

Housing Affordability Scenarios

June Quarter, 2022 Housing Affordability in 12 months

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Summary

We ran three simulations projecting forward over the next twelve months. Simulation 1 held interest rates steady and increased prices in line with CoreLogic projections. Simulation 2 held prices steady and increased interest rates by 100 basis points. Simulation 3 combined the previous two simulations and increased both prices and interest rates.

The results show that Australia's housing under all simulations will be at 28-year highs of unaffordability in Sydney and Melbourne, and under at least one of the simulations, in Canberra and Hobart as well. Brisbane and Adelaide will be moderately unaffordable, while Perth and Darwin have only a small degree of unaffordability under all simulations.

Previous peaks of unaffordability have been overcome primarily by decreases in interest rates and by growth in incomes (effectively a proxy for growth in per capita GDP). The growth in house prices has proceeded almost unimpeded, mostly in line with the decrease in interest rates (which explain 68% of house prices). With interest rates at record lows, the next increase in affordability can come from only two areas – growth in wages, or house price falls. These can only occur through increased productivity, or inflation.

With reserve bank and market activity pointing towards higher interest rates, unaffordability is likely to increase in the short term. As wage increases are not currently reflecting an expectation of increased inflation it would seem the only thing that would cure it would be a fall in house prices. They would need to fall substantially more than they have at any time in the last 27 years where the average weighted sale price of the Australian home has risen 575% in nominal terms.

This suggests two possibilities.

If interest rates remain where they currently are, then house prices will moderate until there is a significant increase in wages due to productivity.

Alternatively there will be inflation, and interest rates will rise to meet it, and house prices in nominal terms will be decided by inflation, but will decline in real terms in the short to medium term.

It also suggests that moves by regulators to tame the housing market are unnecessary.

Simulation 1 – price increases only

- Sydney and Melbourne experience the highest levels of unaffordability in 28 years, based on mortgage payments. Canberra and Hobart are close to records for that period.
- Perth, Darwin, Brisbane and Adelaide are moderately unaffordable on the basis of repayments, but less than previous peaks.
- Deposits are the least affordable for 28 years in all cities bar Perth and Darwin.

Simulation 2 - interest rate increases only

- Results for repayments are almost exactly the same as the projected price rises.
- Deposits are marginally more affordable. This is because the model incorporates wage increases in line with ABS estimates, and house prices have been kept at current levels.

Simulation 3 – price and interest rate increases combined

• Sydney, Melbourne, Canberra and Hobart are extremely unaffordable in relative terms. Brisbane and Adelaide are substantially unaffordable, and Perth and Darwin moderately so.

Repayment Index								
	Highest previous peak	Year	Scenario 1	Scenario 2	Scenario 3			
Australia	172.7	2008	152.56	151.96	168.59			
Sydney	140.2	2017	151.1	151.1	166.9			
Melbourne	164.9	2008	169.7	170.7	187.6			
Brisbane	175.2	2008	131.9	129.4	145.7			
Perth	201.3	2007	113	112.1	124.9			
Adelaide	194.8	2008	144.8	143.3	160			
Hobart	201.9	2008	197.4	189.8	218.1			
Canberra	177.5	2008	168	167.6	185.7			
Darwin	178.9	2008	115	111.7	127.1			

Deposit Index								
	Highest previous peak	Year	Scenario 1	Scenario 2	Scenario 3			
Australia	182.05	2017	202.02	182.08	202.02			
Sydney	184.7	2017	199.3	180.4	199.3			
Melbourne	199.2	2017	224	203.9	224			
Brisbane	153.5	2010	176.2	156.4	176.2			
Perth	204.5	2006	150.2	134.8	150.2			
Adelaide	179.2	2010	192.2	172.2	192.2			
Hobart	185	2009	264	229.7	264			
Canberra	158.5	2010	222.9	201.3	222.9			
Darwin	183.7	2009	154.4	135.7	154.4			

We measure our repayment affordability index using median house prices and calculating the ratio of repayments to average weekly earnings and expressing it as a percentage of the average for the first 10 years of the time series. We measure our deposit affordability index by calculating the ratio of an average 20% deposit to average weekly earnings and expressing it as a percentage of the average figure for the first 10 years of the time series. National figures are based on using a weighted average of the 8 most populous cities in Australia, weighted by the number of established housing transfers in each city for each quarter. The projections assumed that the weighting of capital city markets was the same for each quarter in the projected year as in the last year of the actuals.

