Australian Institute for Progress

Housing Affordability Index

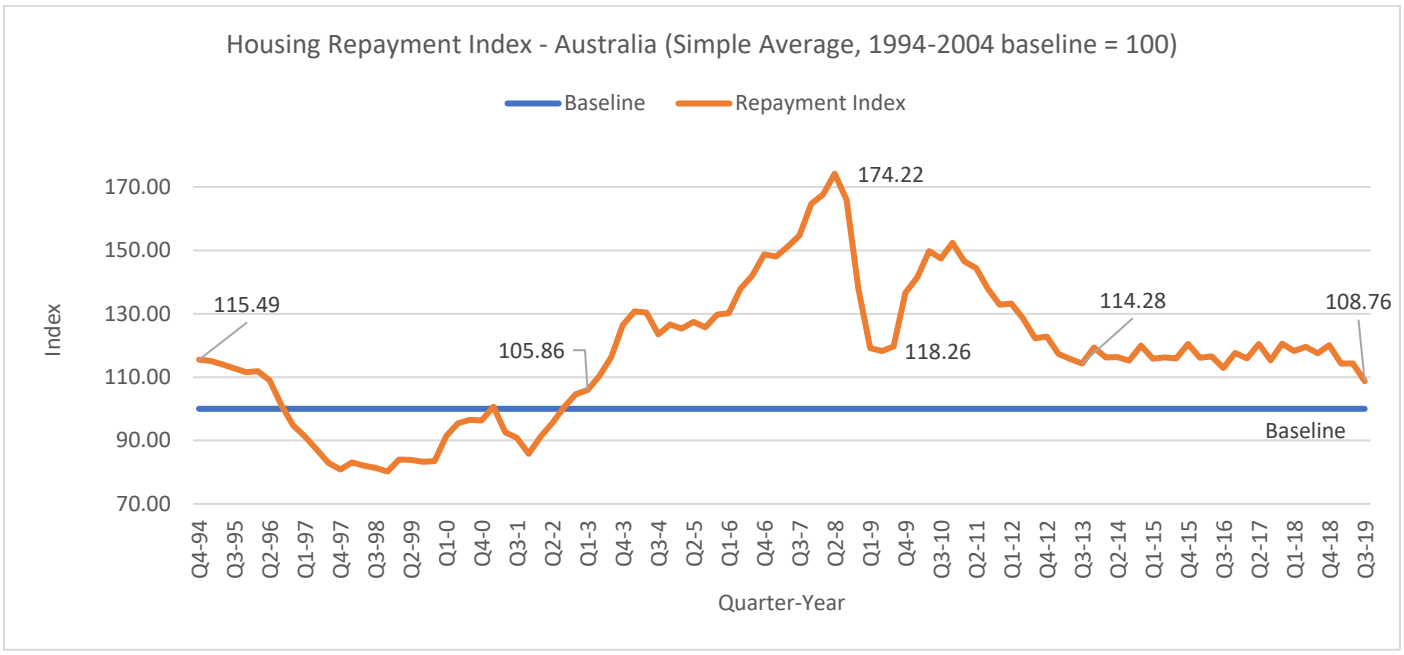
September Quarter, 2019
A Quarterly Review of Housing Affordability

