Australian RMBS

Australian Housing Affordability: Steady on a National Basis, But Sydney and Melbourne Deteriorate

Summary

Low mortgage interest rates have helped keep Moody's Australian Housing Affordability Measure steady at the national level over the past year, offsetting the impact of higher residential property prices and relatively flat household incomes. However, the affordability measure deteriorated for Sydney and Melbourne, where dwelling price rises have been more pronounced.

Moody's Australian Housing Affordability Measure calculates the share of income needed, on average, to make monthly mortgage loan repayments. A rise in the affordability measure indicates a deterioration in housing affordability. As of 31 March 2015, Australian households with a home loan needed 27% of their income, on average, to make such repayments, steady when compared with March 2014.

In Sydney however, where dwelling prices have been rising rapidly, households spent on average 35.1% of their income on repayments as of 31 March 2015, higher than the 10-year average for the city and up from 32.8% in March 2014. Affordability also deteriorated in Melbourne, but improved in Perth and Brisbane, while it was steady in Adelaide.

In both Sydney and Melbourne, the deterioration in affordability was driven by higher prices for houses, rather than units. Nationally, the affordability of units improved slightly.

Deteriorating housing affordability in Sydney and Melbourne – Australia's two biggest cities – is credit negative for new mortgage loans from these cities and thus, also for residential mortgage backed securities (RMBS) backed by such loans. This is because less affordable mortgages increase the risk of delinquency and default, particularly if interest rates rise from their current low levels.

Under various stress scenarios that we tested -- including further gains in house prices, rises in interest rates and falls in household income -- Sydney would suffer the biggest deterioration in housing affordability for all of Australia’s capital cities, and is therefore the city which is the most sensitive to any shift in the macroeconomic environment.

The Moody's Australian Housing Affordability Measure is published quarterly as part of our RMBS Indices report.
Housing Affordability Has Deteriorated in Sydney and Melbourne, But Remains Steady on a National Basis

Moody’s Australian Housing Affordability Measure -- which measures the share of income needed, on average, to make monthly mortgage loan repayments - was steady on the national level over the year to 31 March 2015. However, the measure deteriorated for Sydney and Melbourne, Australia’s two biggest cities.

Nationally, Australian households with two income earners needed, on average, 27% of household income to make mortgage loan repayments as of 31 March 2015, unchanged from March 2014 (Exhibit 1). At the national level, low mortgage interest rates -- after the Reserve Bank of Australia’s (RBA) cut the official cash rate by 25 basis points to a record low 2.25% in February 2015 -- helped to offset rising house prices and relatively flat income levels.

In Sydney, however, Moody’s Australian Housing Affordability Measure deteriorated to 35.1% as of 31 March 2015, from 32.8% in March 2014. Median dwelling prices in Sydney rose 11.7% over the year to 31 March 2015 (Exhibit 2). The affordability measure for Melbourne also deteriorated, to 28.2% as of 31 March 2015 from 27.5% in March 2014. A higher affordability measure indicates a higher proportion of household income is needed to make monthly mortgage repayments.

On the other hand, the affordability measure improved significantly over the year in Perth, to 21.9% from 24.6%. Median dwelling prices in Perth - where the economy is exposed to significant declines in prices for key commodities, such as iron ore - declined by 4.8% in the year to 31 March 2015. Affordability also improved in Brisbane, to 23.4% from 24.4%, over the year, while it was steady in Adelaide at 22.1%.

Australia’s national affordability measure of 27% is lower than the 10-year average of 29.6%. Yet, Sydney’s current affordability measure of 35.1% is higher than the city’s 10-year average of 33.6%.

Exhibit 1

Housing Affordability Was Steady on a National Basis, But Deteriorated in Sydney and Melbourne

Source: Reserve Bank of Australia, Australian Bureau of Statistics, RP Data, Moody’s Investors Service
Calculating the Moody’s Australian Housing Affordability Measure separately for houses and units shows that the affordability of houses deteriorated at a faster pace than units in Sydney. Over the year to 31 March 2015, the measure for houses in Sydney deteriorated by 2.8 percentage points, while the measure for units deteriorated by 1.2 percentage points (Exhibit 3).

Sydney had the widest affordability gap between houses and units (9.2 percentage points). It was also the only city where the affordability of units deteriorated over the year. The affordability of units in all other cities either improved or were steady.

Median unit prices in Sydney rose 8.7% in the year to 31 March 2015 compared with the national average of 2.4%. Median unit prices decreased in Melbourne, Brisbane and Perth during the same period.

