

House prices

House prices in Australia have risen substantially over the past 20 years, far outpacing the growth in inflation, average earnings and household income.

Nationally, there are four main measures of established house prices—those produced by the Australian Bureau of Statistics (ABS), the Real Estate Institute of Australia (REIA), the Housing Industry Association / Commonwealth Bank (HIA/CBA) and Australian Property Monitors (APM).¹ The purpose of this Research Note is to examine some of the issues surrounding each of these house price measures and to look at the trend in house prices over the past 20 years.

Existing house price measures

The REIA is the longest running house price series, providing quarterly data on median prices for established houses sold in each of the eight capital cities. Data are collected from a variety of sources—APM in NSW, Residex in Queensland, a survey of real estate agents in Victoria and Tasmania, and state land titles offices in the remaining states. Prior to September quarter 2004, prices were based on the settlement date of sales. That has since changed to the date of contract exchange, ensuring that the pricing point of the series more closely approximates developments in the market.

The ABS produces a quarterly index of established house prices in each capital city. Sales prices are determined using Valuers' General data combined with data from home mortgage lenders. The ABS improved the timeliness of its data when, from March quarter 2002, the pricing point of its series was changed from the date of settlement to the date of contract exchange.²

The HIA/CBA series provides median 'first home buyer' prices³ for established dwellings (houses and units) for each capital city and rest of state region. Price data are collected by means of a census of CBA home loan approvals during the quarter. A major advantage of HIA/CBA

price data is that they are dated to when the CBA agreed to provide funds for purchase. A disadvantage is that although the figures come from a large national lender, the sample may not be representative of all transactions in a period.⁴

APM, a property research firm, produces quarterly median house price data for the eight capital cities, based on Valuers' General data as well as agent reported sales data. The series is based on property prices exchanged in the quarter.⁵ This Research Note does not incorporate any data from APM as data from this source are only provided on a fee for service basis.

All four house price measures have the disadvantage that they fail to adjust for improvement in the average quality of houses over time. The quality of the national housing stock has improved substantially as houses have increased in size and as the existing housing stock has undergone renovations and extensions. These improvements result in higher prices that are the result of quality changes rather than pure price increases.

Another problem faced by the various house price measures is that the mix of houses (size, quality and geographic location) traded in any period may be very different from the mix of houses traded in other periods and from the much larger stock of dwellings not traded and for which no price data are available.⁶ Left unadjusted, price movement from one period to the next will partly reflect changes in the mix of properties that are being traded, as well as pure price changes. To minimise this influence, the ABS uses location (suburb) to group together houses that are similar in terms of certain price determining characteristics. Those characteristics are the social and economic condition, percentage of three bedroom houses and geographic location of the suburb.⁷ A broad based measure of price change is then calculated by weighting the change in the median prices for each group.

