

Perspectives on Australian Dwelling Prices

Key Points

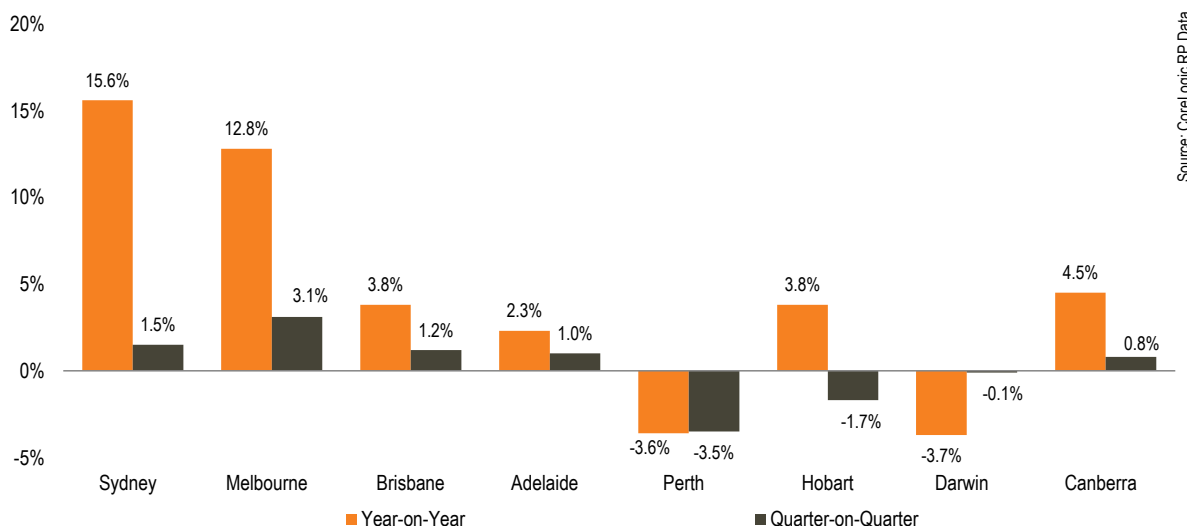
- ⌚ Since bottoming out in May 2012, dwelling prices have increased by 32.1 per cent across Australia's eight capital cities. The distribution of price growth is increasingly polarised with double-digit growth in Sydney and Melbourne and prices declining in several capital cities;
- ⌚ Over extended periods, dwelling price growth tends to converge across the eight capital cities to a real annual growth rate of around 5.0 per cent. The cities that saw the weakest price growth during the 2002 to 2012 decade have since seen the fastest rate of growth, and vice versa;
- ⌚ Price to income ratios provide one barometer of the degree to which dwelling prices are balanced with respect to wider economic conditions. However, the ratio is very sensitive to the measure of income used – unsuitable income metrics produce misleading results;
- ⌚ Based on median disposable household income, the national price to income ratio in 2013/14 remained within the 'normal' range at 6.37;
- ⌚ As at August 2015, the dwelling price to average earnings ratio was lower than the decade average in all capitals outside of Sydney and Melbourne;
- ⌚ As measured by the mortgage repayment to earnings ratio, affordability is at relatively favourable levels in all eight capital cities compared with their respective decade averages;
- ⌚ The balance between rents, dwelling prices and the investor mortgage interest rates is in line with norms in all capitals cities.
- ⌚ Overall, dwelling prices in Australia are proportionate and balanced in the broader economic context.

Introduction – where we are now?

Between April 2014 and March 2015, the pace of annual dwelling price growth across Australia's eight capital cities had slowed from 11.5 per cent to 7.4 per cent. Over subsequent months, however, the pace of aggregate dwelling price growth again accelerated and was 10.1 per cent during October 2015.

The overall growth rate masks huge variations from city to city, as demonstrated in the chart below. While dwelling prices in Sydney and Melbourne continue to grow at double digit rates in annual terms, dwelling prices have fallen in two of the eight capital cities over the past year. Generalisations about an 'Australian property market' and how it is performing are therefore very misleading.

Change in home values to October 2015

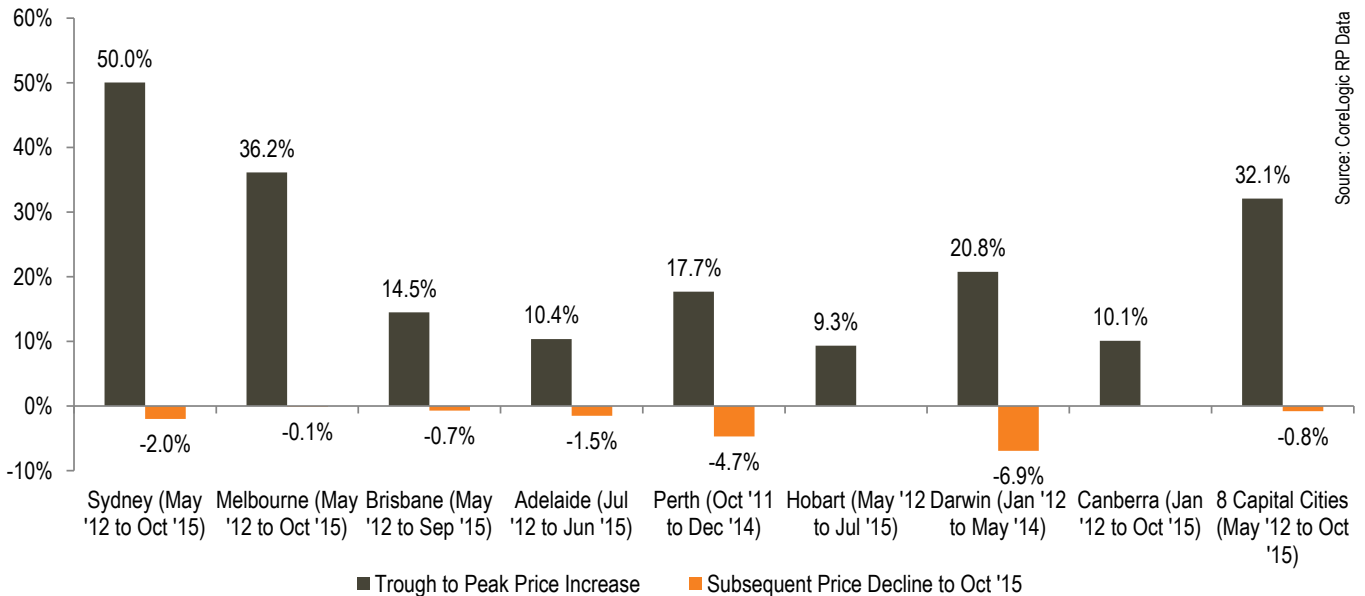


Price increases over the current cycle:

