

## Home loan affordability—measurement and trends

The most widely reported measures of home loan affordability in Australia are the Real Estate Institute of Australia (REIA) Home Loan Affordability Indicator, the Commonwealth Bank of Australia–Housing Industry Association (CBA–HIA) Housing Affordability Index, and the BIS

Shrapnel Home Loan Affordability Index. Each of these indexes measures affordability with respect to new loans only.<sup>1</sup>

This Research Note examines each of the above affordability measures and their limitations. The Note also looks at the trend in home loan affordability over the past 20 years and shows how the sensitivity of home loan affordability to interest rate changes has increased gradually over time. The Note, however, does not examine the contribution of individual factors to changes in home loan affordability.

### Existing home loan affordability measures

The REIA Home Loan Affordability Indicator is a ratio of median family income to average new loan repayments.<sup>2</sup> The REIA indicator divided

by 10 shows the number of times that median family income exceeds average home loan repayments in a period. An increase in the REIA indicator represents improved affordability.

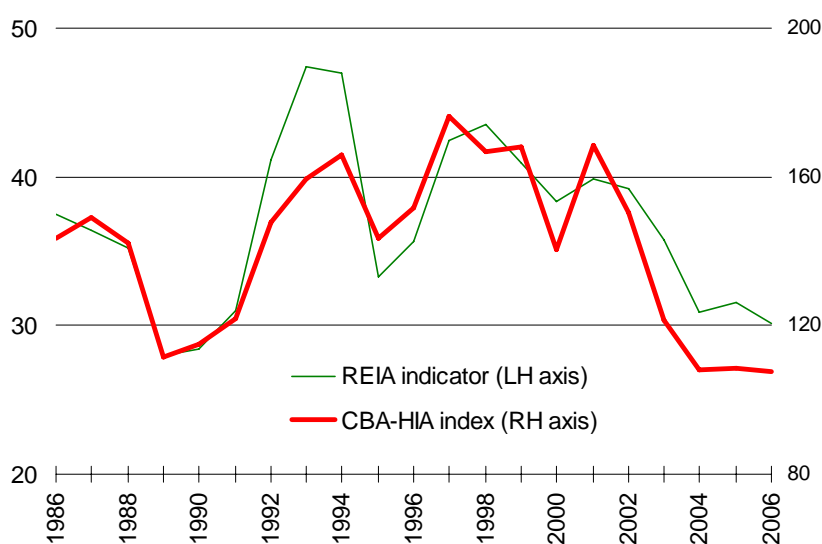
The CBA–HIA Housing Affordability Index measures accessibility to home ownership for an

average first-home buyer. It is calculated as the ratio of average disposable income<sup>3</sup> per household to the ‘qualifying’ income<sup>4</sup> required to meet repayments on a 25-year loan, for 80 per cent of the median price of an average established

dwelling purchased by a first-home buyer.<sup>5</sup> The CBA–HIA index divided by 100 shows the number of times that average household disposable income exceeds the minimum income needed to meet repayments on an average established dwelling. As with the REIA indicator, an increase in the CBA–HIA index represents improved affordability.

The BIS Shrapnel Home Loan Affordability Index shows the proportion of full-time male average earnings needed to meet the mortgage repayments on a ‘typical’ housing loan. A typical housing loan is assumed to be a 25-year loan for

Chart 1. Home loan affordability indicators\*



\* An increase in the index means improved affordability

75 per cent of the median house price. A decrease in the BIS Shrapnel indicator represents improved affordability.

The REIA indicator is available for each state and all Australia; the CBA–HIA index is available by capital city and ‘rest of state’, as well as for all Australia; the BIS Shrapnel index is only available by capital city.

While providing a useful measure of the underlying trend in home loan affordability, the Productivity Commission has identified a number of limitations with the indicators. In particular, each is influenced by changes over time in median house prices that are not due to pure price movement.<sup>6</sup> In other words, the indexes do not adjust for changes in affordability that are the result of price changes caused by improvements in the quality of the national housing stock or changes in the composition of sales (size, quality and geographic location of houses traded) between periods.<sup>7</sup>

A further limitation of the indexes is their failure to account for changes in lending practices which have reduced deposit constraints.

Examples include the availability of mortgage insurance to secure low-deposit loans; high loan-to-valuation ratio loans which allow borrowers to take out a loan to cover all, or nearly all, of the value of a property; and home equity loans that allow households to borrow against the family home. These and other innovations in the home lending sector have meant that persons previously unable to secure finance have been able to purchase a home, which in turn has impacted on the various measures of affordability.<sup>8</sup>

Concern about the various affordability measures has led the Productivity Commission to comment that ‘the available indexes all suffer from methodological and data problems that preclude precise conclusions, particularly concerning first home buyers’.<sup>9</sup> For these reasons, the indexes should be used more as indicators of general

trends, than as indicators of shorter-term cyclical movements.

