loans that are not insured attract a higher interest rate. But it is not the only option open to those with low deposits: some banks offer mortgages with a low deposit premium, effectively insuring the mortgages themselves – the norm in the UK – and it is possible to get a high-LTV loan without insurance if the borrower has a guarantor.

Mortgage-insurance providers are subject to strict regulatory requirements. As well as standard capital requirements for insurance companies, 50 per cent of premiums must be held in reserve for ten years to cover potential losses. As a result, Australian insurers withstood the global financial crisis well. Despite claims rising between 2007 and 2009, none of the major providers went out of business. [15] Underwriting standards were tightened during the crisis but were relaxed again soon afterwards. High-LTV lending was able to continue despite its higher risk: 16 per cent of new loan approvals for owner-occupiers had an LTV ratio of 90 per cent or more even at the height of the crisis in 2009. [16]

As Australia has experienced a property boom over recent years as interest rates have fallen, the use of mortgage insurance has increased. Data from Digital Finance Analytics show the number of mortgage-insurance policies taken out in Australia rose by 25 per cent from 218,593 in 2019 to 273,473 in 2020. In response, the Australian Prudential Regulation Authority (ARPA) has begun to take the risk of rising interest rates more seriously and increased the stringency of stress tests: borrowers must demonstrate that they can afford an interest rate 3 per cent higher than their current interest rate rather than 2.5 per cent as before. The system appears to be continuing to work as intended, though it remains to be seen how well it will cope if interest rates start to rise, putting pressure on the finances of those who have recently made a property purchase.

The Netherlands

Mortgage insurance plays a less important role in Europe than in Anglophone countries. It is perhaps most important in the Netherlands, where there is a more targeted state-backed scheme. Under the national mortgage-guarantee scheme (NHG, or Nationale Hypotheek Garantie), the Dutch government strives to create an accessible owner-occupied housing market for those who would struggle to put together a large housing deposit, even during more difficult economic times. [17] NHG is a guarantee provided to mortgage lenders by a government-backed foundation, the Home Ownership Guarantee Fund (Waarborgfonds Eigen Woningen or WEW). [18]

Unlike in other countries, where insurance provides lenders with general protection against default, the NHG acts more like payment-protection insurance in the UK. Insurance takes over mortgage repayments under the following circumstances:

- if borrowers lose their job
- if their relationship ends
- if they become disabled for work
- if their partner dies [19]

If the borrower is forced to sell their property under one of these scenarios, the NHG will cover any shortfall between the sale proceeds and the assumed mortgage balance outstanding. Irrespective of scheduled repayments or prepayments made on the mortgage loans, the NHG guarantee reduces on a monthly basis by an amount which is equal to the amount of the principal portion of the monthly instalment calculated as if the mortgage loan were being repaid on a 30-year repayment basis. This may result in the lender not being able to fully recover any loss incurred. Moreover, for mortgages originated from 1 January 2014, the lender has to carry 10 per cent of any losses on the claimed amount under a NHG guarantee. [20] The Home Ownership Guarantee Fund has liquidity-support agreements with central government and municipalities. This implicit government support means that the fund will always be able meet its payment obligations. [21]

This guarantee benefits both the borrower and the lender. The borrower enjoys protection against unpredictable events, while the lender is given security if the consumer can no longer meet their obligations and the house must be sold with a residual debt. Moreover, because of the government guarantee, there is a zero regulatory capital requirement on these mortgages so the lender can offer a mortgage at a favourable interest rate. [22] Interest rates on insured mortgages are around 0.5 per cent lower than comparable uninsured high-LTV mortgages, so these are an attractive option to those who are eligible and have low deposits. [23] Overall, just under a third of mortgage debt in the Netherlands has an NHG guarantee (€214 billion out of €735 billion total in 2019).

To be eligible for NHG-backed mortgages, the maximum purchase amount of the home (including any renovation costs) was limited to €325,000 in 2021, compared to an average house price of over €400,000. Consequently, unlike in some countries, the insurance is targeted at only a subset of buyers. If consumers take energy-saving measures, it is possible to borrow up to €344,500, as long as the excess above €325,000 is fully spent on these improvements. [24] There is no income threshold and so the scheme is available to all income levels.

