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Financing first home ownership: modelling policy impacts at market and individual levels

From the AHURI Inquiry: Inquiry into financing first home ownership: opportunities and challenges

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Inquiry into financing first home ownership: opportunities and challenges

https://www.ahuri.edu.au/research-in-progress/Inquiry-into-financing-first-home-ownership-opportunities-and-challenges

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Executive summary

Key points

- This report evaluates the effectiveness and implications of policy settings that influence the availability of finance for Australians purchasing their first home.
- Modelling indicates that the decline in interest rates accounts for one-third of the rise in house prices over the last 25 years.
- As interest rates fall, the increase in house prices reduces the home ownership rate despite lower borrowing costs.
- While tighter credit conditions reduce the build-up in mortgage debt, this results in lower home ownership rates for young households as they cannot easily build the deposit required for home purchase.
- Among aspiring first home buyers, only 11 per cent do not face borrowing constraints. Approximately 84 per cent of first home buyers face a downpayment constraint and 71 per cent face a repayment constraint.
- Microsimulation suggests that 16 per cent of first home buyers would be eligible to access a mortgage guarantee scheme modelled after the Federal government’s Home Guarantee, while 31 per cent would be eligible to access a shared equity scheme modelled after the Federal Government’s Help to Buy scheme.
- Of those aspiring first home buyers simulated to be eligible for these programs, 22 per cent would be assisted into home ownership by the mortgage guarantee scheme, and 41 per cent would be assisted by the shared equity scheme.
- The application of lower income thresholds under the shared equity scheme results in expanded access by more financially disadvantaged Australians than the mortgage guarantee.

Key findings

Housing finance conditions, the housing market and first home ownership – a macro level analysis

In Australia, real interest rates have fallen by more than five percentage points over the last three decades. At the same time, real house prices have more than doubled. The home ownership rate has also fallen from over 70 per cent to 66 per cent in recent years.[1]

We conduct two experiments to examine the relationship between housing finance conditions and first home ownership. First, we simulate the housing market's response to a shock that decreases the interest rate in the economy. Second, we simulate the market's response to variations in borrowing standards akin to changes in prudential regulations. Those borrowing standards allow households to borrow more or less against the value of their homes.

When interest rates decline, the cost of financing housing declines. The opportunity cost of investing in housing also declines due to the reduction in interest that can be earned in savings accounts. Thus, the demand for housing increases, which tends to lead to increases in house prices. Our model predicts that house prices rise by 33 per cent when interest rates decline by the magnitude observed between 1994 and 2017. The actual rise in house prices was 109 per cent, suggesting that the decline in interest rates is associated with approximately one-third of the rise in house prices over the last 25 years.

When interest rates fall, the increase in house prices significantly reduces home ownership for all age groups. Much of the response to changes in interest rates arises from greater housing demand among those who would be home owners anyway, rather than due to large increases in the home ownership rate itself. Despite lower borrowing costs, aspiring first home buyers find it difficult to save for a deposit quickly enough to enter home ownership earlier than they would have in a high interest rate environment. The modelling indicates that the major barrier to home ownership for most households remains the challenge of raising the funds to satisfy the downpayment constraint.

We also re-run our model with the fall in interest rates from 1994 to 2017, but at the same time we consider the effect of tighter and looser borrowing constraints by shifting the maximum Loan-To-Value (LTV) on mortgages. In one simulation, the maximum LTV ratio is decreased from 85 per cent to 60 per cent. An alternative scenario considers the implications of loosening borrowing constraints by increasing the maximum LTV from 85 per cent to 100 per cent. These experiments highlight how preventing or encouraging more borrowing would have helped households with housing affordability as interest rates fell over the last 25 years.

Our results show that with tighter LTV constraints, house prices would have increased by a smaller amount. Looser LTV constraints would have seen house prices increase by more. Consequently, home ownership rates would have fallen by more if LTV constraints were tighter, and would have fallen by less if LTV constraints were looser. Young households are most affected by these changes as they are extremely sensitive to borrowing conditions.

Taken together, the results suggest that while tighter credit conditions would have prevented some of the build-up in mortgage debt and costs for borrowers, this would have come at the cost of lower home ownership rates for young households. This is because young households cannot easily build the deposit required to make a downpayment on a house and raising the required deposit size puts home ownership further out of reach.