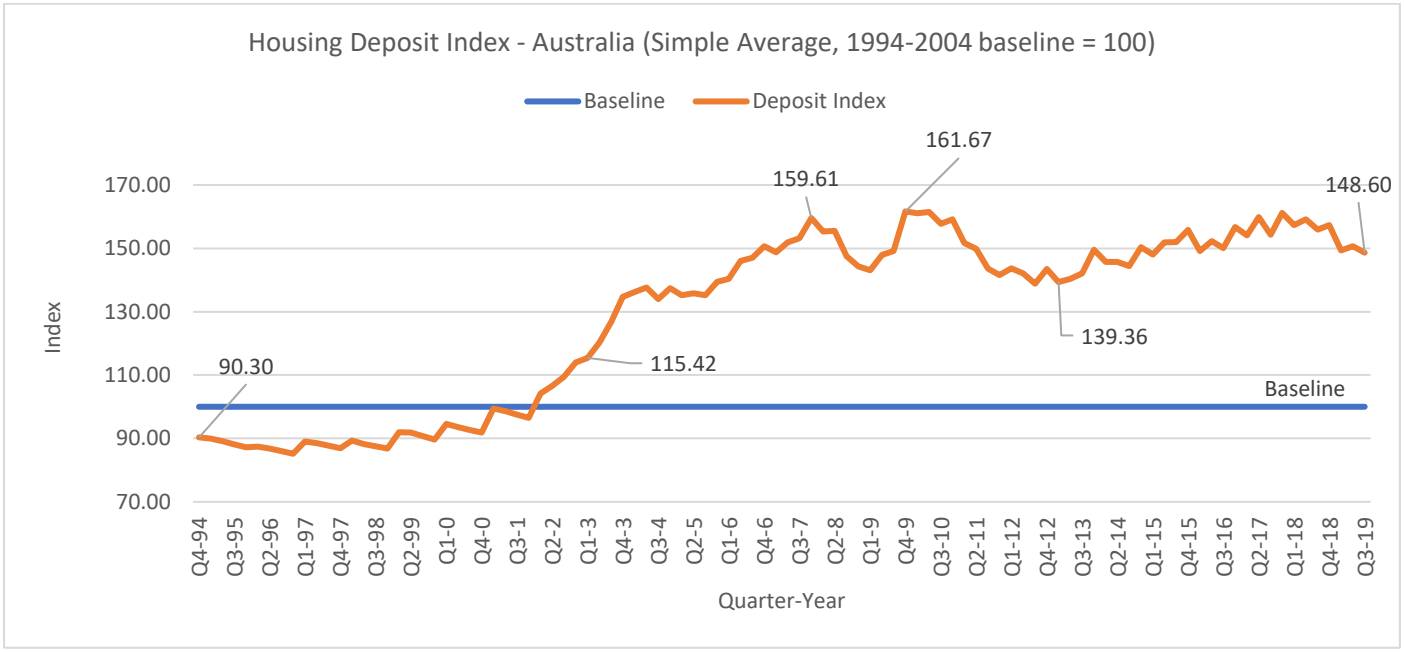
www.aip.asn.au

The Australian Institute for Progress exists to advance the discussion, development and implementation of public policy for Australia's future, from its base in Brisbane. The future does not look after itself.

Highlights

- Repayment costs have decreased over the 3rd quarter of 2019, with the repayment index decreasing from 114.29 to 108.76 over 2019 Q3. The cost of repayments has reached a 16 year historical low.
- Since our dataset started 25 years ago, average repayments are actually more affordable with an initial index figure of 115.49 then dropping 5.83% to 108.76 now.
- Deposits costs have also decreased over the 3rd quarter, reaching a 4 year historical low. The deposit index decreased from 150.64 to 148.6 over 2019 Q3.
- Since our dataset started 25 years ago there has been a 64.56% increase in the deposit index from 90.30 to 148.60. This represents the extra time it would take to save a deposit on average.
- The increase in deposit costs is attributable to a fall in median house prices of $7,900 across Australia, with the decline in repayment costs being further attributable to home loan interest rates falling by 0.43%
- The gap between repayment and deposit costs has narrowed, with the fall in deposit costs being good news for first home buyers looking to enter the housing market




Housing Deposit Index - Australia (Simple Average, 1994-2004 baseline = 100)
Baseline
Deposit Index
161.67
159.61
148.60
170.00
150.00
130.00
110.00
90.00
70.00
Index
90.30
115.42
139.36
Baseline
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year

Summary

Our data now span 25 years, extending from the fourth quarter 1994 to the third quarter 2019. So in addition to our normal analysis which compares the last two quarters we have looked at housing affordability over the last 25 years. It is now 5.83% cheaper for the average Australian to repay an average housing loan than it was in 1994, but it takes the average Australian 65% longer to save the deposit.

The new federal government mortgage guarantee scheme tackles the right aspect of the housing affordability issue, and repayment capacity appears to be historically adequate.