The eligible borrowers who get NHG-backed mortgages must pay a lump sum of 0.7 per cent on the total mortgage amount. These costs cannot be co-financed in the NHG mortgage, though banks will lend up to 100 per cent LTV, so borrowers must find only the cost of insurance plus other transaction costs to make a property purchase. [25]

While the insurance provided under NHG covers credit risk, interest-rate risk in the Netherlands is handled through affordability stress tests for users of the scheme. Under NHG, the lender is responsible for ensuring that the guarantee application meets the terms and conditions of the NHG guarantee. These include affordability calculations based on the actual interest rate if the interest rate is fixed for at least five years, or a stressed 6 per cent interest rate for loans that reset within five years. [26]

Hong Kong

Government-backed mortgage insurance has been introduced in Asia too. In Hong Kong, mortgage insurance plays an important role. There is a state-owned housing-finance institution that provides mortgage insurance. The Mortgage Insurance Programme (MIP) was launched by The Hong Kong Mortgage Corporation Limited (HKMC) in March 1999 to promote home ownership in Hong Kong. Subsequently, in 2018, the MIP business was transferred to and carried out by HKMC Insurance Limited (HKMCI), a wholly owned subsidiary of the HKMC. [27]

In Hong Kong, banks must comply with an LTV requirement of 60 per cent for owner-occupied properties and 50 per cent for investment properties on residential mortgage lending. Yet, with the MIP providing mortgage insurance to banks, banks can provide mortgage loans at a higher LTV ratio without incurring additional credit risk. In particular, the LTV threshold for MIP mortgages is between 80 and 90 per cent, depending on the property value. [28]

Mortgage insurance is conditional upon certain eligibility criteria. These criteria vary depending on the property value and define the maximum loan amount as well as the maximum acceptable debt-to-income ratio. As long as an application meets the relevant eligibility criteria, the bank can provide a mortgage loan of a higher LTV ratio under the MIP. The mortgage insurance aims to protect the participating banks from losses on the portion of the loan over the 60 per cent LTV threshold due to mortgage default by the borrowers. Therefore, in addition to helping the promotion of home ownership through managing credit risk, the MIP also contributes to the maintenance of the banking stability. [29]

Denmark

Denmark has one of the most distinctive housing-finance markets in the Western world. Unlike all the other countries reviewed here, the Danish system does not involve mortgage insurance, but focuses on managing interest-rate risk via the provision of long-term fixed-rate mortgages. It is also unusual in that government intervention is minimal, yet Danish households can obtain long-term fixed-rate mortgages at low interest rates.

Traditionally, mortgage banks – banks that specialise in providing mortgage loans – were the only providers of such loans. The crucial innovation is that mortgage banks fund loans by selling bonds with matching characteristics. [30] At the heart of the system lies the “match-funding” principle whereby the payments received by a mortgage bank from its borrowers correspond exactly to the payments it makes to the bondholders. Moreover, mortgage banks fund loans on a current basis. In other words, the mortgage bank does not sell the required bonds until it disburses the loan to the borrower. The market price of the bonds at the time of sale consequently determines the loan rate. As mortgage banks grant new loans daily, they also issue new bonds daily. This is called tap issuance. [31] This set-up eliminates mortgage banks’ interest-rate risk, as changes in interest rates affect both sides of their balance sheet in the same way.

However, mortgage banks still retain credit risk: they must make the bond payments even if the borrower fails to make interest and principal payments because of a fall in income or for any other reason. This strongly encourages mortgage banks to minimise this risk by lending only to those with a strong likelihood of repayment. [32] Moreover, all mortgage loans need to comply with a statutory 80 per cent LTV requirement. There is no higher LTV lending, hence credit risk here is mainly dealt with via relatively blunt LTV regulation.

In some sense, this is an inversion of the roles played by banks in many other countries, where lenders outsource the credit risk and retain the interest-rate risk. In Denmark the banks retain the (limited) credit risk and pass on the interest-rate risk.

The advantage of this system for borrowers is that they can obtain long-term fixed-rate mortgages at relatively low interest rates. Borrowers face market-based prices plus a margin charged by mortgage banks to cover their operating costs and any losses. The prices are typically low precisely because Danish mortgage bonds are very attractive (in 2008 their market was four times larger than the Danish government bond market) and are also considered safe.