Across the eight capital cities, dwelling prices bottomed out in May 2012 and have since increased by 32.1 per cent overall. The chart below illustrates the magnitude of the upturn in each of the capital cities since their respective troughs. The largest uplifts have been in Sydney and Melbourne, with dwelling prices increasing by 50.0 per cent and 36.2 per cent, respectively, since

May 2012. Brisbane prices saw growth of 14.5 per cent over the same period. Despite sizeable price uplifts in both Perth and Darwin since their respective troughs, prices have since fallen back in Perth (-6.2 per cent) and Darwin (-5.6 per cent). Adelaide (+10.4 per cent), Hobart (+9.3 per cent) and Canberra (+10.1 per cent) have experienced relatively modest dwelling price growth since the bottoming out of the cycle in 2012.

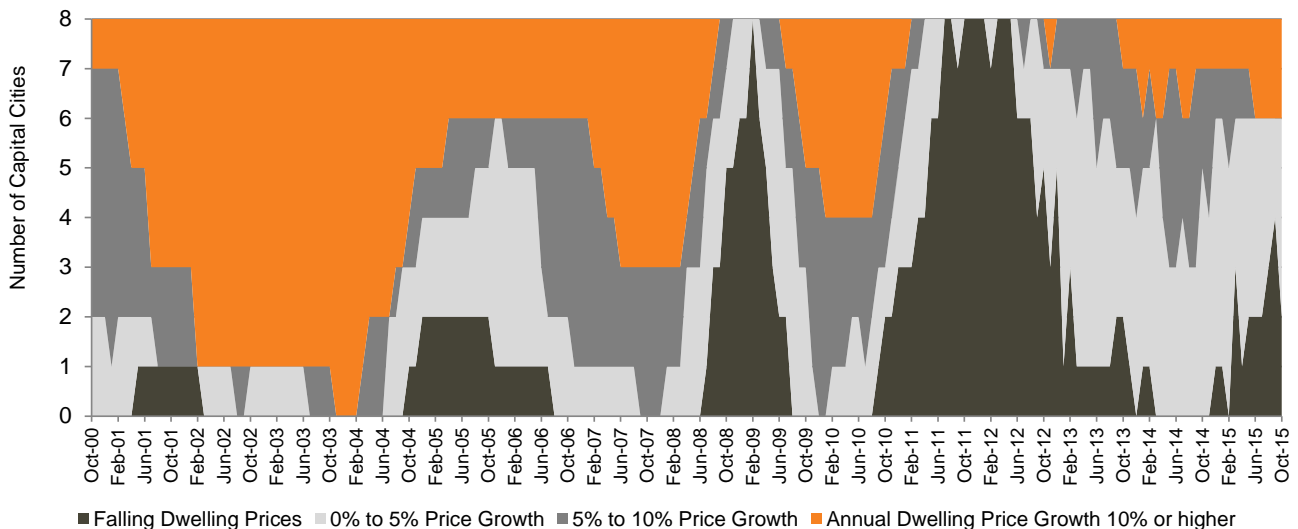
Trough to Peak Dwelling Price Increases in Current Cycle



It is interesting to compare the heterogeneity in dwelling price growth across the eight capital cities over time. The chart below categorises the eight capital cities according to their pace of annual dwelling price growth on a monthly basis over the past 15 years. There have been periods (e.g. early 2004) when dwelling prices have been growing at double digit rates in all eight capital cities. Similarly, in late 2011/early 2012, dwelling prices were declining in every one of the capital cities.

By any standard, the current picture is quite polarised in terms of dwelling price growth. Two of the eight capital cities have seen prices drop over the past year, while two are experiencing growth at double-digit rates. Tellingly, no capital city currently lies in the 'middle ground' price growth band of between 5 per cent and 10 per cent

Breakdown of Australia's Eight Capital Cities by Annual Dwelling Price Growth Bands, 2000 to 2015

