economics group

House Price to Income Ratios in Australia

December 2010

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House price to income ratio

A house price to income ratio is the ratio of average or median house prices to average or median gross or disposable income in a given geographical area. The ratio is used as one measure of trends in housing affordability over time.

Recent commentary on Australia's ratio and market

The house price to income ratio is widely used by a variety of commentators and analysts to compare housing affordability across countries and over time. Demographia, a public policy research group, is one of these groups. Indeed, Demographia assert that as at September 2009, Australia's ratio was 6.8 and Sydney's was 9.1. A ratio over 5 is considered 'severely unaffordable'. According to Demographia, about 1 in every 5 cities across all of the US, the UK, Australia, Canada, and New Zealand have ratios over 5.

Other commentators, including legendary US investor and co-founder of global investment management firm GMO, Jeremy Grantham, have cited a ratio of 7.5 or more for Australia. Grantham captured global media attention with the claim that Australia's housing market was a "time bomb" on the basis of his view that Australian house prices are "7.5 times family incomes", which he contends is around twice what they should be.

The problem with some assessments of Australia's housing market is the use of inappropriate, and sometimes conflicting, data inputs. Much of Australia's house price measurement tends to focus on the capital cities. As a consequence, capital city house price measures are used alongside state or nationally-based income measures. This dampens the robustness of the analysis as it does not factor in that average regional incomes are typically less than average capital city incomes.

An additional pitfall of some of the analysis that makes its way into public forums is the misplaced comparison of house prices with *individual* incomes. It is important to underpin price to income ratio analysis with the assumption that the average Australian household has more than one income earner. Australian Bureau of Statistics (ABS) data shows nearly 60 per cent of first home buyer households have more than one income earner. This trend is not only applicable to first home buyers, but is prevalent across Australian households.

Another shortcoming in some analysis is a comparison between incomes and detached houses, as opposed to *all* dwellings. Average detached house prices are typically higher than those of multi-units. Therefore, it is important to incorporate all dwelling stock into the analysis.

It was pleasing to see the Deputy Governor of the Reserve Bank of Australia (RBA), Ric Batellino, affirm some of this sentiment in July 2010:

> *"The second issue is that of house prices. People feel that house prices in Australia are quite high, and that's quite often because the ratio of house prices to income that are published for Australia tend to focus mainly on prices in the cities, and they are quite elevated. But, if you look across the whole country, the ratio of house prices to income is not that different from most other countries...*
>
> *Well, the house prices in cities aren't high relative to the income in the cities because most of the figures you see published on house prices to income – what they do is they measure house prices in the city and express it as a proportion of income of the whole country. But, if you do house prices relative to the incomes of the people living in those areas, then the prices in the cities also are quite reasonable. But, as to the demographics as to where people end up living, I mean I can't really sort of say much about that. But, clearly, there's a lot of forces working there. Some work to pull people into the cities but there's also forces that encourage people to move out into other parts of the country. So I'm not clear – it's not clear to me where the balance will lie."*

HIA Economics' analysis of Australia's house price to income ratio unveils a result that is somewhat higher than the US metric, which is lower than most other developed economies. The Deputy Governor of the RBA notes the following in relation to this:

"There are a couple of reasons why Australian households seem to be able to sustain a higher ratio of house prices to incomes. First, Australians seem to spend less of their income on non-housing consumption than is the case for US households, with a significant part of this difference explained by lower health costs in Australia. Australian households therefore have greater capacity to service housing loans. Second, the level of gearing in the United States housing market is noticeably higher than in Australia. This may reflect the fact that Australian households are more active in paying down their loans after buying a home, possibly because owner-occupied mortgage interest rates are not tax deductible here as they are in the United States. The faster pay-down of mortgage debt in Australia reduces the risk of borrowers subsequently getting into financial difficulty. Overall, the experience of the last few years suggests that the Australian household sector as a whole appears to have the financial capacity to sustain a relatively high ratio of housing prices to income."