Borrowers also have attractive prepayment options. They may prepay their outstanding debts at par at any time without penalty. Alternatively, they may purchase the underlying bonds in the financial markets and deliver them to the mortgage bank. This is favourable to borrowers if rises in market interest rates reduce the price of the bonds below their face value. Borrowers know which bonds fund their loans, and the bonds are listed on a stock exchange. Bond prices are quoted daily in newspapers and elsewhere. [33] Consequently, borrowers have significant flexibility to choose the options that best serve their interests depending on the market prices at the time. [34]

Danish mortgage banks have traditionally offered three types of mortgage loans, each corresponding to different types of bonds:

- Mortgages with fixed rates for the whole term (the most popular option) [35]
- Adjustable-rate mortgages
- Floating-rate loans (with or without interest rate caps) [36]

The adoption of new legislation on 1 July 2007 has somewhat eroded the traditional Danish model. While not interfering with the existing system, the legislation enabled a breakaway from the traditional Danish mortgage model based on the principle of matching loans and bonds. [37]

In essence, this legislation allowed lending institutions to deviate from the principle of matching. This gave rise to new types of mortgages which allowed for interest-only mortgages and longer terms if the LTV ratio was up to 75 per cent (traditional mortgage loans offered a maximum interest-only period of ten years and a maximum term of 30). However, these mortgages had to comply with LTV requirements throughout their entire term, in contrast to the flexibility of traditional mortgages. They also allowed for low investor-capital requirements (the requirements were high in the traditional Danish loans). Finally, mortgage banks were no longer the only institutions capable of granting mortgage loans. However, despite these changes, mortgage banks have to a large extent maintained the “match-funding” principle. [38]

The Danish mortgage system has demonstrated remarkable resilience. While it was affected by the 2008 financial crisis, it was never paralysed. Mortgage banks were able to continue their lending activities precisely because new bonds were attractive. Therefore, it did not require government guarantees for mortgage bonds. Consequently, Danish homeowners and companies seeking financing for properties did not experience any limitations attributable to turmoil in the financial markets. [39]

United States

The mortgage market in United States aims to address problems with both credit risk and interest-rate risk. Although not compulsory, mortgage insurance still plays an important role in encouraging high-LTV lending as the Government-Sponsored Enterprises (GSEs) – the Federal National Mortgage Association, commonly known as Fannie Mae, and the Federal Home Loan Mortgage Corporation, commonly known as Freddie Mac – will only purchase mortgages with an LTV above 80 per cent if the borrower has purchased insurance. As a result, it is often cheaper for borrowers to purchase mortgage insurance than the alternative of a conventional mortgage without insurance together with a second “piggyback loan” to cover the portion above 80 per cent, which attracts a higher interest rate.

As in Canada, there are both public and private mortgage insurers. The Federal Housing Administration (FHA) offers loans of up to 96.5 per cent LTV with insurance. Insurance payments consist of an up-front fee of 1.75 per cent of the loan amount (which can be added to the loan) and ongoing fees of between 0.45 per cent and 1.05 per cent of the loan amount depending on the amount borrowed, the LTV ratio and the mortgage term.

Private mortgage insurers also offer insurance on mortgages up to 97 per cent LTV. The cost of insurance varies between 0.14 per cent and 2.33 per cent of the initial loan amount depending on the mortgage term, whether the interest rate is fixed for more than five years or not, the applicant’s credit score and the LTV ratio. If a claim is made against private mortgage insurance (PMI), the insurer can either pay the lender the loan balance in full and take the title to the property or pay the maximum amount insured, which is usually between 20 per cent and 25 per cent of the initial loan amount. To ensure the stability of insurers, half of premiums collected must be held in a fund that cannot be touched and can only be used if losses exceed 35 per cent of premiums in a particular year.

The choice of whether FHA insurance or PMI is more beneficial depends on several factors. FHA insurance is aimed primarily at those with lower credit scores: premiums are not increased for those with a poor credit history, and do not vary as much by LTV ratio as PMI. However, whereas PMI can be cancelled when the LTV ratio reaches 80 per cent and is cancelled automatically at 78 per cent, FHA insurance must be maintained for the duration of the loan, although it is possible to refinance without insurance once the LTV ratio falls below 80 per cent.

Around two-thirds of agency loans for purchasing properties in the US have mortgage insurance of some sort. In 2020, 51 per cent of insured loans for property purchases had PMI whereas 31 per cent were FHA loans, the remainder being insured by the Department of Veterans Affairs, which offers subsidised mortgages to veterans. FHA loans tend to be used by those who have worse credit, lower deposits and higher debt-servicing cost-to-income ratios who purchase smaller properties. But comparing borrowers using PMI to those with larger deposits who have no need for insurance reveals that people requiring PMI do not have significantly worse credit scores or significantly higher debt-servicing costs relative to their income. [40] This suggests that, today at least, PMI does not encourage reckless lending; rather, as hoped, it allows those with smaller deposits to purchase a property sooner than they would otherwise be able to.