The story across cities is mixed. Darwin repayments are 47.55% cheaper than they were 25 years ago, while Melbourne's are 17.22% more expensive. Perth is 22.69% cheaper and Brisbane is 20.95% cheaper, while the remainder of capitals show little change. Melbourne is the city with most housing discomfort as not only are repayments up substantially, but it takes 11% longer to save the deposit. If it's any consolation it also has the best house price appreciation in Australia.

Comparison between 1994 and 2019		
	Extra time to save a deposit	Change in repayments
Australia	64.56%	-5.83%
Sydney	86.24%	6.81%
Melbourne	111.09%	17.22%
Brisbane	44.88%	-20.95%
Adelaide	71.15%	-2.10%
Hobart	83.61%	1.39%
Darwin	18.44%	-47.55%
Canberra	66.57%	-4.91%
Perth	42.42%	-22.60%

Table 1: Change in repayments and time to save deposit median house 1994 to 2019

A corollary of these figures is that the best capital city real estate market to be invested in over the last quarter of a century was Melbourne, where average prices increased faster than Sydney. While Melbourne started out more affordable, it is now less affordable than Sydney.

	Median price Q4 1994	***Median price Q3 2019***	***Generational Change***
Sydney	$ 192,375	$ 885,000	360%
Melbourne	$ 130,000	$ 685,000	427%
Brisbane	$ 143,000	$ 535,000	274%
Adelaide	$ 113,500	$ 468,000	312%
Hobart	$ 110,500	$ 460,000	316%
Darwin	$ 157,875	$ 472,000	199%
Canberra	$ 160,850	$ 673,800	319%
Perth	$ 123,125	$ 480,000	290%
Average	$ 141,403	$ 582,350	312%

Looking at the short term the 2019 Quarter 3 Australian housing market saw an increase in the affordability of both housing deposits and repayments.

On average, repayment costs across Australia are even more affordable now than they were at the depth of the GFC housing market crash. In fact one has to go back to 2003 to find affordability at better levels. Deposit costs are at the level experienced in 2015 Q1.

Save for Sydney and Melbourne, the decrease in deposit costs is consistent across all capital cities with Hobart and Canberra experiencing the greatest reduction in costs. Hobart and Canberra also experienced the greatest increase in deposit costs between 2019 Q1 and 2019 Q2, suggesting these markets have the greatest demand and/or lack of supply.

Housing repayment costs have fallen across all capital cities, with the increase in median house prices in Sydney and Melbourne being offset by declining interest rates.

We measure repayment affordability by using ABS statistics for median house prices and calculating the ratio of repayments to average weekly earnings and expressing it as a percentage of the average for the first 10 years of the series to produce an index figure. We measure deposit affordability by calculating the ratio of an average 20% deposit to average weekly earnings and expressing it as a percentage of the average figure for the first 10 years of the series to produce an index figure.