Table 1. House prices, 'real' house prices and measures of inflation

As at June	House prices			Inflationary measures			'Real' house prices ^(c)		
	ABS	REIA	HIA/CBA						
	Established house price index (Base: 1986=100)	Median price established houses sold ^(a)	Median first home price	Consumer price index (Base: 1986=100)	Full-time adult total earnings ^(b)	Household disposable income per household	REIA house prices (Constant 1986 dollars; adjusted by the CPI)	REIA house prices to annual F/T earnings	REIA house prices to annual household disposable income
	Index Nos	\$	\$	Index Nos	\$pa	\$pa	\$	Ratio	Ratio
1986	100.0	80 800	67 400	100.0	22 700	31 800	80 800	3.6	2.5
1987	103.8	86 200	68 400	109.3	24 200	33 800	78 900	3.6	2.6
1988	121.7	101 600	87 000	117.1	25 900	36 600	86 800	3.9	2.8
1989	162.0	138 600	107 400	125.9	28 000	40 500	110 100	5.0	3.4
1990	164.8	139 100	112 400	135.6	29 700	44 400	102 600	4.7	3.1
1991	166.1	136 400	115 200	140.2	30 900	45 400	97 300	4.4	3.0
1992	170.5	139 800	117 200	141.9	32 200	46 100	98 500	4.3	3.0
1993	175.0	143 000	119 400	144.6	33 000	47 200	98 900	4.3	3.0
1994	180.9	148 100	127 900	147.1	34 200	48 500	100 700	4.3	3.1
1995	183.4	155 700	134 600	153.7	35 900	50 300	101 300	4.3	3.1
1996	185.3	160 500	141 300	158.5	37 300	52 800	101 300	4.3	3.0
1997	190.5	170 600	154 300	159.0	38 400	53 700	107 300	4.4	3.2
1998	207.0	191 400	175 400	160.1	40 000	54 500	119 600	4.8	3.5
1999	219.1	204 600	185 200	161.8	41 200	56 100	126 500	5.0	3.6
2000	240.3	229 900	205 700	166.9	42 800	58 300	137 700	5.4	3.9
2001	<u>260.0</u>	245 700	194 300	177.0	44 900	62 300	138 800	5.5	3.9
2002	309.1	290 800	229 400	182.0	47 200	64 300	159 800	6.2	4.5
2003	360.9	336 300	291 300	186.9	50 200	65 100	179 900	6.7	5.2
2004	392.3	<u>389 800</u>	330 500	191.5	51 800	67 800	203 500	7.5	5.7
2005	399.8	387 600	337 000	196.3	55 200	70 100	197 500	7.0	5.5
2006	425.3	396 400	350 000	204.1	56 700	73 200	194 200	7.0	5.4

Increase 1986 to 2006

Number	..	315 600	282 600	..	34 000	41 400	113 400	3.4	2.9
Per cent	325	391	419	104	150	130	140	96	113
Annual %	7.5	8.3	8.6	3.6	4.7	4.3	4.5	3.4	3.9

(a) Derived by weighting together the moving annual median house price in each capital city (as published by the REIA) by the number of houses in each capital city.

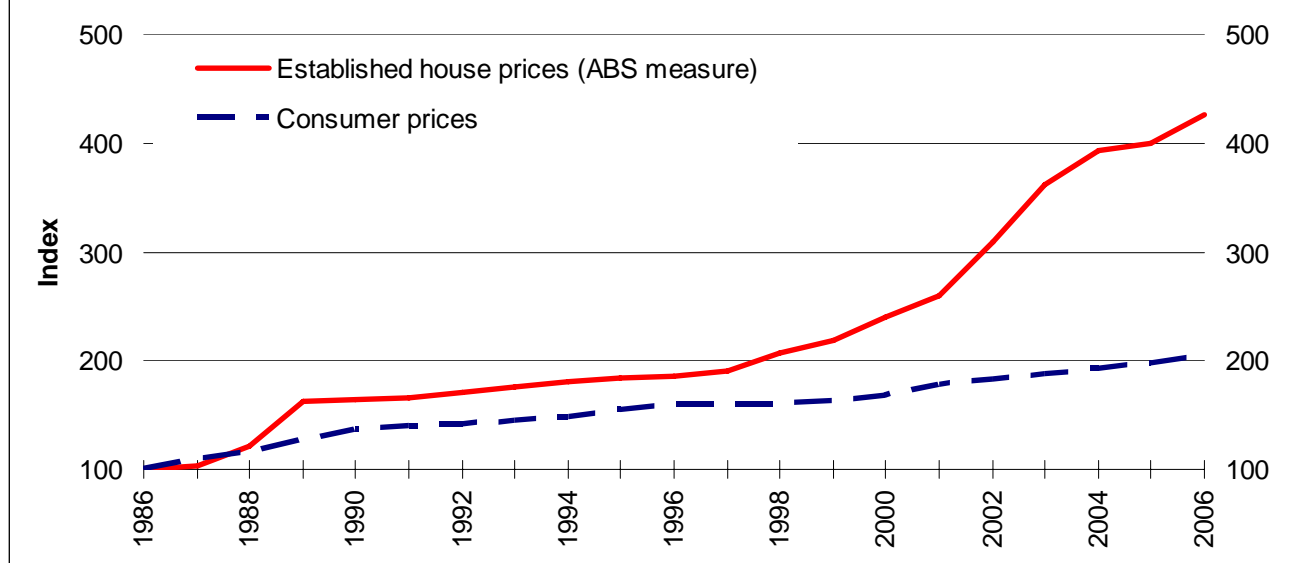
(b) Includes overtime earnings.