However, mortgage-insurance providers did not get through the global financial crisis unscathed. They played some role in the continuation of the housing boom in 2007 after providers of piggyback loans had exited the market. PMI providers did not alter their pricing despite growing evidence of falling property prices and so, as the availability of piggyback loans fell away, PMI took up the slack. The number of the riskiest loans – to borrowers with low credit scores and over 95 per cent LTV – doubled in 2007. [41] This led to big losses from 2008 onwards: losses amounted to 218 per cent of premiums paid in 2008 and continued at high levels in subsequent years. [42] Three of the eight main providers went out of business and those that remained refused to pay out a quarter of claims. [43]

Insurers complained that mortgage lenders had failed to properly verify borrowers' employment and income and had relied on over-optimistic property valuations. But this also suggests that insurers were not properly doing their job of acting as a "second set of eyes" when verifying riskier mortgage applications.

In the years following the crisis, the availability of PMI dried up as prices and underwriting standards increased. The share of loans with PMI fell from around 20 per cent before the crisis to just 7 per cent in 2009 and 2010. Since then, PMI has recovered and insurers are being more conservative in their underwriting criteria. Whereas, before the crisis, insurers simply accepted any loan that would be bought by the GSEs, in 2018 they pushed back against plans by Fannie Mae to allow mortgages with a debt-servicing-to-income ratio of up to 50 per cent. Two of the biggest insurers said they would only accept such loans from borrowers with good credit histories. [44]

As well as insuring against credit risk, the US mortgage market is different from the UK's in managing interest-rate risk. This is achieved by the GSEs purchasing mortgages from lenders and then selling guaranteed mortgage-backed securities in the market. This allows lenders to offer long-term fixed-rate mortgages. This is an attractive option for consumers, who know exactly how much they will have to pay each month for the entire mortgage term and are able to refinance without penalty if interest rates fall. This means that lenders do not need to worry about the ability of borrowers to afford repayments if interest rates rise and so they can offer larger loans. The GSEs require insurance for loans above 80 per cent LTV and also apply a "loan level price adjustment" whereby they pay less for risker loans. As a result, riskier loans attract higher interest rates.

Since the GSEs have a government guarantee, mortgage interest rates are lower on mortgages that they will purchase than on "jumbo" loans that exceed the maximum loan amount set by the GSEs. But since they reduce the cost of mortgages for everyone, not just first-time buyers with small deposits, it is less clear that they are successful at redistributing credit to this group rather than simply boosting house prices. [45]

South Korea

South Korea also has a housing-finance institution that intervenes in the market in different ways to limit both credit and interest-rate risk. Housing finance in Korea has undergone important changes in recent decades. In the 1980s, the mortgage market was still small and underdeveloped. The main player was the Korea Housing Bank, which was owned by the government and exercised monopoly power (86 per cent market share) in providing long-term mortgages. The 1990s marked the beginning of a trend towards deregulation, and the Korean Housing Bank was privatised in 1998. After 2000 the market size more than tripled, while the banks consolidated their position as primary lenders. [46]

Nowadays, the key player in the housing-finance market in South Korea is the Korean Housing Finance Corporation (KHFC). Its interventions in the housing-finance market are varied. First, it offers two types of subsidised mortgages, one with variable (Didimdol) and one with fixed interest rates (Bogeumjari) over the entire term of the mortgage. [47] These mortgages offered at sub-market rates are available only to lower-income households and have restrictions on the property value. [48]

Secondly, the KHFC securitises non-subsidised long-term mortgages. In 2020, mortgage-backed securities issued and guaranteed by the KHFC totalled 116 trillion won ($98 billion), equivalent to around 6 per cent of GDP. A large proportion of these securities are purchased by insurance companies. This securities market makes long-term fixed-rate lending possible and therefore provides effective insurance against interest-rate risk.