In Melbourne, the affordability measure for houses deteriorated by 1.3 percentage points, while the affordability measure for units improved by 0.8 percentage points.

The measures for both houses and units improved in Brisbane and Perth. In Brisbane, the affordability of units improved by more than houses. In Perth, the affordability of houses improved by more than units. The measures for houses and units in Adelaide were steady.

On a national basis, the affordability of houses was steady over the year to 31 March 2015, while the affordability of units improved slightly by 0.4 percentage points.
AUSTRALIAN RMBS: AUSTRALIAN HOUSING AFFORDABILITY: STEADY ON A NATIONAL BASIS, BUT SYDNEY AND MELBOURNE DETERIORATE

**Exhibit 3**

**Housing Affordability Trends Vary Between Houses and Units**

![Housing Affordability Trends Graph]

Source: Reserve Bank of Australia, Australian Bureau of Statistics, RP Data, Moody's Investors Service

**Deterioration in Sydney and Melbourne Is Credit Negative for New Mortgage Loans from Those Cities**

The deterioration in housing affordability in Sydney and Melbourne is credit negative for new mortgage loans from these cities and thus for RMBS backed by such loans. Less affordable mortgages increase the risk of delinquency and default, particularly if interest rates rise from their current low levels. Mortgages from Sydney and Melbourne make up 42.3% of the loans in the Australian RMBS portfolio.

The larger loan sizes and repayment obligations of new mortgages in Sydney and Melbourne are especially problematic since these mortgages are being underwritten at historically low interest rates. The Australian average standard variable mortgage interest rate, currently stands at 5.65%, much lower than the 10-year average of 7.18%. Our forecast is for the RBA to cut the official cash rate - a key determinant of mortgage interest rates - by a further 25 basis points to 2% in 2015.

However, borrowers who took out loans at historically low interest rates are at a greater risk of not being able to afford repayments when interest rates eventually rise. By contrast, mortgages underwritten at higher interest rates pose lower risk when interest rates rise, because borrowers’ ability to service these loans has been assessed at higher interest rates.

**Rising House Prices, Low Interest Rates and Flat Incomes Drive Affordability Trends**

Moody’s Australian Housing Affordability Measure is driven by three inputs - median dwelling prices, standard variable mortgage interest rates, and average household income. Exhibit 4 highlights that higher median dwelling prices are having a negative impact on housing affordability, partly offset by lower interest rates. Annual household income growth has been relatively flat.
Over the year to 31 March 2015, Australian median dwelling prices increased by an average of 3.7% nationally, led by Sydney (+11.7%), Adelaide (+5.2%) and Melbourne (+4.7%) (Exhibit 2, above). Median dwelling prices were flat in Brisbane and declined in Perth (-4.8%).

During the same period, average weekly incomes in Australia rose by just 1.3%, and the cities with the largest increases in dwelling prices did not experience the largest rises in incomes. Weekly incomes declined by 0.7% in Melbourne, which contributed to further deterioration in its affordability measure (Exhibit 5).

Exhibit 5
Income Growth Has Been Modest

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<th>Date</th>
<th>Sydney</th>
<th>Melbourne</th>
<th>Brisbane</th>
<th>Perth</th>
<th>Adelaide</th>
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<td>$1,064</td>
<td>$1,080</td>
<td>$1,296</td>
<td>1,038</td>
<td>1,114</td>
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<td>$1,296</td>
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<td>1,346</td>
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</table>

% change year-on-year
1.5% -0.7% 1.5% 3.8% 1.5% 1.3%

As noted above, the Australian average standard variable mortgage interest rate currently stands at 5.65%, which is below the 10-year average of 7.18%. In the current environment, low mortgage interest rates are helping to offset the negative impact of rising residential property prices on housing affordability.

Exhibit 6 below shows how the Moody’s Australian Housing Affordability Measure would look if mortgage interest rates were at the 10-year average of 7.18%, all else being equal. This allows us to analyze the impact of increasing residential property prices on housing affordability under a more normal interest rate environment. Under this scenario, the national affordability measure would be 31.1%, close to the highest level of the last 10 years. The affordability measure for Sydney would be 40.4%, also around the highest level of the last 10 years.
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Exhibit 6
Housing Affordability Measure Would Deteriorate If Mortgage Interest Rates Were at the 10-year Average

Source: Reserve Bank of Australia, Australian Bureau of Statistics, RP Data, Moody’s Investors Service

Stress Testing Shows Sydney Is Most at Risk of Further Deterioration in Housing Affordability
We stress tested the Moody’s Australian Housing Affordability Measure under various scenarios. Sydney is the capital city at most risk of a deterioration in housing affordability under all of the scenarios detailed below.