Data inputs and analysis

The first key input is an income measure. The **ABS Average Weekly Earnings (AWE)** publication (see Catalogue 6302.0) provides an estimate of the AWE for an adult (age 21 and over) employed on a full time basis. Ordinary time earnings calculations were utilised. The data series is collected from the ATO based on PAYG tax receipts and is reported on a quarterly basis.

AWE statistics represent average gross (before tax) earnings of employees and do not relate to average award rates or to the earnings of the 'average person'. Estimates of average weekly earnings are derived by dividing estimates of weekly total earnings by estimates of the number of employees.

The AWE data does not disaggregate further than a state and territory level. However, a capital city and balance of state extrapolation was conducted using proportions extracted from the Household Income and Income Distribution Survey (ABS 6523.0). This allows for more detailed analysis of affordability across the country, and in particular, a comparison between capital city and regional area affordability.

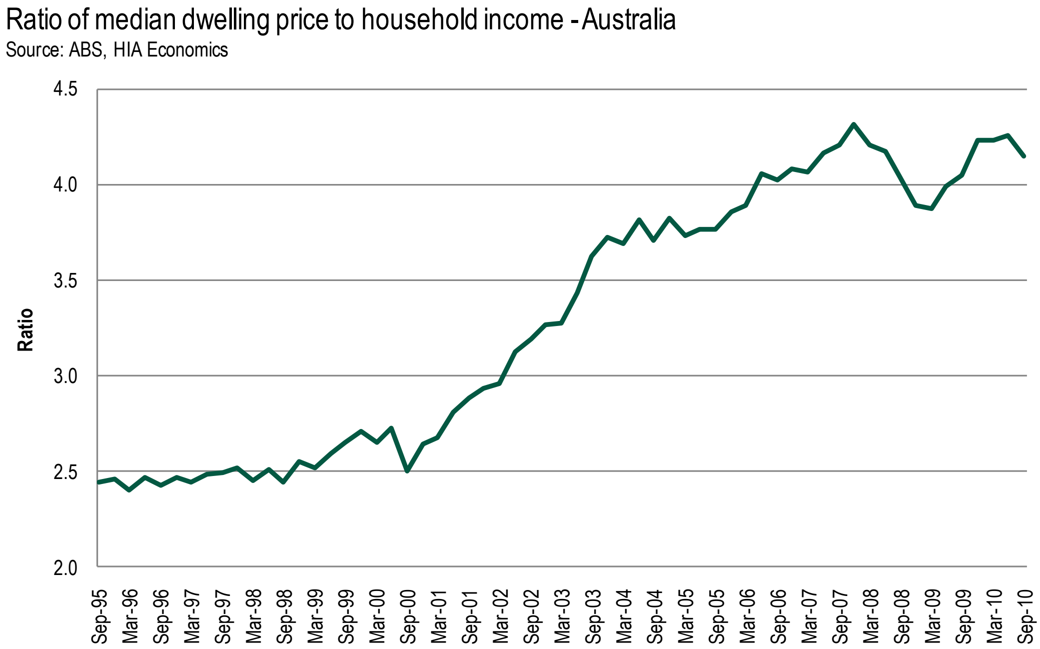
The analysis makes the necessary assumption that the average household in Australia has more than one income stream, otherwise described as a dual income household. The ABS asserts that nearly 60 per cent of first home buyer households have more than one income earner. When looking at all households a greater number have two income earners than one income earner. Further, when compared with measures of disposable household income from the National Accounts, we find that a headship factor of 1.5 equates the two series approximately.[1]

The second key input is a house price series. In this analysis, house prices are sourced from the **RP Data-Rismark Home Value series**. Rismark's analysis draws on Australia's largest residential sales database, which is supplied by RP Data and captures 100 per cent of all homes sales transacted across the country. The home value series offers a capital city and rest of State breakdown. The three month simple rolling median series was utilised as it offered an extensive time series.