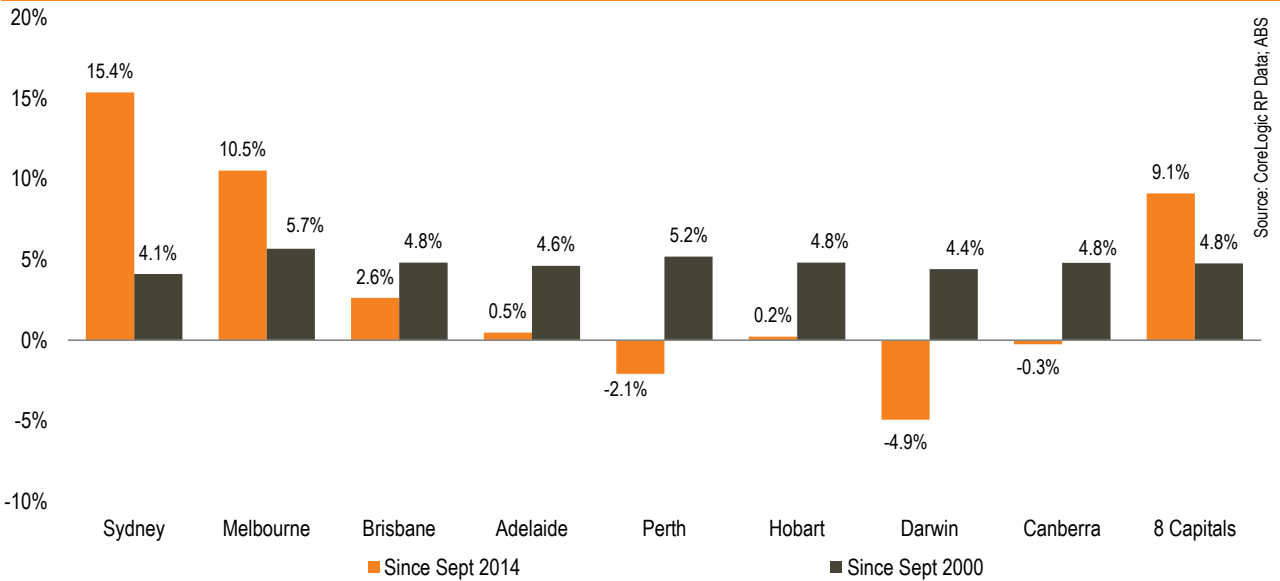


Are home prices undergoing convergence?

It is instructive to review the development of dwelling prices in the capital cities over more extended periods. During the last 15 years, real dwelling prices in Australia's eight capital cities have grown at an average rate of 4.8 per cent per annum. Real price growth in the eight capital cities has been clustered remarkably tightly in the 4.5 per cent to 5.0 per cent bracket. Real dwelling price growth was strongest in Melbourne (5.7 per cent annually) and weakest in Sydney (4.1 per cent per year)

over the period between September 2000 and September 2015. Over the past year, real price growth has diverged considerably from its long-term average in almost all cities, at both ends of the scale. Price growth in Sydney was almost four times greater than its 15-year mean, while in Darwin the real price fall of 4.9 per cent over the past year is in contrast to the city's 4.4 per cent average annual growth rate. Over the past year, real price growth in Brisbane (+2.6 per cent) was closest to its 15-year average (+4.8 per cent).

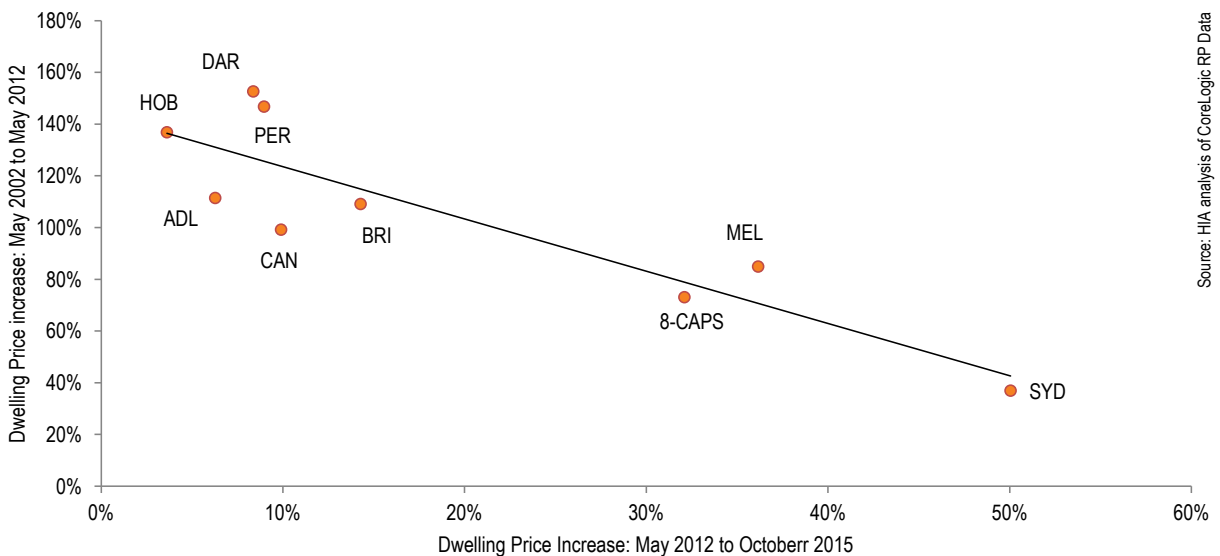
Annual Average Real Dwelling Price Growth Rate over Different Horizons



It is useful to assess the current phase of dwelling price growth in the context of developments during the 2002 to 2012 decade. In general, the markets which saw the strongest price growth over the 2002 to 2012 decade subsequently experienced the most modest price increases, and vice versa. Sydney is a case in point; over the decade to 2012 the city saw the slowest dwelling price growth of any capital. It has since seen prices rise by 50 per cent on average, considerably more than any other capital city. At the other end of the scale is Hobart, where dwelling prices increased by

136.8 per cent between 2002 and 2012. Over the following three years, prices have inched up by just 2.2 per cent. The general pattern appears to be that cities experiencing above average price growth in one period are more likely to see below-par price increases in later periods. Similarly, markets where price growth that is subdued can be expected to outgrow the average at some point in the future. With some justification, the recent phase of price growth in Sydney can be characterised as a 'catch up' after a decade spent with the lowest price growth of all.