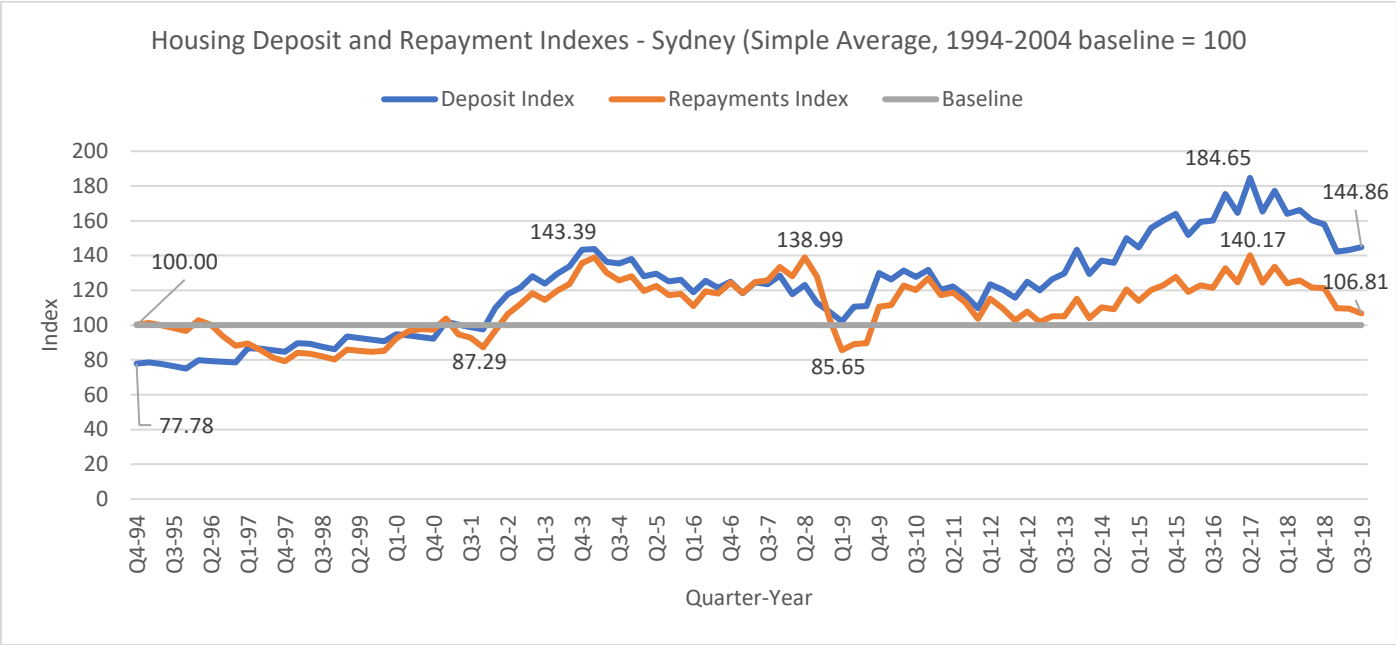
	Deposit Index	*Repayment Index*
Sydney	144.9 (+1.6)	106.8 (-2.7)
Melbourne	172.3 (+1.3)	126.9 (-3.7)
Brisbane	137.7 (0.0)	100.3 (-3.7)
Adelaide	157.9 (-0.7)	115.7 (-4.8)
Hobart	178.9 (-11.7)	130.1 (-13.6)
Darwin	116.6 (-1.5)	84.5 (-4.2)
Canberra	160.4 (-9.6)	117.6 (-11.6)
Perth	128.2 (0.0)	93.8 (-3.4)
Average	148.6 (-2.0)	108.8 (-5.5)

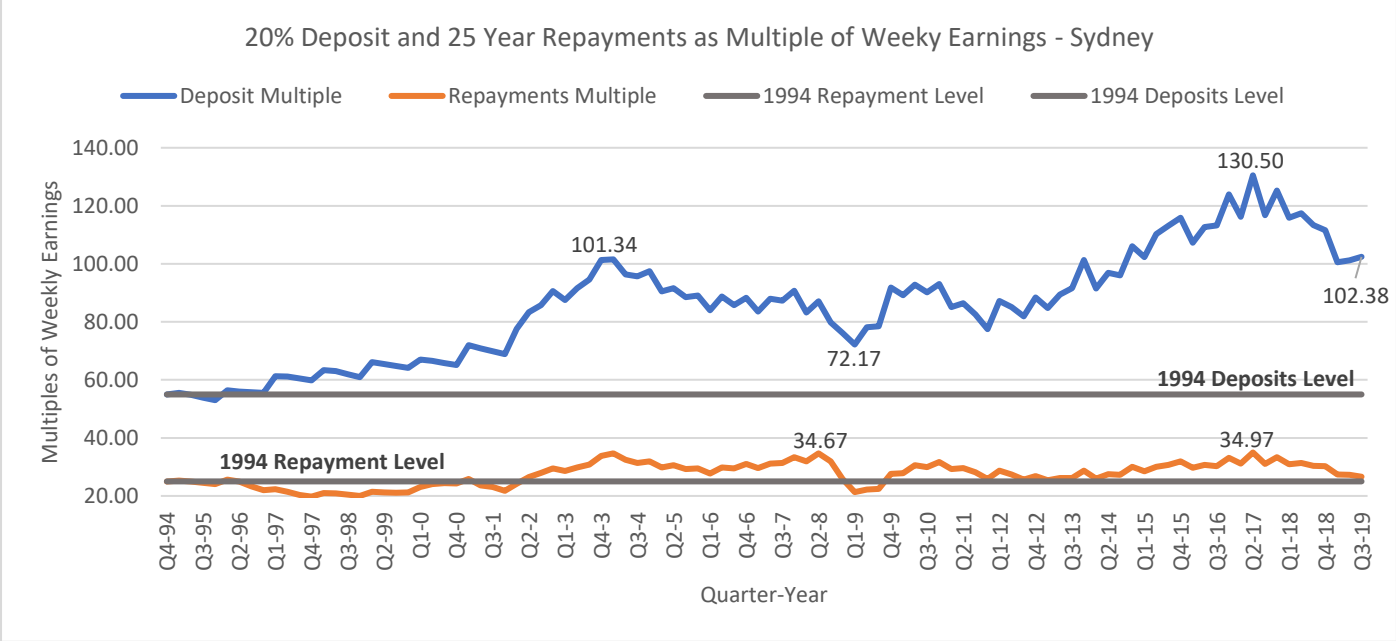
Graham Young
Executive Director
Australian Institute for Progress