Finally, the KHFC also guarantees housing-related loans. The biggest part of this scheme concerns loans for Jeonse deposits and loans by landlords needed to cover falls in Jeonse deposit values. [49] Jeonse deposits are a distinctive feature of the Korean housing market. Instead of paying monthly rent, a tenant can make a lump-sum deposit, typically 50 to 80 per cent of the market value of a property, which is then returned at the end of the lease. The owners make a profit from reinvesting the Jeonse deposit, and still benefit from any appreciation in the capital value of the property.

The KHFC also offers a mortgage guarantee in a few limited cases. Only 4.5 per cent of its loan guarantees are for house purchases: the vast majority of these guarantees (83.9 per cent) concern Jeonse. Mortgage guarantees are available only for newly built apartments or if the house does not represent sufficient collateral.

These guarantee schemes are widely used in Korea. In 2020, KHFC provided $58.8 billion of guarantees in total, the highest ever figure. [50] Banks find them attractive because they shield their capital. Moreover, they have further benefits related to reducing capital requirements as insured loans carry lower risk to the lender. The insured portion of housing-loan portfolios amounted to 25 per cent, 45 per cent and 27 per cent for nationwide, regional and specialised banks respectively (medians) at the end of 2018. [51]

KHFC charges an annual guarantee fee. The guarantee fee may be paid on an annual basis, or several years can be paid upfront with a discount. However, this cannot be used to lower the annual guarantee-fee rate below 0.05 per cent. [52]

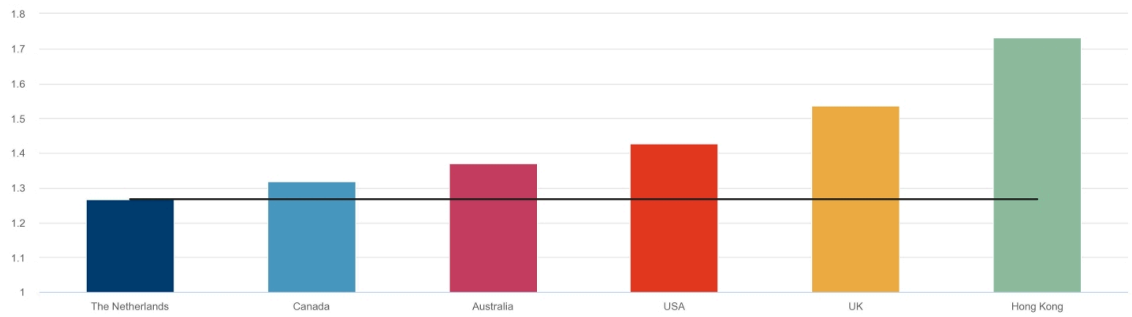
Summary

Different countries around the world have different approaches to supporting FTBs with high-LTV mortgages. The large interest-rate spread in the UK between 95 per cent LTV and lower-LTV mortgages means that the monthly repayment cost is 54 per cent higher for a 95 per cent LTV mortgage than for someone purchasing the same property with a 25 per cent deposit, even though the loan is only 27 per cent larger. Only in Hong Kong is there a bigger difference between the cost of mortgages with different LTVs. Other countries' institutions serve to lower this cost relativity through better risk management of one form or another (Figure 4): [53]

- In the Netherlands, state-provided mortgage insurance removes the interest-rate spread entirely, and since the cost of insurance is the same 0.7 per cent of the loan amount irrespective of LTV ratio, monthly repayments are proportional to the size of the mortgage, so in this case monthly payments are 27 per cent higher for a 27 per cent larger loan.
- In Canada, there is no interest-rate spread, but the cost of mortgage insurance increases the cost of a 95 per cent LTV mortgage. Despite this, monthly payments are only 32 per cent higher for a 27 per cent larger loan.
- In Australia, the interest-rate spread and the cost of insurance give rise to a differential of 37 per cent, which is higher than the differential in Canada and the Netherlands (the two countries where state-provided insurance is dominant) but still lower than the UK and the US.

- In the US, both an interest-rate spread and the cost of mortgage insurance raise the cost of higher LTV loans, but the differential is still less than in the UK at 43 per cent.
- Finally, in Hong Kong the cost of a high-LTV mortgage is 73 per cent higher for a 27 per cent larger loan, owing primarily to very high insurance premiums from the state insurer. (Note that in Hong Kong the LTV ratio cannot be above 90 per cent and so, to make a meaningful comparison, we compare the cost of a 90 per cent LTV loan to the cost of a loan that is 27 per cent smaller, that is 71 per cent LTV).