Trough to Peak Dwelling Price Increases in Current Cycle relative to 2002-2012 Decade Growth



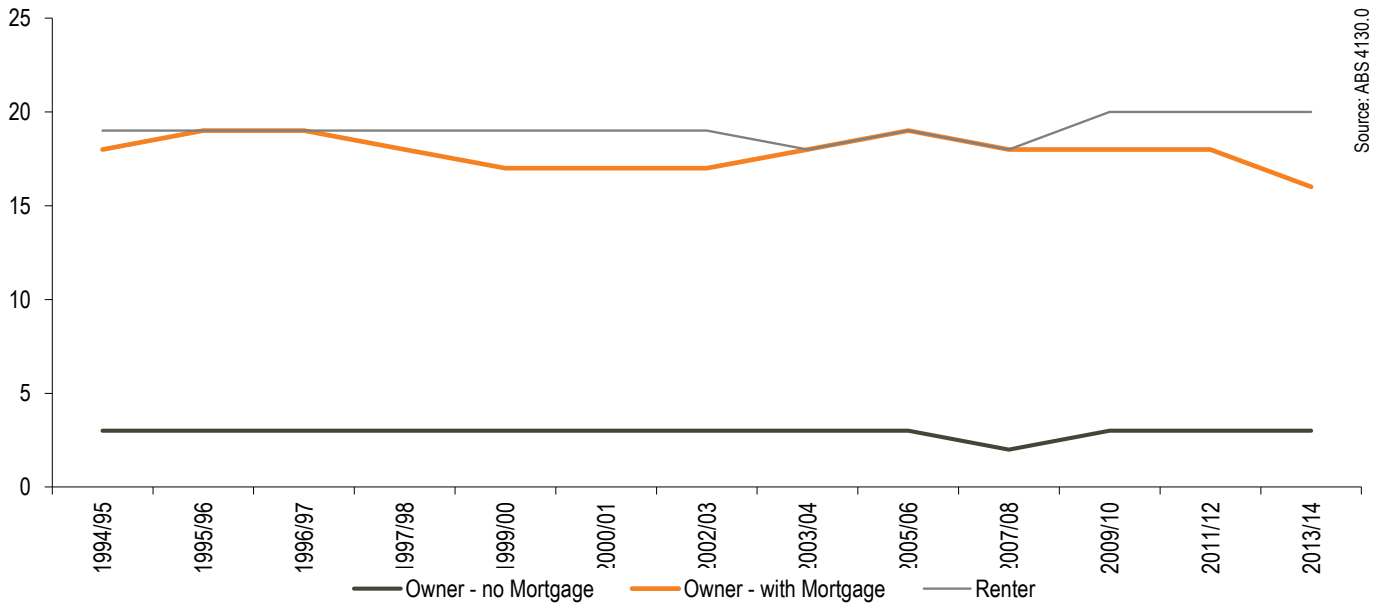
How home ownership compares with renting

The relationship between dwelling prices and other key indicators sheds important light on the degree to which any price rises are sustainable and the degree to which overvaluation or undervaluation exists with respect to dwelling prices.

In terms of the choice between renting and owning a home, the chart below indicates that home ownership has been consistently more affordable over the past two decades. For both home owners with a mortgage and

renters, housing costs have typically consumed between 15 per cent and 20 per cent of Gross Household Income over the past two decades. In the majority of the years for which data are available, housing costs have been lower for owners with a mortgage than for renters. The cost advantages of home ownership have become pronounced in recent years as interest rates have dipped to record lows. During the 2013/14 financial year, housing costs absorbed 16 per cent of Gross Household Income for owners with a mortgage compared with 20 per cent for renters..

Housing Costs as a Percentage of Gross Household Income, 1994/95 to 2013/14 - AUS

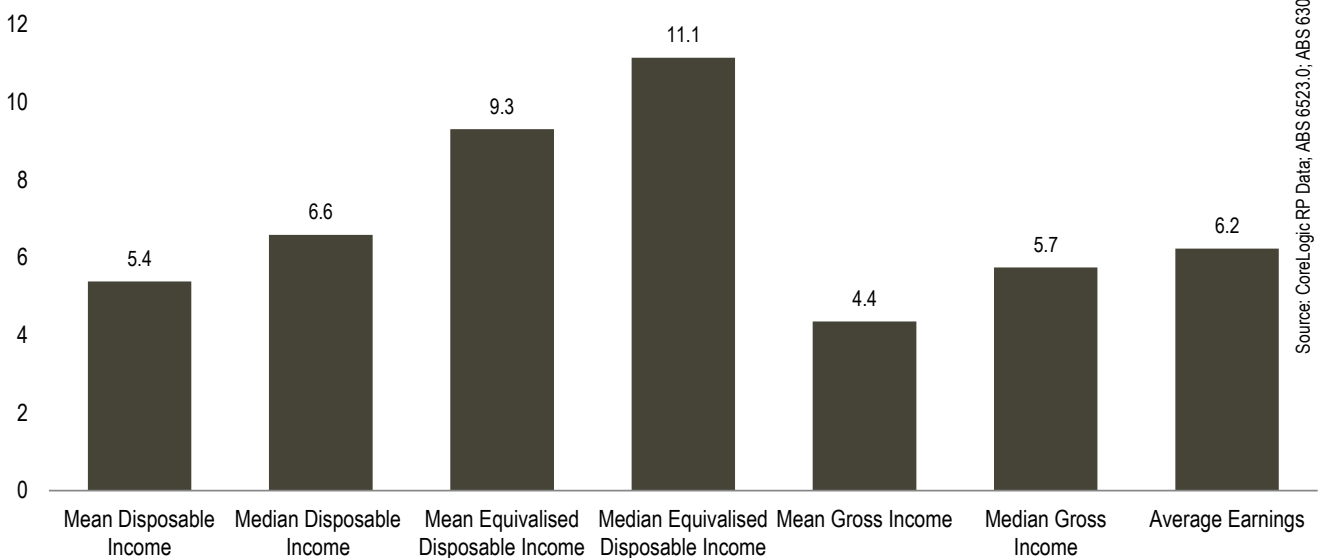


Income ratios: use with caution!

The ratio of dwelling prices to household income is one gauge of balance in the market. However, one of the shortcomings of this approach is that a very large array of household income metrics is available and the risk exists that data can be distorted by the selection of an inappropriate income measure. The chart below

illustrates the range of dwelling price to income ratios than can be calculated for Australia's capital cities depending on how household income is measured. Based on this, price to income in Australia lay anywhere between 4.4 and 11.1 during the 2013/14 financial year! Depending on the choice of income measure, Australian dwelling prices were both hugely undervalued and grossly overvalued during 2013/14

Median Dwelling Price to Household Income Ratio by Income Measure, 2013/14 - Australia's Capital Cities



How can we best measure household income?