1 ABS Survey of Income and Housing, 2017-2018.

First home buyer assistance schemes and first home ownership – a micro level analysis

We estimate that among aspiring first home buyers only 11 per cent would be able to become home owners as they can overcome both downpayment and repayment constraints. On the other hand, for two-thirds of aspiring first home buyers, both constraints are binding. The downpayment constraint is the greater hurdle, with 84 per cent of aspiring first home buyers failing to meet this requirement. Repayment constraints are also significant, faced by 71 per cent of first home buyers

We measure the extent to which first home buyer assistance schemes influence prospects for achieving home ownership by altering the housing finance conditions faced by first home buyers.

We simulate two programs. The first is a mortgage guarantee scheme designed to alleviate the downpayment constraint (but not the repayment constraint), modelled after the Federal Home Guarantee scheme for first home buyers. The second is a shared equity scheme that addresses both forms of constraints, modelled after the Federal Help to Buy (HTB) program. Both schemes are subject to the same property caps, but the shared equity scheme applies stricter income limits than the mortgage guarantee scheme. The mortgage guarantee scheme is accessible by those who have deposit savings of at least 5 per cent but not exceeding 20 per cent. The shared equity scheme is accessible by those who have deposit savings of at least 2 per cent.

Of the 1.6 million rental income units that are aspiring first home buyers, we find that 266,500 income units or 16 per cent are classified as eligible under the mortgage guarantee scheme, while 496,800 or 31 per cent are classified as eligible for the shared equity scheme. Thus, the shared equity scheme is accessible by a larger segment of the population than the mortgage guarantee scheme.

Those who are eligible for both schemes are, on average, younger and healthier than those who are ineligible. Eligible first home buyers average 30 years of age and a 6 per cent incidence of a long-term health condition or disability compared to nine to 13 per cent among the ineligible groups. However, couples (as compared to singles) are more likely to be eligible for the mortgage guarantee than the shared equity scheme. Despite there being no upper limit to the deposit savings range for the shared equity scheme, the application of lower income thresholds results in expanded access for more disadvantaged Australians under the shared equity scheme than the mortgage guarantee scheme. Specifically, income units eligible for the shared equity scheme report lower incomes and have lower levels of educational qualifications as well as lower rates of labour force participation.

Twenty two per cent of eligible aspiring first home buyers are assisted into home ownership by the mortgage guarantee scheme, and 41 per cent are assisted by the shared equity scheme. This is because the shared equity scheme is designed to reduce both the downpayment and repayment constraints. While the mortgage guarantee scheme is highly effective in overcoming the downpayment hurdle for those who are downpayment constrained, it is not designed to address the repayment hurdle.

Policy development options

The case for (and against) looser restrictions on mortgage borrowing

Our findings suggest that looser restrictions on mortgage borrowing may help to offset the access difficulty that first home buyers face in a low interest rate—high house price environment. The expansion of mortgage borrowing does not excessively increase total housing demand, and the resulting increase in house prices does not offset the ability of young households to purchase houses with larger mortgages.

The policy implication from our findings is at odds with much of the recent discussion of counter-cyclical mortgage macro-prudential policies (e.g. APRA 2021). This is because we do not account for the higher risks associated with an increase in mortgage borrowing. Hence, policies seeking to loosen restrictions on mortgage borrowing will need to assess the policy trade-off between housing affordability and financial stability in low interest rate environments. At the same time, there is a need to explore the risks of mortgage distress and default associated with increases in mortgage borrowing.

The design of first home buyer assistance schemes

Australian governments have favoured demand-side assistance schemes to help households overcome downpayment constraints through grants, concessions, loans, guarantees and equity instruments.

Based on our simulations of a mortgage guarantee scheme and shared equity scheme, we find that the downpayment constraint is binding for a higher proportion of aspiring first home buyers than the repayment constraint. Nonetheless, a shared equity scheme may be accessible to larger numbers of constrained aspiring first home buyers because it is designed to address both the downpayment and repayment hurdles. In comparison, the mortgage guarantee scheme only assists the downpayment constrained, and is not designed to address the repayment hurdle.

Targeting additionality

A common criticism of many landmark first home buyer policies in Australia is that they simply bring forward the decision to purchase and/or allow the purchase of a higher priced dwelling for those already on track to enter the market. These policies may then simply raise prices for residential properties, at the detriment of future first home buyers.

We show that the design of a scheme targeted at low-income earners may be more effective in providing 'additionality' than a mortgage guarantee scheme. Our simulations show that the shared equity scheme is more accessible by low-income earners than the mortgage guarantee scheme. This is largely attributable to the stricter income limits under the former scheme of $90,000 for singles, and $120,000 for couples. In comparison, the latter scheme has higher income limits of $125,000 for singles, and $200,000 for couples.