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Interest rates and house prices to date

In the fourth quarter of 1994, when the ABS statistics start, the interest rate used by our model was 9.63% (the model simulates lending rates by taking the RBA cash rate and adding 2% to it). This then peaks in the next quarter at 10.56%. Rates then fall before rising to a peak of 8.07% in Q4 2000 and then9.53% in Q3 2008. They then dip to 5.78% over the next 12 months as a result of the GFC, before rebounding to 7.79% by the second quarter of 2011 and then gradually decline to 4.52% at present. These fluctuations can be seen in the affordability data for all the capital cities. Their effect on house prices is less obvious. We hypothesise this is because the interest rate movements were so quick both up and down that an illiquid market like housing would not respond as quickly, and prices would be bolstered by new buyers at the lower interest rates.

There is a correlation between interest rates and house prices of -0.68, meaning that 68% of the movement in house prices is explained by the interest rates. The balance of factors controlling should be: increased capacity to pay, as well as supply, inflation and taxation issues.



Repayment affordability and house prices to date

The relationship between our repayments affordability index, which looks at servicing costs alone, and house prices, is not quite as strong as that of interest rates, but it still explains 63% of house price rises. While the average weighted house in Australia has risen 575% over the 27 years, affordability has only deteriorated by 27% on what it was in 1994, and 40% on the average for the decade from 1994 to 2004.



Commentary

The basis for this report is testing the effect of possible house price and interest rate rises on housing affordability, and what this might say about the future direction of housing prices. While there is a strong correlation between house prices and interest rates of 68%, the relationship between affordability and house prices is not much different at 63%.

That interest rates tend to predict the direction of house prices, which can be seen most clearly during the Global Financial Crisis, makes sense because a house is not just shelter, but an investment. So as an investment it can be valued on the sum of its future cashflows, applying an appropriate discount rate. The lower the interest rates, the lower the discount, and the higher the valuation.

Home ownership is also discretionary, because there is always the alternative of renting. For the purchase of a house to be attractive, repayments plus capital gains need to be higher after tax, than the after-tax cost of renting plus the benefit from the cash difference between renting and owning.

Residential property in this category is a form of investment, so will also need to compete against other forms of investment, all of which are valued using discounted cashflows. Which means rents will approximate to investment returns, which again will impact on housing affordability and the propensity to buy rather than rent.

Affordability also puts a cap on the ability to borrow. Even if the borrower is prepared to take the risk, the bank may not, providing another cap on rising unaffordability.

Almost anyone who has bought a house to live in will know that the first question almost all of us ask is not what price we want to pay, but "How much can I borrow?", and "What is the cost of servicing that debt?". That then determines where you choose to live, and what you choose to buy.

So it makes sense that affordability should determine turning points in the market.

If that is the case, what our model suggests is that the residential real estate market is at, or close to, a top.

This is not the same in all markets with Perth, Darwin, Brisbane and Adelaide still having the possibility for further growth in valuations.

It also suggests that the market will probably decline, whether or not interest rates rise, but that if rates do rise along with values, it will cause significant pain in the four most unaffordable capitals.

Our model projects forward to mid-2022.