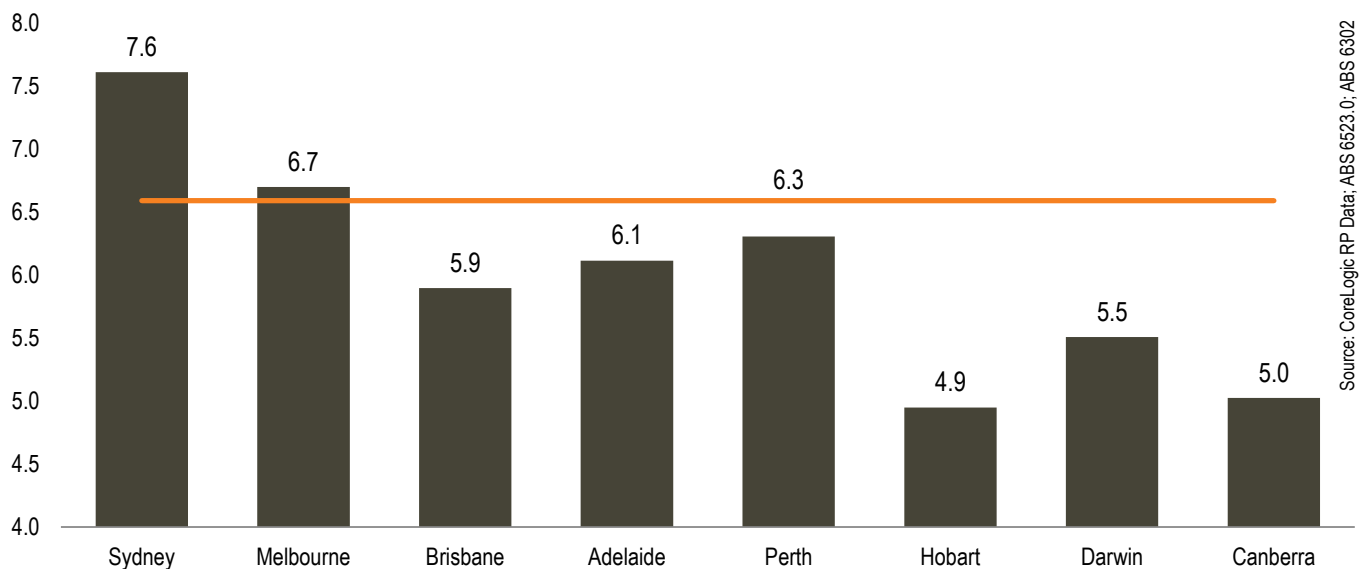
In selecting the most suitable gauge of household income, it is important to be aware of the following caveats

- ☞ Income ratios based on the mean rather than median tend to be inflated by very high income households and will generally overestimate typical incomes in the economy;
- ☞ Gross income measures should also be treated with caution, as no account is taken of direct taxation or of the Medicare Levy. Gross income overestimates the resources available to households for housing provision, as deposits, rental costs and mortgage repayments are ultimately paid for out of after-tax, disposable income;

- ☞ Earnings-based measures offer an incomplete picture of household income, as they do not take account of other important cash income streams like social assistance benefits. Earnings data also fail to take direct taxation deductions into account.

Accordingly, the most suitable, easily-available measure of household income from the perspective of dwelling prices is median disposable household income. A comparison of the median dwelling price to median disposable household income ratio for each of the eight capital cities in the 2013/14 financial year is illustrated below. The price to income ratio is highest in Sydney (7.6) and Melbourne (6.7). The lowest price to income ratios are in Hobart (4.9) and Canberra (5.0). Across the eight capitals, the price to income ratio averaged 6.6 during the 2013/14 financial year and was 6.3 nationally.

Ratio of Median Dwelling Price to Median Disposable Household Income, 2013/14



How dwelling prices compare with earnings

While median disposable household income is the most conceptually sound indicator for benchmarking dwelling prices relative to income, it is currently produced only once annually with a substantial lag¹. In terms of timeliness and frequency, the Average Weekly Earnings² data series performs better as it is issued twice annually (for the May and November 'quarters') and appears after a lag of less than three months. It must again be stressed that average earnings is an inferior measure to median disposable household income because non-earned cash income like social assistance benefits are not taken account of. Direct taxation deductions are also ignored by average earnings, and the indicator also neglects the impact of multi-earner households. The calculation of the average (rather than median) has the effect of skewing the result due to the inclusion of very high earners. This means that average earnings figures will be inflated to some degree and are likely to