The importance of supply in entry markets

We show that a range of demand-side government measures including a decline in interest rates, relaxation of borrowing standards, and first home buyer assistance schemes all boost demand for housing in entry markets. This has to be matched by an adequate supply of new housing to offset upward price pressures generated by the additional demand in these markets.

Guarding against post-purchase unintended consequences for low-income first home buyers

Policy makers need to guard against unintended consequences when implementing policies that boost demand among low-income aspiring first home buyers. For instance, eligible home buyers under both the mortgage guarantee and share equity schemes modelled have more precarious employment than those not eligible for the schemes. Also, while looser restrictions on mortgage borrowing may help to offset the access difficulty that first home buyers face in a low interest rate—high house price environment, there may be higher risks associated with an increase in mortgage borrowing post-purchase, especially when interest rates rise. This raises some potential concerns regarding low-income first home buyers' exposure to repayment risks after accessing home ownership, especially in an era of rising interest rates. Unintended consequences such as mortgage distress and mortgage default may be highly detrimental to the wellbeing of low-income households.

The study

This study is part of an AHURI Inquiry program entitled *Inquiry into Financing First Home ownership: Opportunities and Challenges*. It addresses the fourth research question of the inquiry:

> How might entry into home ownership evolve in response to specific policy settings and what are the implications of this for housing markets and the broader economy?

The study addresses some important concerns around policies financing first home ownership in Australia. In recent years, falling real interest rates have reduced the cost of servicing a mortgage. However, while borrowing costs have fallen, house prices have risen and mortgage terms have tightened since the Global Financial Crisis (GFC), exacerbating the deposit gap problem facing first home buyers. Growing numbers have been forced to delay transitions into first home ownership or become highly leveraged to purchase their first home. Over many years Australian governments have provided a range of programs to improve first home buyer access to finance, in particular demand-side schemes. However, the current range of first home buyer programs has been subject to criticism. A primary concern is a lack of targeting that might merely bring forward purchases by those who would have been able to achieve first home ownership without assistance. There are also concerns that these demand-side schemes may risk causing unsustainable house price inflation in entry markets, especially if the majority of first home buyers purchase towards the bottom end of the price distribution.

Against the backdrop of these policy concerns, this report will contribute to the Inquiry program by addressing the following three aims:

1. Examine how changes in mortgage finance conditions affect housing market shifts, and resulting impacts on the market-based affordability of home ownership for first home buyers. We model two 'macro' simulations at the market level that reflect different housing finance conditions, and examine impacts on market-wide housing demand.
2. Assess the extent to which first home buyer assistance programs enhance prospects for achieving first home ownership and the distributional effects of such programs. We model two 'micro' simulations at the household level that reflect different housing finance conditions, and examine distributional outcomes.
3. Draw out the implications of the project findings for possible reforms to first home buyer assistance policies in Australia.

Our primary research approach is simulation modelling. Simulation modelling provides an important and unique tool to model a range of scenarios and predict outcomes under these scenarios. We deploy simulation modelling at both 'macro' (or market) level and the 'micro' (or income unit) level using nationally representative datasets.

The macro-simulation model relies on a combination of datasets, including the Australian Bureau of Statistics (ABS) Surveys of Income and Housing, Reserve Bank of Australia (RBA) interest rates and inflation rates, and the CoreLogic hedonic price index. The base model is calibrated to 1994, when the real interest rate on savings accounts was 4.48 per cent and the interest rate on mortgage loans was 6.81 per cent. In 2017, these interest rates were 0.29 per cent for savings accounts, and 1.89 per cent for mortgage loans. We assume these low interest rates persist into the foreseeable future. The micro-simulation model draws on the 2018 Household, Income and Labour Dynamics in Australia (HILDA) Survey. It captures the taxes, benefits and housing assistance programs affecting owners' after-tax economic costs of owning housing versus renters' costs of renting in 2018.

Our study captures both macro and micro level effects of policies affecting first home ownership. Hence, it offers an extensive and nuanced evidence-base at individual and market levels to support the design of subsidies and schemes that promote first home purchase. As with economic models in general, our simulation models are highly stylised versions of the Australian housing system, so policy implications from the models are subject to the assumptions underlying the models. However, the modelling at both micro and macro levels offer a more comprehensive analysis than past studies that have not adopted a whole-of-market approach.

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