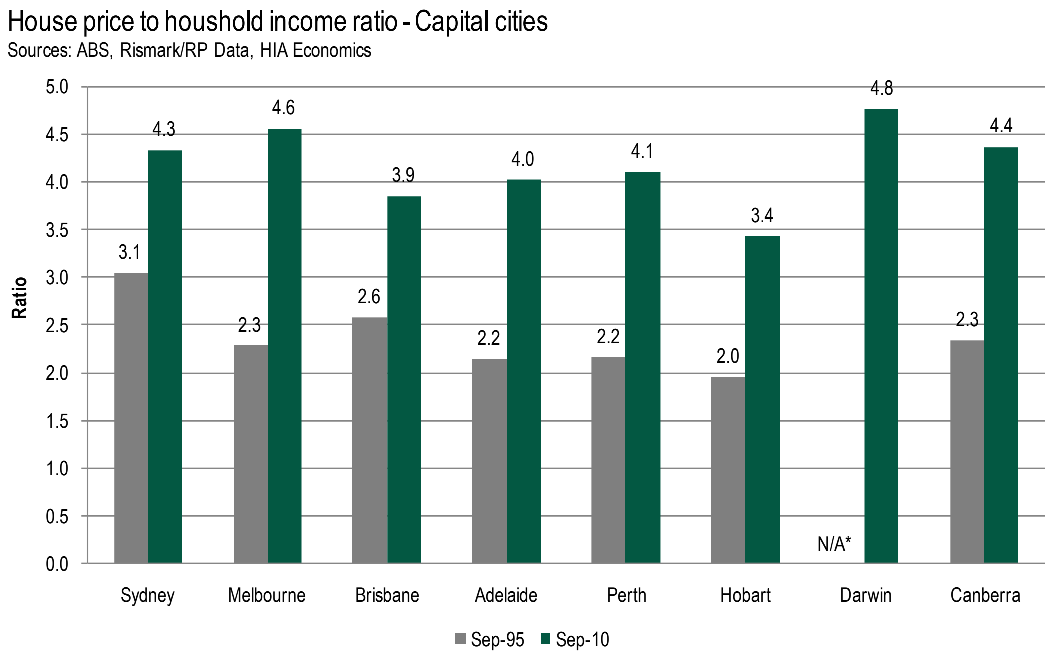
[1] *This makes the income measure used by HIA comparable to those used by other commentators which rely on a disposable income figure.*

Results

HIA Economics found that Australia's house price to household income ratio as at September 2010 was 4.1. In terms of the capital cities, the ratio is 4.2; while in Regional Australia the ratio is 4.1. The following chart shows the movement of Australia's house price to household income ratio over time.



Clearly, there has been a significant increase in the ratio of house prices to income over the last 15 years. Unfortunately, this trend has meant that first home buyers have found it increasingly more difficult to transition from the rental market into home ownership. This growing barrier to home ownership can be seen in the chart below which shows movement in house price to income ratios across Australia's capital cities over a 15 year period.



* *The RP Data-Rismark three month simple rolling median series does not record values for Darwin back to 1995.*

House price to income ratio as a measure of housing affordability

As a measure of housing affordability, 'house price to income' ratios alone are imperfect as they do not take into account interest rates. Ultimately, home purchase affordability relates to debt servicing costs of which interest rates are a key driver. This not only means that 'house price to income' ratios are fundamentally defective as a measure of housing affordability but also makes intertemporal and cross border comparisons of these ratios redundant (given varying interest rates, tax regimes, population concentrations, quality of housing stock, etc).

Indeed, house price to income ratios completely ignore the cost of finance. Few households purchase a home without using some form of mortgage finance. Amongst first home buyers the proportion using finance is well over 90 per cent. As for upgrade buyers, it is around 65 to 70 per cent as this group has higher equity levels.

A key factor in the jump in the 'house price to income' ratio over recent decades has been the structural reduction in interest rates. Mortgage interest rates in Australia in the 1980s averaged around 14 per cent, but since 2000 the average has been closer to 7 per cent.

Housing affordability indexes that factor in mortgage interest rate movements provide a more robust measure of housing affordability. The HIA-Commonwealth Bank of Australia Housing Affordability Index is one such measure.