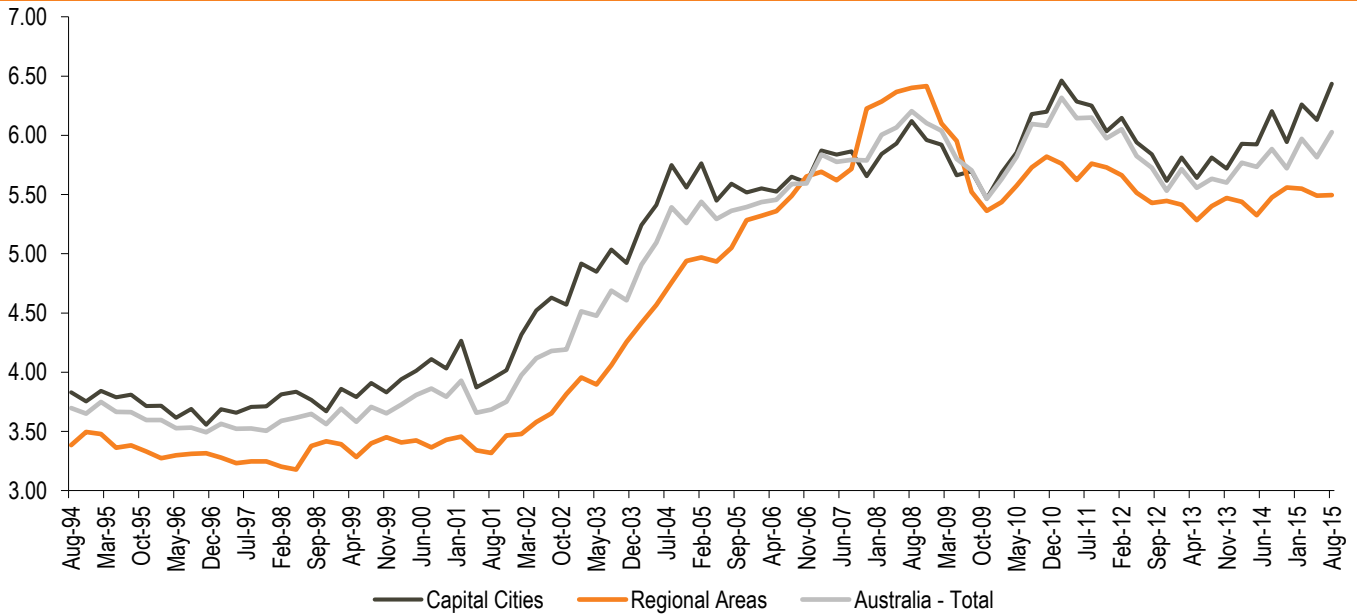
represent an overestimate relative to the true earnings picture for the typical Australian.

Based on the average earnings data available from the ABS, the chart below provides an overview of the median dwelling price to earnings ratio across Australia since 1994. Over this period, the ratio has increased from 3.70 in the August 1994 quarter to 6.03 during the August 2015 quarter. On the face of it, this is a large increase. However, it was accompanied by a long term rise in the number of earners per household, as well as a structural reduction in mortgage interest rates, both of which have increased the purchasing capacity of homebuyers. The affordability challenge is more acute in Australia's capital cities, where the price to earnings ratio increased to 6.43 in the August 2015 quarter. This compared with 5.49 in regional Australia. Across Australia, the price to earnings ratio of 6.03 is a little higher than its decade average (5.80).

¹ The household income figures for the 2013/14 financial year were first published by the ABS in September 2015, over fourteen months after the end of the reporting period

² Average Weekly Earnings is published as ABS Series 6302.0

Ratio of Median Dwelling Price to Average Earnings, 1994 to 2015 - Australia

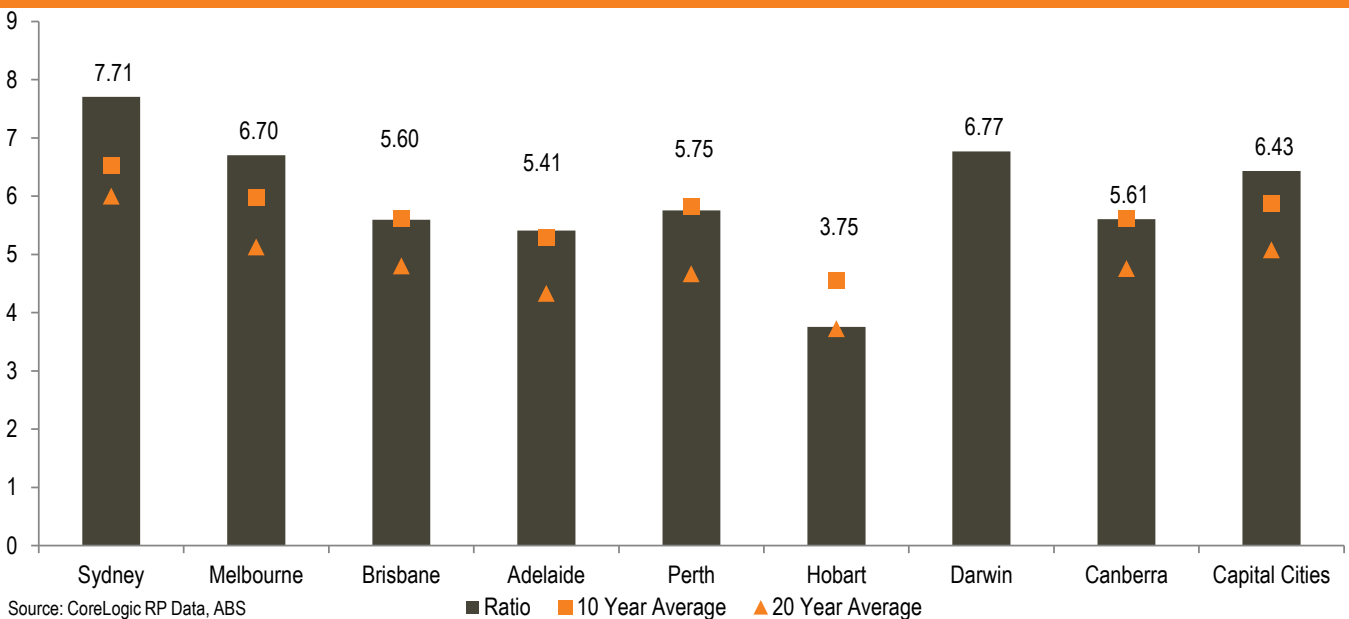


Given the wide variation in dwelling price levels across Australia, it is useful to compare the ratio of dwelling price to earnings in the eight capital cities. This is shown in the chart below for each city during the August 2015 quarter. In Sydney, the price to earnings ratio has increased to its highest level on record (7.71) and is well above both its ten and twenty year averages. Melbourne has the second highest price to earnings ratio (6.70), which is higher than the ten and twenty year average.

ratio (5.41) is higher than its ten-year average. In all but one of the other four capital cities, the price to earnings ratio is marginally lower than the decade average but higher than the twenty year average. These include Brisbane (5.60), Perth (5.75) and Canberra (5.61). In Hobart, where the price to earnings ratio is lowest (3.75), the ratio is about the same as it was twenty years ago (3.72) and substantially lower than a decade ago.