Figure 4 – Ratio of monthly mortgage repayments for 95 per cent vs 75 per cent LTV mortgage, by country



Note: The figure shows the monthly payment for a 95 per cent LTV mortgage plus mortgage insurance where appropriate as a ratio of that for a 75 per cent LTV mortgage. Assumes UK average house price and five-year fixed-rate mortgage repaid over 20 years from a major mortgage lender (UK – Halifax, Canada – RBC, the Netherlands – ABN Amro, Hong Kong – HSBC, Australia – Commonwealth Bank, USA – Bank of America).

Source: TBI calculations

Conclusion

When comparing the institutions of different developed countries, it is clear that there is no single model or even a handful of different types of mortgage-market institutions (Figure 5). The status of the mortgage market in each country today is a product of the legacy of past experiences and policy reforms that continue to affect the shape of the market.

However, we can clearly see two distinct functions that can be played by various actors in the system: mortgage insurance to manage credit risk or long-term fixed-rate products to provide insurance for interest-rate risk, and sometimes both. The UK is unusual in having neither of these features. Consequently, credit risk is kept on banks' balance sheets while interest-rate risk sits with the borrower, and both are reasonably tightly constrained by regulation.

Figure 5 – Summary of mortgage-market features in selected jurisdictions

	AUS	CAN	HKG	DNK	KOR	NLD	GBR	USA
Extensive use of insurance?	✓	✓	✓	✗	✗	✓	✗	✓
Government participation?	✗	✓	✓	✗	✓	✓	✗	✓
Mortgages fully insured?	✓	✓	✗	✗	✓	✓	✗	✗
Mandatory in certain cases?	✗	✓	✓	✗	✗	✗	✗	✗ No, but needed for government securitisation above 80 per cent LTV

	AUS	CAN	HKG	DNK	KOR	NLD	GBR	USA
Capital relief for insured loans?	✓	✓	✓	✗	✓	✓	✓	✓
Long-term fixed-rate mortgages widely available?	✗	✗	✗	✓	✓	✓	✗	✓
Government securitisation of mortgages?	✗	✓ limited	✗	✗	✓	✗	✗	✓

The path dependence of the mortgage market is as true for the UK as it is for other countries. The experience of the global financial crisis, even though UK banks did not experience big losses on their residential mortgage lending, has led to tighter regulation of mortgage issuance and larger capital requirements for high-LTV mortgages. An unintended consequence of this has been larger spreads in mortgage interest rates between low- and high-LTV loans, which had not previously existed in the UK. As this had not been a problem before, and perhaps because there was some mortgage insurance in place during the previous house-price crash, the UK has not developed a set of institutions to help address this barrier to wider home ownership.

A comparison with Australia is instructive. In neither country is mortgage insurance mandatory, and neither has a state-backed insurer. Yet insurance is an important feature of Australia's mortgage market and is required on high-LTV lending by all major lenders, but it remains virtually unheard of in the UK. If mortgage insurance is a valuable product that helps FTBs get on the housing ladder sooner, why has a market not sprung up in the UK? If it is "dead money"[54] that simply loads costs onto FTBs for little benefit, why is it still widespread in Australia?

The answer is surely in the experience and institutional history of the two countries. In Australia, this is a product that both borrowers and lenders are familiar with. The legacy of state-guaranteed insurance underpinning the high-LTV market has been maintained even after the Australian Housing Loan Insurance Corporation was privatised. In the UK by contrast, the experience of this product is much more negative – there are still memories of the early 1990s recession, when mortgage-indemnity guarantees proved worthless as providers went out of business and refused to pay out on many claims.

This suggests that it is hard to introduce new products into the market: demand must be there from borrowers, lenders and providers. Therefore, it is not realistic to simply replicate another country's model that has evolved according to a particular set of circumstances, or at least doing so would require concerted policy action. Instead, historical experience, both from the UK and other countries, offers suggestions as to directions that the UK might profitably move in.

First, the UK could look to the past and seek to roll back regulations that have at least been partly responsible for the reduction in high-LTV lending to FTBs. This would involve loosening capital requirements and other restrictions on high-LTV mortgages and easing restrictions on high-LTI lending. This approach was successful, alongside other reforms, in boosting home ownership in the 1980s and 1990s without exposing lenders to significant losses. However, it is questionable whether this approach would be successful today, and even more questionable whether it would be wise from the perspective of financial stability. The 1980s and 1990s were a time when wages were rising more quickly than they are expected to over the 2020s and interest rates were (generally) falling. These factors meant that those who took on mortgages that initially stretched their affordability saw mortgage repayments fall fairly quickly relative to their income.