### The trend in home loan affordability

Home loan affordability has fluctuated considerably over the past 20 years. Bearing in mind that a fall in the REIA indicator denotes a deterioration in affordability, new home loans, according to this indicator, were least affordable in 1989 when the indicator was 28. That situation, however, quickly reversed and by 1993, when the indicator reached a high 47, home loans were more affordable than at any other time in the past 20 years. After falling and then rising again, the trend since 1998 has been predominantly downward. By 2006 the indicator had fallen to 30, a level worse than during much of the 1980s, when interest rates were considerably higher than they have been in 2006 (see Chart 1 and Table 1). The fall in the REIA indicator since 1998, despite lower interest rates, coincides with a time of rapid growth in house prices.

The CBA–HIA index similarly shows that loan affordability was at a low in 1989 when the

**Table 1. Home loan affordability indicators - Aust\***

A higher level indicates improved affordability

June	REIA indicator	CBA-HIA index		Australia
		Capital cities	Other areas	
1986	37.5	142.7	146.4	143.3
1987	36.4	146.6	153.4	149.0
1988	35.2	133.3	166.7	142.3
1989	27.9	101.1	137.0	111.6
1990	28.4	106.0	134.6	114.9
1991	31.1	114.2	139.0	121.9
1992	41.2	139.9	163.4	147.6
1993	47.4	151.1	173.0	159.2
1994	46.9	156.9	182.8	165.9
1995	33.3	134.3	162.5	143.7
1996	35.7	142.1	173.7	151.8
1997	42.4	162.0	208.9	176.2
1998	43.5	152.6	205.1	167.0
1999	40.9	151.3	207.3	168.0
2000	38.3	124.2	179.2	140.6
2001	39.9	145.9	214.8	168.4
2002	39.2	128.4	193.9	150.6
2003	35.8	101.8	165.8	121.3
2004	30.9	98.5	125.3	108.1
2005	31.5	102.4	118.6	108.3
2006	30.1	101.9	118.4	107.8

\* The BIS Shrapnel index is not available for all Australia

Sources: Real Estate Institute of Australia, *Home Loan Affordability Report*; Housing Industry Association - Commonwealth Bank, *Affordability Report*

value of the index was 112. Affordability improved thereafter, with the index reaching a high of 176 in 1997. From 2001 the index has declined appreciably, its value falling to an all-time low of 108 in 2006. Over most of the last 20 years, there has been a significant gap in affordability between capital cities and 'other areas', with the former much worse than the latter. Interestingly, that gap has narrowed in the past few years, indicating that house prices have been increasing faster in regional Australia than in the capital cities.

**Table 2. Home loan affordability indicators - state or capital city**

<b>REIA indicator</b> (a higher level indicates improved affordability)						
June	NSW	VIC	QLD	SA	WA	TAS
1986	34.4	37.8	39.6	33.3	48.7	44.1
1996	31.0	40.9	33.5	38.1	39.7	39.7
2006	27.0	31.9	29.7	33.2	32.6	31.7

<b>CBA-HIA index</b> (a higher level indicates improved affordability)						
June	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart
1986	136.9	132.2	160.8	142.1	182.4	197.1
1996	111.2	157.8	150.5	182.2	168.9	209.8
2006	86.3	106.0	109.2	133.0	104.7	145.8

<b>BIS Shrapnel index</b> (a lower level indicates improved affordability)						
June	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart
1986	49.0	44.4	32.1	41.0	28.6	34.9
1996	44.8	34.0	30.1	25.6	26.9	26.4
2006	58.1	44.9	40.8	35.9	45.1	36.1

Sources: Real Estate Institute of Australia, *Home Loan Affordability Report*; Housing Industry Association - Commonwealth Bank, *Affordability Report*; data supplied directly by BIS Shrapnel.

Table 2 provides a breakdown of affordability on a state/capital city basis. Each of the indexes shows that the least affordable home loans are currently in Sydney, while the most affordable are either in Adelaide (REIA and BIS Shrapnel) or Hobart (CBA-HIA). All the indexes show that the biggest deterioration in home loan affordability over the past 20 years has occurred in Perth, with the least deterioration in Adelaide (where according to BIS Shrapnel affordability even improved over this period).

### Sensitivity to interest rate rises

To assess the sensitivity of home loan affordability to interest rate rises, an affordability indicator has been developed for this Research Note that measures home loan repayments as a

proportion of average household disposable income. To calculate the level of home loan repayments in any given year, it has been assumed that the average loan size is the amount published by the ABS in *Housing Finance* (Cat. No. 5609.0), the term of the loan is 25 years and the prevailing interest rate is the variable bank rate for housing loans as published by the Reserve Bank. The value of the indicator in each year, for the past 20 years, has then been compared with what its value would have been had the interest rate been one percentage point higher than the prevailing rate. (See Table 3.)