Outside of Sydney and Melbourne, Adelaide is the only other capital city where the dwelling price to earnings

Estimated Ratio of Median Dwelling Price to Average Earnings, August 2015 quarter

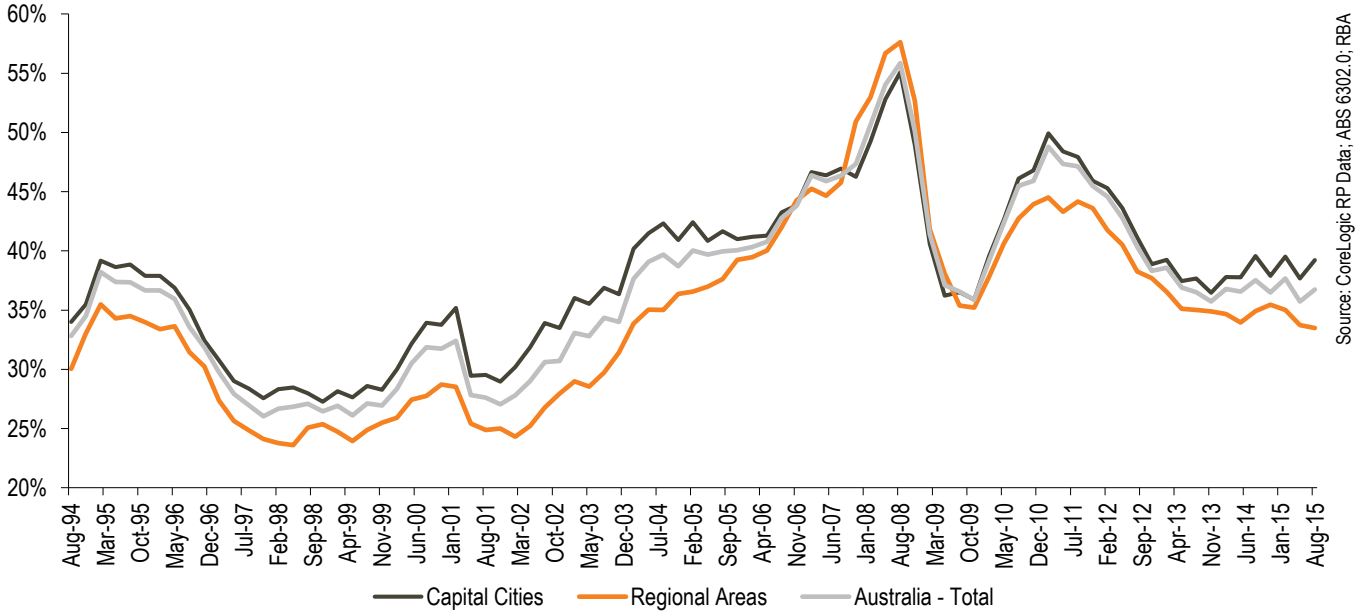


Affordability: quite favourable almost everywhere

It is useful to set the current mortgage repayments to earnings ratio in its historic context, as illustrated in the chart below for the 1994 to 2015 period for the whole of Australia. Overall, the ratio (36.7 per cent) is currently similar to its average of the past two decades and considerably lower than its ten year average. The ratio

of mortgage repayments to earnings has declined quite steadily since reaching 48.8 per cent during the February 2011 quarter. Over the past two decades, mortgage repayments have consistently absorbed a greater share of earnings in capital cities relative to regional areas. This again demonstrates the more acute affordability challenges facing capital cities.

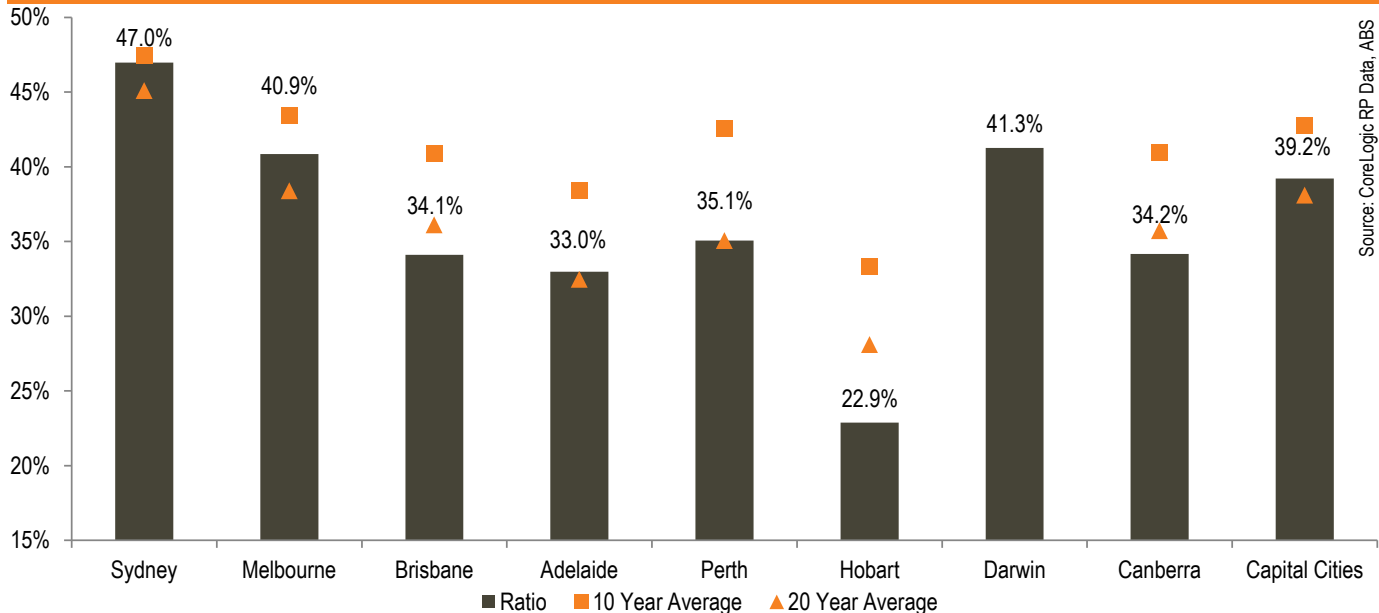
Ratio of Mortgage Repayments to Average Earnings, 1994 to 2015 - Australia