Nicholas Umashev
Economic Researcher
Australian Institute for Progress

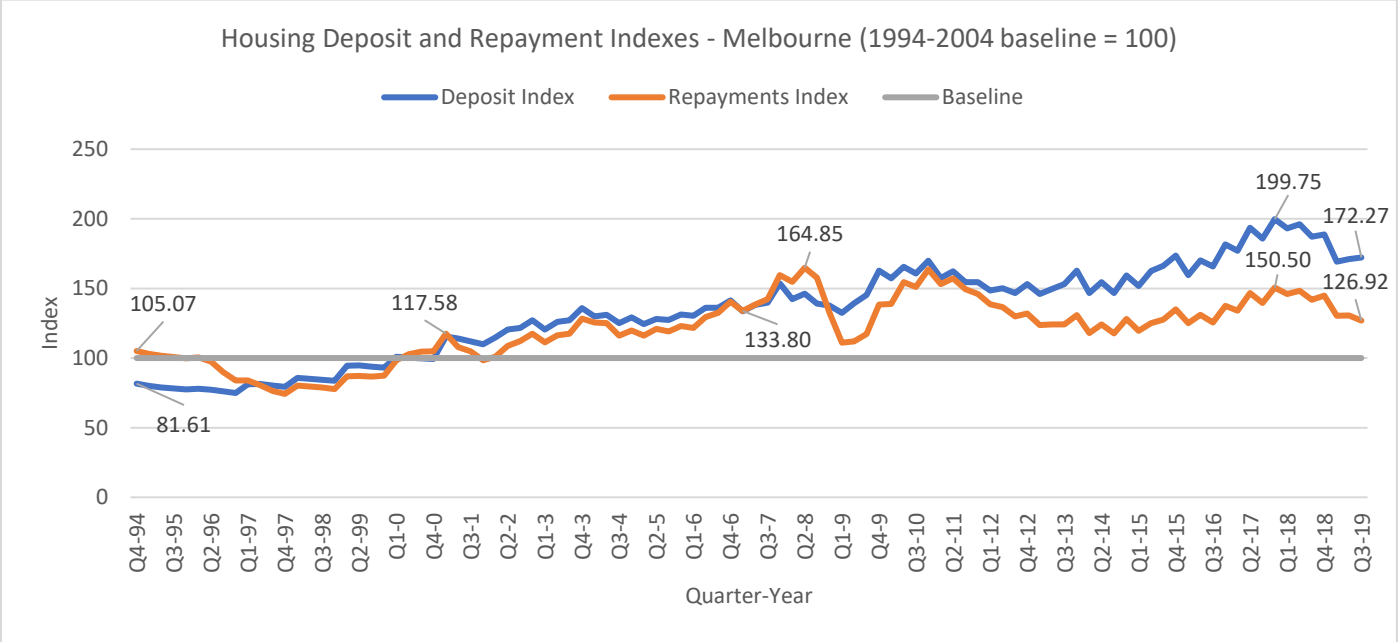
Deposit and Repayment Costs by State

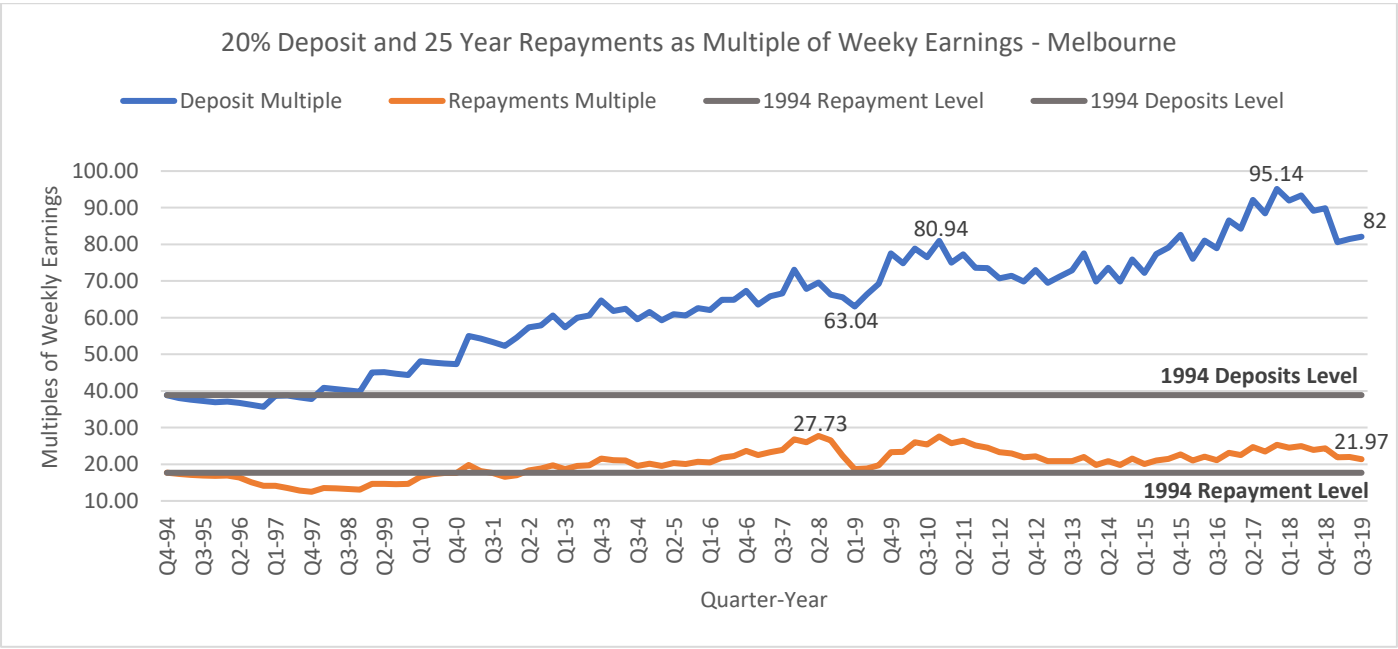
Sydney



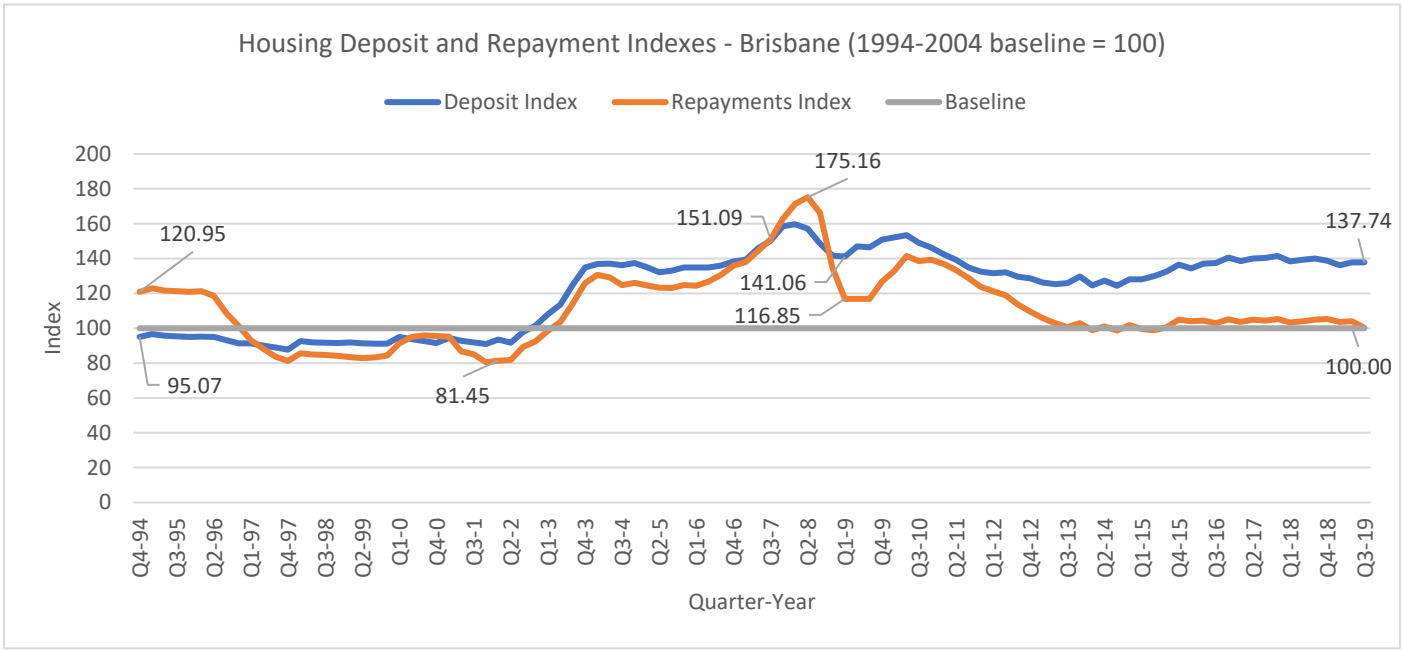