(c) Real house prices have been calculated using REIA data instead of HIA/CBA data as the former is a broader measure, referring to the median price of all established houses and not just first homes.

— Break in series caused by change in pricing point of series from date of final settlement to date of exchange of contracts plus (in the case of the ABS series) improvement in methodology to minimise the 'quality' effect by using more detailed regional stratification to control for compositional change in the houses priced.

Sources: ABS, *House Price Indexes: Eight Capital Cities* (Cat. No. 6416.0); Real Estate Institute of Australia, *Market Facts* ; HIA-Commonwealth Bank, *Affordability Report*; ABS, *Consumer Price Index* (Cat. No. 6401.0); ABS, *Average Weekly Earnings* (Cat. No. 6302.0); ABS, *National Income, Expenditure and Product* (Cat. No. 5206.0).

Chart 1. Established house price index and the CPI
(Base year: 1986=100)



The approach adopted by APM to the problem of compositional change is to allocate a city's suburbs into various groups ordered from the most to least expensive suburb. Typically, there are ten such groups of suburbs for each capital city. A median price series is then compiled for each group. By weighting the median price of each group it is then possible to come up with a composition adjusted median price for the capital city as a whole.⁸

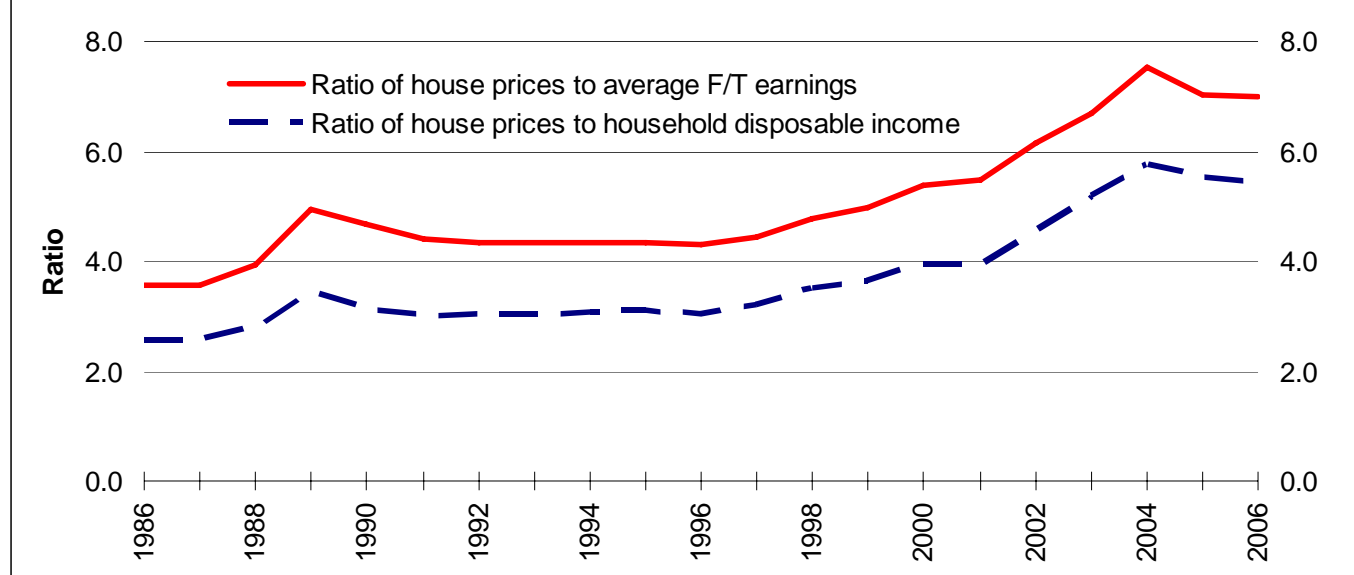
The trend in house prices

Bearing in mind the differences and problems that exist with each of the house price measures, established house prices have more than

quadrupled in the past 20 years (Table 1)⁹. During this time there have been two periods when prices rose particularly fast. The first was the two-year period from 1987 to 1989, when house prices (based on ABS data) rose by 56 per cent. The second was the seven-year period from 1997 to 2004, when prices rose by 108 per cent. The second period differs from the first in that it was mainly characterised by strong, but less extreme rates of increase, sustained over a long period.