While the ratio of mortgage repayments to earnings nationally is comparable to its tendency over the past two decades, the variation around the capital cities is considerable as the chart below illustrates. The mortgage repayment burden is by far the highest in Sydney (47.0 per cent), followed by Darwin (41.3 per cent) and Melbourne (40.9 per cent). However, in all cities including Sydney, the mortgage repayment burden is below its decade average and in five cities (Brisbane,

Adelaide, Perth, Hobart and Canberra) the mortgage repayments to earnings ratio is close to or lower than its twenty year average. By this measure, housing affordability is most favourable in Hobart where the mortgage repayment to earnings ratio was 22.9 per cent during the August 2015 quarter. This is well below both the decade average (33.3 per cent) and twenty year average (28.1 per cent).

Estimated Ratio of Mortgage Repayments to Average Earnings, August 2015 quarter

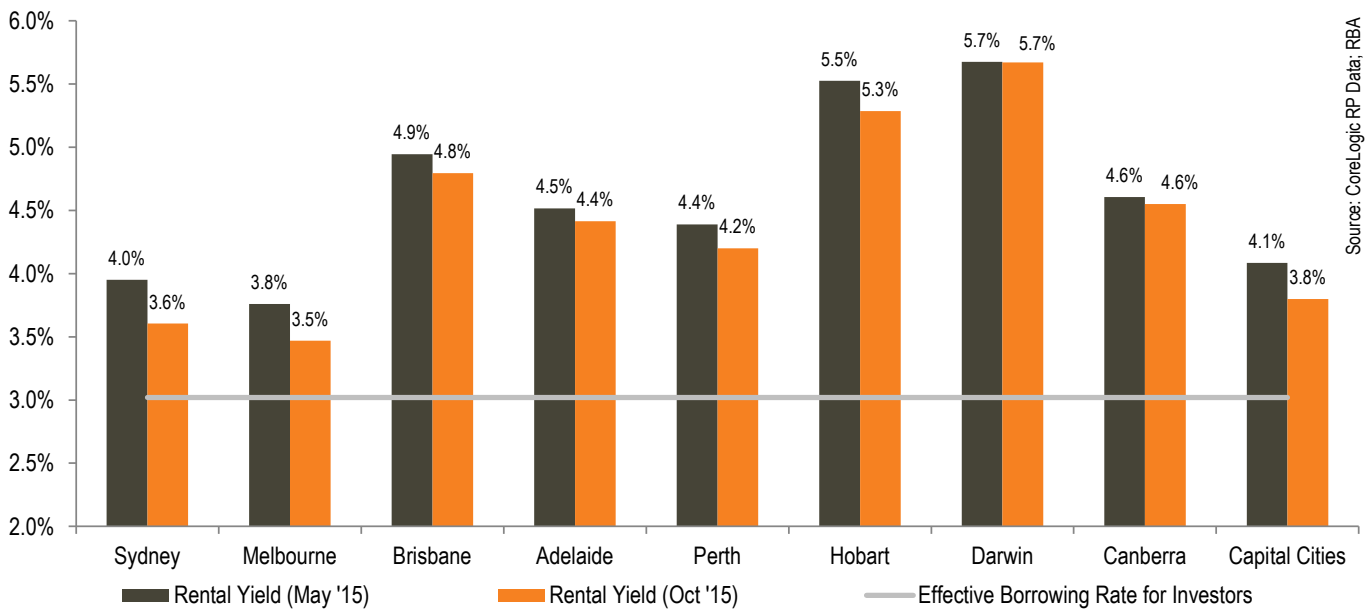


What can the rental market tell us?

From the perspective of the investor in residential property, the balance between dwelling prices and the rental income return is an important gauge of the degree to which the price is in balance. The relationship between dwelling prices and rental income in a particular market is captured by the rental yield, and this is illustrated for the eight capital cities below. Compared with May, the rental yield has fallen slightly in most of the capital cities. The reduction in the rental yield occurred against the backdrop of the 25 basis point

reduction in the RBA Official Cash Rate in May, as well as the increased restrictions around residential investor lending since mid-2015. During October, the discounted variable investor mortgage interest rate was 4.95 per cent. As interest is tax deductible under the 'negative gearing' arrangement, however, the effective net borrowing rate for investors is currently 3.0 per cent which is lower than the rental yield in every capital city. The fact that rental yields are higher than net borrowing costs in each city indicates that dwelling prices are balanced with respect to rental market conditions.

Rental Yields and Investor Mortgage Rate by Capital City, October 2015



Conclusion – a diverse but largely balanced picture

With respect to dwelling price growth, the situation in Australia is currently quite unique, with a significant gap between the high growth markets (Sydney and Melbourne) and those cities experiencing falling prices. The national dwelling price growth rate of 10.1 per cent in the year to October 2015 masks these variations. That said, the current position of dwelling prices with respect to fundamental economic indicators like incomes, earnings, interest rates and rental streams remains

largely balanced at the national level and across a majority of the capital cities. However, it is important to stress that price to income ratios are very sensitive to the particular income metric used. Accordingly, the selection of an unsuitable income measure will result in unreliable price to income multiples being estimated. Since mid-2012, dwelling prices in Sydney have increased by 50 per cent. Despite the strong price growth over the past three years, Sydney prices remain in a 'normal' range with respect to fundamental indicators like rents, earnings and interest rates.

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