



EXECUTIVE SUMMARY

Housing prices, household debt and household consumption

Inquiry into housing policies, labour force participation
and economic growth

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Marilyn Chilvers	Department of Family and Community Services, NSW Government
Michael Fusarelli	Department of Family and Community Services, NSW Government
Shane Garrett	Housing Industry Association Ltd
Michael Lennon	Housing Choices Australia
Paul McBride	Department of Social Services, Australian Government
Marty Robinson	Treasury, Australian Government
Iain Scott	Department of Social Services, Australian Government

Executive summary

Key points

- This research finds a positive relationship between changes in house values or housing wealth, and, consumption expenditure. The increase in consumption is more pronounced for middle aged home owners compared to households that belong to younger or older cohorts.
 - Prior to the Global Financial Crisis (GFC), an increase in house values of \$100,000 was associated within an average increase in consumption between \$1,000 (for old aged households) to \$1,700 per annum (middle aged households).
 - The relationship between housing prices or house values and consumption was moderated by the GFC: after the GFC, house price rises were associated with increased consumption for old and middle-aged households of approximately \$600 to \$1,600 per annum respectively.
 - Prior to the GFC, house price changes were associated with large increases in consumption for home owners who initially borrowed a larger fraction of the property price (or have a higher 'loan to value' (LTV) ratio). By 2009 (after the GFC), this effect did not hold, suggesting that households with higher LTV ratios have become more conservative in their response to a change in house prices.
 - This change in behaviour is not apparent for rental investors. In 2003, home owners with a rental investment property had a larger consumption response to an increase in house prices (\$2,400 average annual consumption increase for a \$100,000 increase in house prices) relative to home owners who do not have an investment property (\$1,700). This differential was larger again in 2009 (\$2,800 compared to \$1,500). Since the GFC, the evidence suggests that home owners who are not investors have moderated their consumption behaviour while home owning investors have increased their consumption.
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Key findings

The analysis in this report was motivated by the observed relationship between housing prices or housing wealth, and the consumption expenditure of households. Previous studies for Australia and other countries had identified a strong positive correlation at the aggregate level between housing wealth and household consumption. Analysis of household level microdata confirmed this pattern, while highlighting important differences in behaviour across young, middle-aged and older households. While differences in the magnitude of consumption changes across households provide important insights into the underlying causal relationships driving the behavioural outcomes, it was not clear if and how such relationships had been affected by the economic events beginning in 2007. The analysis in this paper compares the behaviour of household's pre-and post-GFC.

Key findings from the analysis can be summarised as follows:

There is a strong relationship between house price changes and household consumption for old and middle-aged households.

The empirical analysis indicates that the relationship between housing prices and therefore housing wealth, and household consumption, was weaker following the GFC. Moreover it remained the case that there were important differences in the behaviour of households of different ages:

- *Pre-GFC*: a \$100,000 AUD (2002 AUD) increase in house value is associated with a \$34 increase in total household consumption for middle-aged households (aged between 40 and 60 years) and \$18 increase for old-aged households (aged over 60 years) per week. This corresponds to an increase in consumption expenditure of approximately \$1,000 to \$1,700 per annum for old and middle-aged households.
- *Post-GFC*: the effect of changes in house prices has a statistically significant but slightly lower impact on the consumption of old and middle-aged households of approximately \$600 to \$1,600 per annum. For older households the estimate is no longer statistically significant.
- The estimated consumption response to the increases in housing wealth was greatest for middle-aged home owners compared with those in other age cohorts.

The orders of magnitude of these results are robust to the different house price and housing wealth measures used in the analysis.

The findings from the analysis are consistent with the hypothesis that the increases in housing prices affect household consumption through the relaxation of a credit or collateral constraint that enables households to increase their borrowing in order to finance consumption.

The analysis of microdata or household level data allows inferences to be drawn about the underlying causal mechanism that links housing wealth and household consumption. By comparing younger and older households, and those households that are owner-occupiers with those that rent, it is possible to identify the mechanism via which a change in house prices affects household consumption. The empirical analysis indicates that:

- *Pre-GFC*: House price changes are associated with larger increases in consumption for home owners who initially borrow a larger fraction of the property price or have a higher 'Loan to Value' (LTV) ratio.
- *Post-GFC*: In 2009, the pre-GFC relationship no longer holds and the empirical evidence suggests that the consumption response is unaffected by the household LTV ratio.
- Overall the results suggest that, since the GFC, households with high LTVs have become more conservative and they may no longer be increasing their debt to increase consumption in response to an increase in house prices.

House price movements have had little impact on the pre- and post-GFC consumption responses of owner-occupiers who are not rental investors. They have, however, had clear impacts on the consumption responses of owner-occupiers who are rental investors. Pre- and post-GFC responses for rental investors vary significantly depending on whether or not these investors had mortgage debt on their rental property.

In general, existing analysis of household responses to changes in house prices has not considered the behaviour of rental property investors. The rich microdata analysed in this study allows those households with rental investment properties to be identified separately and their behaviours to be analysed. The empirical analysis indicates that:

- In 2003, owner-occupiers with rental investment properties had a more pronounced consumption response to an increase in house prices relative to other households. On average, investors increased their consumption by approximately \$2,500 per annum for each \$100,000 increase in house prices compared with \$1,700 for owner-occupiers who did not own an investment property.
- The difference between investor and not-investor home owners in 2009 was larger than that in 2003, having increased to approximately \$2,800 for investors compared with a marginally lower \$1,600 per annum for non-investors.
- Following the GFC, however, investors with no debt became more conservative, reducing their consumption response from around \$3,000 to approximately \$2,600 per annum. Investors with mortgage debt, however, became far more responsive. Their consumption response to a \$100,000 increase in housing wealth rose from \$1,700 per annum to almost \$2,900 per annum.
- The results for investors with and without debt prior to and following the GFC suggest an amplified role of the collateral channel for investors. That is, the relaxation of credit constraints for investors appears to be an important determinant of how responsive such households are to a change in house prices.