As Table 3 shows, in June 1986 the average homebuying household spent 22.1 per cent of its disposable income on new home loan repayments at a time when the housing interest rate was 15.5 per cent. However, had the interest rate been 16.5 per cent, the average household would have spent an additional 1.3 per cent of its disposable income on meeting new home loan repayments.

**Table 3. Mortgage sensitivity to interest rate rises**

June	Mortgage repayments on new loans as a % of household disposable income:			Difference
	Variable bank interest rate (%)	At prevailing interest rate	At interest rate one % point higher than prevailing rate	
1986	15.50	22.1	23.4	1.3
1987	15.50	22.4	23.7	1.3
1988	13.50	22.7	24.1	1.5
1989	17.00	28.4	30.0	1.6
1990	16.50	25.8	27.2	1.5
1991	13.00	22.4	23.9	1.5
1992	10.50	19.5	21.0	1.5
1993	9.50	18.5	20.0	1.5
1994	8.75	18.5	20.1	1.6
1995	10.50	22.1	23.7	1.7
1996	9.75	20.1	21.7	1.6
1997	7.20	17.6	19.2	1.6
1998	6.70	17.8	19.5	1.7
1999	6.50	19.3	21.1	1.8
2000	7.80	21.3	23.2	1.9
2001	6.80	19.5	21.3	1.8
2002	6.55	20.0	21.8	1.9
2003	6.55	22.8	25.0	2.2
2004	7.05	25.6	27.9	2.3
2005	7.30	26.7	29.1	2.4
2006	7.55	26.9	29.3	2.4

With each year after 1986, there has been a gradual increase in the proportion of disposable income that would have had to be spent to meet a one percentage point rise in interest rates. In

other words, there has been a gradual increase in the sensitivity of home buyers to interest rate rises. The situation in June 2006 is such that an increase in interest rates of one percentage point (to 8.55 per cent) would mean that the average household would have to spend an additional 2.4 per cent of its income to meet the increase in home loan repayments. If interest rates were 10 per cent, then the average household in June 2006 would have to spend an additional 6.0 per cent of its income to meet the increase in home loan repayments.

## Conclusion

Home loan affordability has fluctuated considerably over the past 20 years, with affordability at one of its worst points in 1989, a time when interest rates were at a record high. After experiencing further rises and falls, there has been an appreciable deterioration in affordability since 2001, a time when house prices have grown rapidly. It is significant that in 2006 the affordability indicator had fallen to a level comparable to that reached in 1989, despite the fact that interest rates in 2006 have been very much lower than they were in 1989.

It should be borne in mind that, while providing a useful measure of the underlying trend in affordability, the various indexes should be treated with caution when analysing shorter-term cyclical trends. This arises mainly because the indexes are based on median house prices and are therefore influenced by factors unrelated to pure price change. Moreover, the indexes do not account for changes in lending practices which reduce deposit constraints.

1. The only other measure of affordability is that produced by the Australian Bureau of Statistics (ABS). This measure of affordability relates to all existing home loans and is compiled on the basis of data collected in the ABS Survey of Income

and Housing Costs (SIH) which is conducted every second year. For all home owners with a mortgage, the ABS calculates housing costs (mortgage payments **plus** rates payments) as a proportion of gross household income. The ABS measure of affordability is not included in this Research Note as it is neither a timely, nor a widely reported indicator, nor is it consistent with the other measures of affordability discussed in this Research Note. See ABS, *Housing Occupancy and Costs*, 2003–04 (Cat. No. 4130.0.55.001), p. 14.

2. A family is defined as a married couple with or without dependent children. Median family income data are sourced from the Census, with estimates for periods between Censuses derived on the basis of movements in average weekly earnings. Loan repayment figures are calculated from data provided by the Australian Bureau of Statistics, Cannex Pollfax and financial institutions across Australia.
3. Gross household income less income tax payable and other payments to government.
4. In calculating ‘qualifying’ income it is assumed that repayments cannot exceed 30 per cent of before-tax household income. Qualifying household income is converted into qualifying disposable income by using the ratio of household income to disposable income.
5. The median price of an established dwelling is obtained from a census of CBA home loan approvals in a given period, adjusted to approximate ‘first home buyer’ prices.
6. For a discussion of the limitations of the main house-price measures in Australia, see Tony Kryger, ‘House Prices’, *Research Note*, no. 7, Parliamentary Library, Canberra, 2006–07.
7. Productivity Commission, *First Home Ownership*, Melbourne, 2004, pp. 25–30.
8. *ibid.*, p. 48.
9. *ibid.*, p. xv.

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