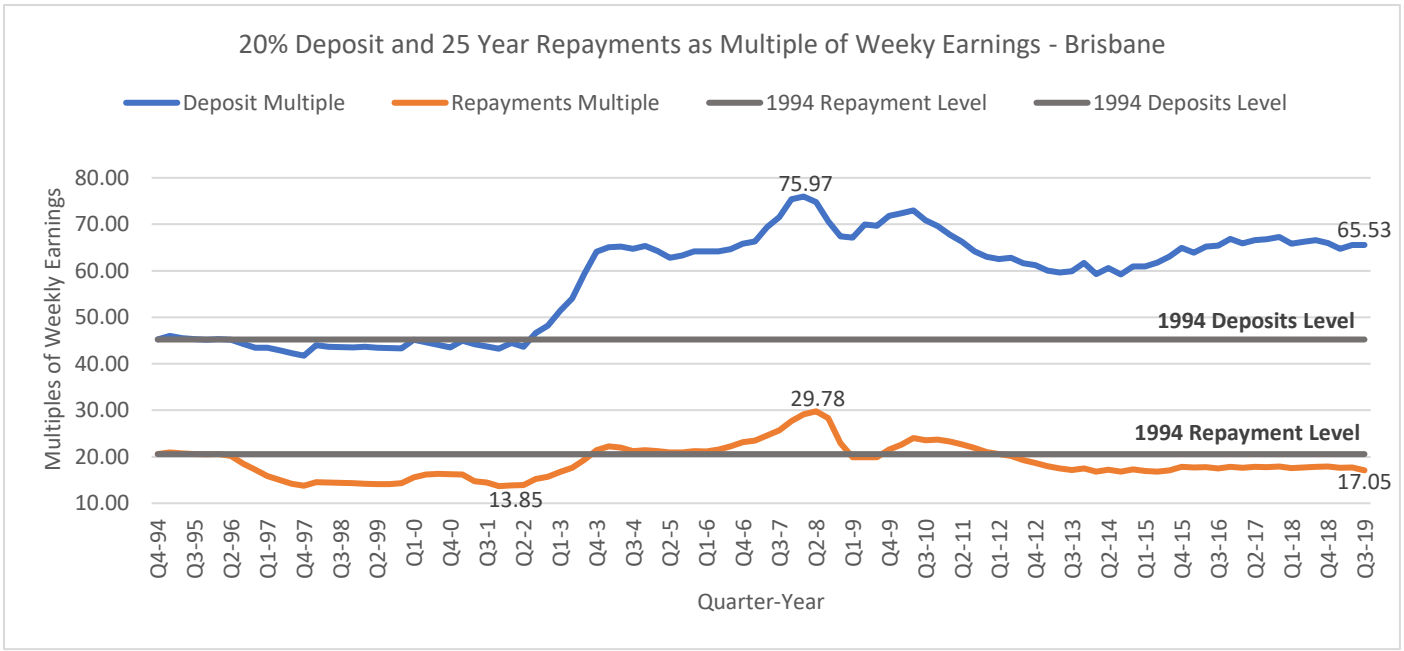
Melbourne


Housing Deposit and Repayment Indexes - Melbourne (1994-2004 baseline = 100)
Deposit Index
Repayments Index
Baseline
Index
250
200
150
100
50
0
105.07
81.61
117.58
164.85
133.80
199.75
150.50