Scenario 1: Dwelling Prices Increase By 10%
If median dwelling prices increased by 10%, Sydney’s affordability measure would deteriorate by 3.5 percentage points, compared with a deterioration of 2.7 percentage points nationally (Exhibit 7). Melbourne’s affordability measure would deteriorate by 2.8 percentage points, while Brisbane, Perth and Adelaide would deteriorate by 2.2-2.3 percentage points.

Exhibit 7
Housing Affordability Deteriorates If Dwelling Prices Rise by 10%

Source: Reserve Bank of Australia, Australian Bureau of Statistics, RP Data, Moody’s Investors Service

Scenario 2: Interest Rates Change
If mortgage interest rates rose by 100 basis points, Sydney’s affordability measure would rise by 3.5%, which is the same as the impact of a 10% increase in house prices. Nationally, the affordability measure would increase by 2.7 percentage points (Exhibit 8).
If mortgage interest rates declined by 25 basis points in the second quarter of 2015, which is in line with our expectation, the housing affordability measure would improve by 0.6 percentage point on a national basis, all else being equal (Exhibit 9).

If mortgage interest rates declined, house prices would generally be expected to increase. If house prices rose by 2.5%, this would offset the positive impact on housing affordability from a 25 basis point decline in interest rates. Dwelling price increases above 2.5% would start to negatively impact the affordability measure (Exhibit 9).

**Scenario 3: Single Income Household**

Moody's Australian Housing Affordability Measure is calculated assuming a household has two income earners. If the household has only one income earner, Sydney's affordability measure would be above 70%. Using 70% of income to service monthly mortgage repayments is not sustainable. Affordability measures in Brisbane, Perth and Adelaide would be 44%-47%, which is still high, but more manageable than Sydney. The affordability measure in Melbourne would be 56% (Exhibit 10).
Scenario 4: Post-tax Income

If we use post-tax – instead of pre-tax income – to calculate monthly average household income, the Moody’s Housing Affordability Measure would be 6 percentage points higher on a national basis. The affordability measure for Sydney would increase the most (+7.8 percentage points), while the affordability measure for Adelaide would increase the least (+4.6 percentage points). Exhibit 11 shows the housing affordability measure for all of the scenarios outlined above using post-tax income.

Source: Reserve Bank of Australia, Australian Bureau of Statistics, RP Data, Moody’s Investors Service
Appendix – Moody’s Australian Housing Affordability Measure: Assumptions and Calculations

Moody’s Australian Housing Affordability Measure is calculated as a proportion of the monthly loan repayment amount to the monthly average household income.

\[
Affordability\ Measure\ (%) = \frac{Monthly\ Loan\ Repayment\ Amount}{Monthly\ Average\ Household\ Income}
\]

**Monthly Loan Repayment Amount**: The repayment amount is calculated assuming the mortgage loan is (1) for a dwelling with a median price, (2) has a loan to value ratio of 80%, (3) has a 25-year principal and interest mortgage term, and (4) has an interest rate equal to the average standard variable interest rate published by the Reserve Bank of Australia.

The median dwelling price is based on actual housing sales price over a one-month period and is supplied by CoreLogic RP Data. The median price is either at the national or capital city level. The price does not consider the attributes of a property, such as the number of bedrooms and property size.

Example for Australia as of March 2015:

Using Excel PMT formula:

Monthly Loan Repayment Amount = AUD2,641 = PMT(5.65% (interest rate)/12 month, 300 (number of payments over 25 years), [AUD530,000 (median dwelling price) * 80% (LVR)]).

**Average Monthly Household Income**: Average household income is calculated assuming a two-income household with each income equal to the average income published by the Australian Bureau of Statistics.

Example for Australia as of March 2015:

Average Monthly Household Income = AUD9,788 = [AUD1,129 (average Australian weekly income) * 52 (weeks in a year) / 12 (months in a year)] * 2 (number of incomes).

Hence, as of March 2015, the Affordability Measure for Australia was 27.0%.

Affordability Measure = 27.0% = AUD2,641 / AUD9,785
Moody's Related Research

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Endnotes

1 Iron-ore prices dropped 50%-55% in the second half of 2014, Bloomberg.

2 Nov 2014 Moody’s Australian RMBS loan by loan data, periodic investor/servicer reports.

3 RP Data.

4 Reserve Bank of Australia - Indicator Lending Rates.

5 Australian Bureau of Statistics - "Earnings; Persons; Total earnings, Seasonally Adjusted ID 6302.0."
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