The increase in house prices in Australia has far outpaced the general rate of inflation (Chart 1). On an annual average basis, house prices over the past 20 years have increased by 7.5 per cent

Chart 2. Ratio of REIA house prices to full-time earnings and household income



(ABS measure) compared with an increase of 3.6 per cent in consumer prices. Over the same period, REIA house prices have increased on an annual average basis by 8.3 per cent, or an increase in 'real' terms (i.e. after adjustment for inflation) of 4.5 per cent.

Another way of highlighting the increase in 'real' house prices is to express prices relative to adult earnings. In 1986, 3.6 years of adult full-time earnings were needed to purchase a house (using REIA house prices), increasing to 7.0 years in 2006. However, because households often consist of two income earners, and because house purchases are made from after tax income, a better indicator is the ratio of house prices to household disposable income. On this basis, the number of years of household disposable income needed to purchase a house has increased from 2.5 to 5.4 between 1986 and 2006. The current figure is somewhat down on the figure for 2004 when a peak of 5.7 years of household disposable income were needed to purchase a house. (Table 1 and Chart 2.)

Established house prices (which include land) have increased significantly over the last couple of decades. However, project house prices (which exclude land) and the cost of materials used in house building, have experienced increases more in line with the general rate of inflation (Table 2). The implication is that an important component of the increase in established house prices is the higher cost of land.¹⁰ The change in the quality of housing is another factor.

Table 2. Housing cost increases, 1986 - 2006^(a)

Index series:	Jun-86 - Index no. -	Jun-06	Increase %
Established house prices	25.5	108.4	325
Project homes	45.0	111.7	148
Materials used in house building	55.9	106.9	91
Consumer prices	75.6	154.3	104

(a) Base year 2003-04=100; except consumer prices which is 1989-90=100

Sources: ABS, *House Price Indexes: Eight Capital Cities* (Cat. No. 6416.0); ABS, *Consumer Price Index* (Cat. No. 6401.0)

Conclusion

House prices in Australia have increased substantially over the past couple of decades, both in actual and 'real' terms. However, it needs

to be remembered that there are a number of different house price measures and each is not without its limitations. Importantly, none of the series measures only pure price change, the movement in house prices from one period to the next being a combination of pure price increase, quality improvement and compositional change. Consequently, all house price series need to be treated with caution.

1. Another provider of house price information is Residex, a property research firm. Residex compiles 'repeat sales' indices for Sydney, Melbourne and Brisbane only, based on data received from state land titles offices. The series goes back to 1978 and attempts to control for compositional shifts in the stock of houses sold by measuring only price changes between successive sales of the same property.
2. Australian Bureau of Statistics, *House Price Indexes: Eight Capital Cities*, September Quarter 2005 (Cat. No. 6416.0), pp. 2, 12.
3. The CBA/HIA makes an adjustment to the median price of established dwellings to approximate 'first home buyer' prices. This adjustment was made necessary by a break in the series in the December quarter 1987 after which separate information on loans approved to first home buyers was no longer available.
4. Reserve Bank of Australia, 'Measuring Housing Prices', *Reserve Bank of Australia Bulletin*, July 2004, p. 3.
5. Australian Property Monitors, *New housing price series reveals a flat market*, media release, 8 August 2005.
6. Reserve bank of Australia, 'Measuring House Prices: An Update', *Reserve Bank of Australia Bulletin*, June 2006, p. 2.
7. Australian Bureau of Statistics, *Renovating the Established House Price Index, Australia*, November 2005 (Cat. No. 6417.0), pp. 7-8.
8. Australian Property Monitors, loc. cit.
9. A 20 year reference period has been chosen as it is the longest period for which data is available for all three house price measures. REIA data has been available from the late 1970s, HIA/CBA data from 1984, and ABS data from 1986.
10. A. Moran, '[Prices and Planning: The State of the Housing Industry](#)' accessed on 13 September 2006.

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