In an environment where interest rates are at a historical low and wage growth is sluggish, the system may not work as well and could have implications for financial stability. In a world where the financial system is increasingly integrated and where mortgage default risk is correlated with the housing market and the broader economic environment, rolling back regulations could increase the UK's vulnerability to financial crises. It would also leave the UK out of step with other countries.

Evidence from around the world suggests that there are better ways to raise home ownership by managing these risks better, rather than simply dialling them up.

One such approach would be to tackle credit risk by moving towards greater use of mortgage insurance. This could involve setting up a state-backed mortgage insurance system and encouraging the development of a private market. This would lower capital requirements for high-LTV loans as they would be protected by an implicit government guarantee, giving them a risk weight of zero. International experience from the Netherlands and Canada shows that this approach is effective at lowering costs for FTBs. The structure of such an institution would need to be carefully designed, however, to ensure that its incentives were properly aligned. There have been several instances where insurers have failed to maintain underwriting standards in the face of pressure to maintain market share. It is easy for insurers to increase market share by weakening underwriting standards: this has immediate benefits but potential long-term costs in a crisis.

An alternative or complementary measure would be to address interest-rate risk by seeking to introduce long-term fixed-rate mortgages. The advantage of this to FTBs would be that, with blunt affordability tests and LTI limits out of the way, they could potentially borrow a higher LTI multiple. This might be particularly valuable and popular in the current low interest-rate environment.

The Bank of England's financial policy committee could assist moves in this direction by setting a higher LTI cap for long-term fixed-rate mortgages (justified on the basis that there is no risk that mortgage repayments would increase). And the Financial Conduct Authority could assuage banks' fears that they will be accused of mis-selling if they offer to lend more to FTBs on a longer-term fixed-rate basis (at present, most mainstream lenders do not use the alternative affordability test for longer-term fixed-rate mortgages).

But it would also require banks' funding models to change: mortgages would need to be securitised rather than financed from short-term deposits. Insurance companies might be interested in purchasing such long-term, fixed-rate mortgages and taking on the attendant prepayment risk. [55] The credit risk could remain with the mortgage issuers, as in Denmark, or be insured by a state-backed insurer. The US GSEs would be another model to follow.

That said, there are also arguments against any of these changes. If better risk management lowered interest rates for everyone, as the GSEs are thought to do in the US, [56] it could simply increase leverage and house prices across the board. On the other hand, it seems likely that the benefits would be concentrated among those with small deposits. In any case we would expect house prices to be anchored in the economic value placed on the services they produce as measured by their associated rent. Consequently, easing lending for FTBs would at least in part involve the redirection of credit away from other borrowers.

The choice of which of these directions to go in fundamentally comes down to the diagnosis of the problems that are holding down home ownership in the UK. If the main problem is that high-LTV mortgages are too expensive because FTBs are seen as too great a credit risk, that points towards the need for mortgage insurance. Mortgage insurance directly addresses the credit-risk problem and helps to make high-LTV mortgages accessible to those who need them the most. A state-run mortgage insurer would be one way of achieving this, but other countries such as Australia have shown that other models are possible.

Alternatively, if the problem is that LTI restrictions arising from stress tests are the most important limiting factor for FTBs, moves to encourage long-term fixed-rate mortgages should be the focus. In practice, of course, each of these barriers will apply to would-be buyers depending upon their circumstances. If both are important then policy may need to tackle both sources of risk.

Finally, if our goal is to create a more supportive institutional architecture for home ownership, it is important to look ahead to how different sources of risk might evolve rather than “fighting the last war”. Credit risk has loomed large in the experience of the past 13 years. Meanwhile, 30 years of falling interest rates have muted the importance of interest-rate risk: buyers have tended to experience steadily falling rates making their debt-service costs increasingly bearable.

This could lead us to conclude that interest-rate risk is not the primary concern. But with interest rates now at unprecedented lows, it would be prudent to think that interest-rate risk is more likely to be a feature of the next 30 years than it has been of the past. Even if LTI constraints are not currently the main barrier facing potential FTBs, expanding the availability of long-term fixed-rate mortgages may be an important measure to stabilise home ownership and safeguard financial stability in the years ahead.

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