Policy development options

Increases in house prices can have material impacts on the perception of wealth of a home owning household, and this can have downstream effects on consumption and therefore economic growth. The evidence from this report suggests that a key factor in explaining the links between house price movements and consumption is that of household credit constraints. House price increases serve to increase the amount of equity a household perceives they have in their house and this reduces the constraint on borrowing more to finance consumption. The research also showed that the GFC had an impact on moderating this relationship: it shows that the GFC reduced the impact of credit constraint as households became more conservative in their willingness to borrow more to finance consumption. This impact differs considerably across different household types. This suggests that policy needs to be sensitive to the overall housing portfolio of would-be-borrowers. Since the GFC, households borrowing to finance a home solely to meet their own housing needs are less likely to withdraw their equity to finance consumption. On the other hand, the consumption behaviour of households borrowing to expand their housing portfolios beyond their own home have the potential to have a greater impact on the macroeconomy in response to wealth shocks because of their greater responsiveness to these shocks.

The implications for policy can be separated into two broad areas. The first concerns monetary policy while the second focuses on prudential regulation of the financial system. Traditionally, monetary policy and in particular the setting of interest rates has been seen as a key mechanism via which macroeconomic outcomes can be achieved. Over the past two decades the primary focus of monetary policy has been the targeting of inflation as this is seen as conducive to sustained economic growth over the long term. While the GFC has refocused attention on the role of monetary policy in achieving a target rate of inflation, it is unlikely that monetary policy per se could be expected to be focussed on the relationships considered in this report. Rather, monetary policy settings have responded to a range of economic considerations of which house prices and their impact on the macroeconomy is simply one factor.

Our findings are relevant for policy-makers considering macro-economic stability in Australia and the important role played by prudential regulation of the financial system. The take-up of further mortgage debt among highly leveraged households through the 'collateralisation effect' exposes those households to the risk of significant losses if house prices fall or if interest rates

increase. This, in turn, may pose a systemic risk for the macroeconomy. This is in contrast to the relatively sanguine view among macroeconomic policy-makers around high levels of debt and the rising household debt to income ratio in Australia because of a broad consensus that debt has been held primarily by those most able to service it: namely higher income and higher wealth households. Macroeconomic policy-makers should acknowledge the potential risks associated with high levels of household debt and rising household income-to-debt ratios. Despite the large benefits of having a flexible mortgage system that allows households to borrow against their housing equity, this highlights a potential cost of such a system. In a number of countries with similar situations, regulations have been implemented to limit the growth of household indebtedness and the need to ensure robust prudential regulation remains an important policy priority.

The study

This project examines the contemporary effects of house prices and house-price-induced increases in debt on general consumption spending in Australia, focusing specifically on how their links may have been affected by the GFC. As a result, this project provides some insight into whether or not more nuanced monetary policies that focus on different households and lending practices might be warranted.

There is broad agreement in the literature on the existence of a positive correlation between housing prices and household consumption (see Yates and Whelan 2009). Nonetheless, empirical estimates of its magnitude vary and generally the analysis has been restricted to periods where housing prices have increased steadily. The relationship between household debt and consumption has had less attention paid to it and the question of how house prices, mortgage debt and household consumption are linked remains unresolved. Past research has shown that understanding this link requires consideration of disaggregated data to supplement results obtained from aggregate data. This project provides such consideration.

The Australian experience is an important one to consider. After several years of strong growth, house prices and new housing finance commitments fell following the GFC. They have since both recovered to the point that house prices and outstanding housing debt are now in excess of their pre-GFC peaks. The consequences of these changes, particularly for consumer spending, are unresolved. The Australian experience, like that for other countries, poses a number of questions.

- Has consumption behaviour been affected by the GFC, and if so, to what extent?
- What has been the consumption response of households across population groups to house prices movements following the GFC?
- Do the responses by households differ from their pre-GFC behaviours, and if so, why?

For each of these questions, a better understanding of the factors that drive household consumption, and especially of the role of housing and housing debt, is required. Such analysis is important as an input into Australian macroeconomic policy-making, and is a useful complement to AHURI project 60360 (Yates and Whelan 2009). This report extends the analysis in Yates and Whelan (2009) to cover the period in which the Australian (and world) economy experienced a significant macroeconomic shock in the form of the GFC. Significantly, this period is in contrast to those used by studies for the United Kingdom (Attanasio, Blow et al. 2009; Campbell and Cocco 2007) and Yates and Whelan (2009) in which the observation periods were dominated by prolonged increases in house prices.

To provide some insights into these issues, this project addresses the following inquiry research question:

- *How have house prices and house-price-induced increases in debt affected consumption spending in Australia since the GFC, and what are the implications for economic and financial stability?*

Five supporting research questions are considered in this report:

- 1 *What is the existing evidence of a causal link between house prices and consumer spending?*
- 2 *Have previously established links between house prices and consumer spending in Australia been affected by the GFC?*
- 3 *What is the role of debt in the house price and consumption relation?*
- 4 *How has the consumption response of households in different population groups to changes in housing prices and housing debt been affected by the GFC?*
- 5 *What are the implications of these relationships for the economic performance of Australia?*

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