Graphs Deposit and Repayment Costs

Australia







Sydney







Housing Deposit and Repayment Indexes - Sydney (1994-2004 baseline = 100)

Melbourne





Housing Deposit and Repayment Indexes - Melbourne (1994-2004 baseline = 100)



Housing Deposit and Repayment Indexes - Melbourne (1994-2004 baseline = 100)

Brisbane





Housing Deposit and Repayment Indexes - Brisbane (1994-2004 baseline = 100)

Perth

Adelaide

Housing Deposit and Repayment Indexes - Adelaide (1994-2004 baseline =

Housing Deposit and Repayment Indexes - Adelaide (1994-2004 baseline = 100)

Hobart

CoreLogic House Price Projections

Housing Deposit and Repayment Indexes - Hobart (1994-2004 baseline = 100)

Housing Deposit and Repayment Indexes - Hobart (1994-2004 baseline = 100)

Canberra

Housing Deposit and Repayment Indexes - Canberra (1994-2004 baseline =

Housing Deposit and Repayment Indexes - Canberra (1994-2004 baseline =

Darwin

Housing Deposit and Repayment Indexes - Darwin (1994-2004 baseline =

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Methodology

Since the majority of Australian's rely on a mixture of debt and equity to purchase real estate, it is necessary to analyse housing affordability based on the cost of deposits and repayments. To reflect the real experience of home buyers, rather than just the increase in capital values, we model the cost of notional deposits and house repayments between Q4:1994 and Q2:2021 across Australia's eight most populous cities.

For the mortgage structure, we assume a 20% home deposit as well as monthly payments and daily compounding over a 25-year mortgage period. We calculate the average owner-occupier home loan rate over a given quarter, providing us with an estimate for the mortgage rate over the following 25-year loan period. In addition to using the median residential price for a given capital city, we also use average weekly earnings reported on the state level.

To calculate the repayment multiplier, we take the total yearly payment for a principal interest loan divided by the average weekly earnings for a given city and quarter. To calculate the deposit multiplier, we instead divide the cost of a deposit by average weekly earnings. Using the deposit/repayment weekly multiplier values, we use a city's average deposit/repayment weekly multiplier over the period Q4:1994 to Q4:2004 as the baseline for that city's index (with the baseline indexed to 100). Using the deposit/repayment weekly multiplier values, we use a city's average deposit/repayment weekly multiplier over the period Q4:1994 to Q4:2004 as the baseline for that city's index (with the baseline indexed to 100). Using the deposit/repayment weekly multiplier values, we use a city's average deposit/repayment weekly multiplier over the period Q4:1994 to Q4:2004 as the baseline for that city's index (with the baseline indexed to 100).

We use the number of housing transfers for Australia's 8 most populous cities in order to create a weighted national average for the relevant statistics (i.e. average weekly wage, median house prices) included in this paper. Note that due to the limited housing data available, we take the national average to be the simple average of the for the years prior to Q1:2002.

The datasets used within this model include: ABS 6302 Average Weekly Earnings, ABS 6412 Residential Property Prices Indexes for post-2002 median capital city house prices, table 1 of Abelson 2003 for pre-2002 median house prices, and RBA F5 Indicator Lending Rates for owner-occupier variable standard housing loan rates – taking the average rate over the months in a given quarter.

References

- 1. Abelson, Peter; Chung, Demi. (2004). *Housing Prices in Australia: 1970 to 2003*. Published by The University of Sydney. Obtained via: <u>https://www.researchgate.net/publication/5165791_Housing_Prices_in_Australia 1970 to 2003</u>
- 2. ABS 6416. (June 2021 series). *Residential Property Price Indexes: Eight Capital Cities*. Obtained via: <u>https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/residential-property-price-indexes-eight-capital-cities/latest-release - data-download</u>
- 3. ABS 6302. (May 2021 series). Average Weekly Earnings: Australia. Obtained via: <u>https://www.abs.gov.au/statistics/labour/earnings-and-work-hours/average-weekly-earnings-australia/latest-release</u>
- 4. RBA F05. (June 2020 series). *Indicator Lending Rates*. Obtained via: https://www.rba.gov.au/statistics/tables/xls/f05hist.xls