172.27
126.92
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year

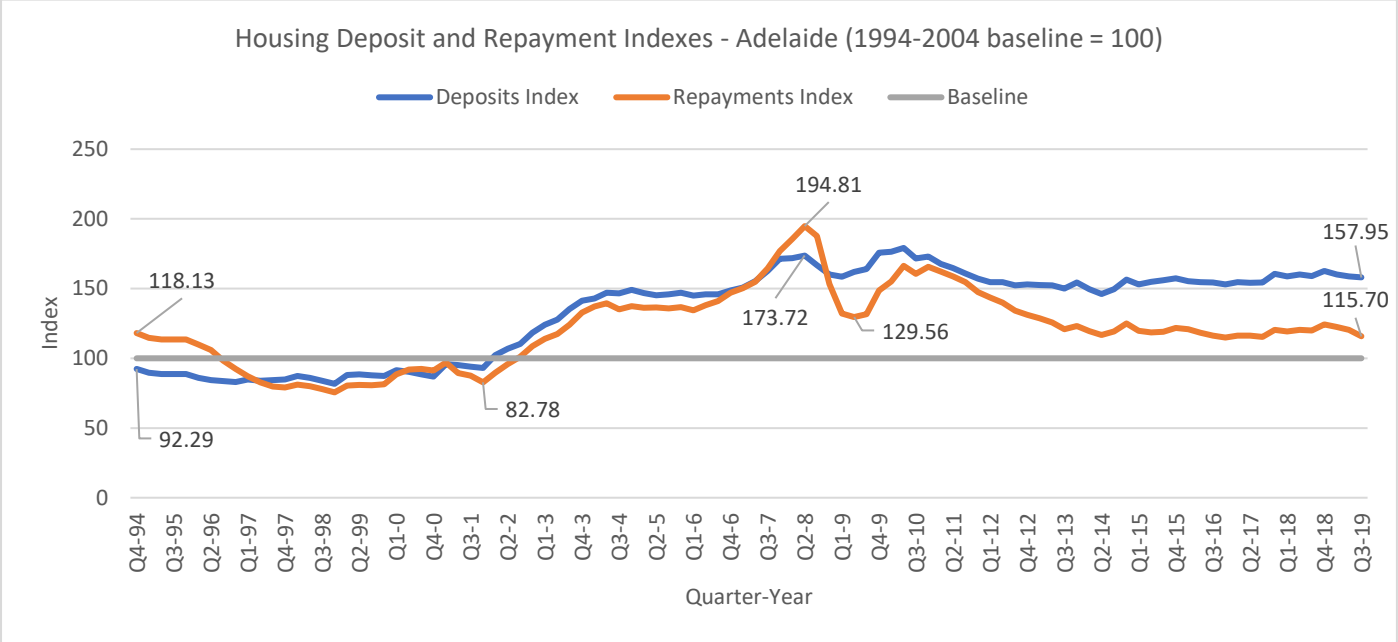

20% Deposit and 25 Year Repayments as Multiple of Weeky Earnings - Melbourne
Deposit Multiple
Repayments Multiple
1994 Repayment Level
1994 Deposits Level
Multiples of Weekly Earnings
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
95.14
82
80.94
63.04
1994 Deposits Level
27.73
21.97
1994 Repayment Level
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year

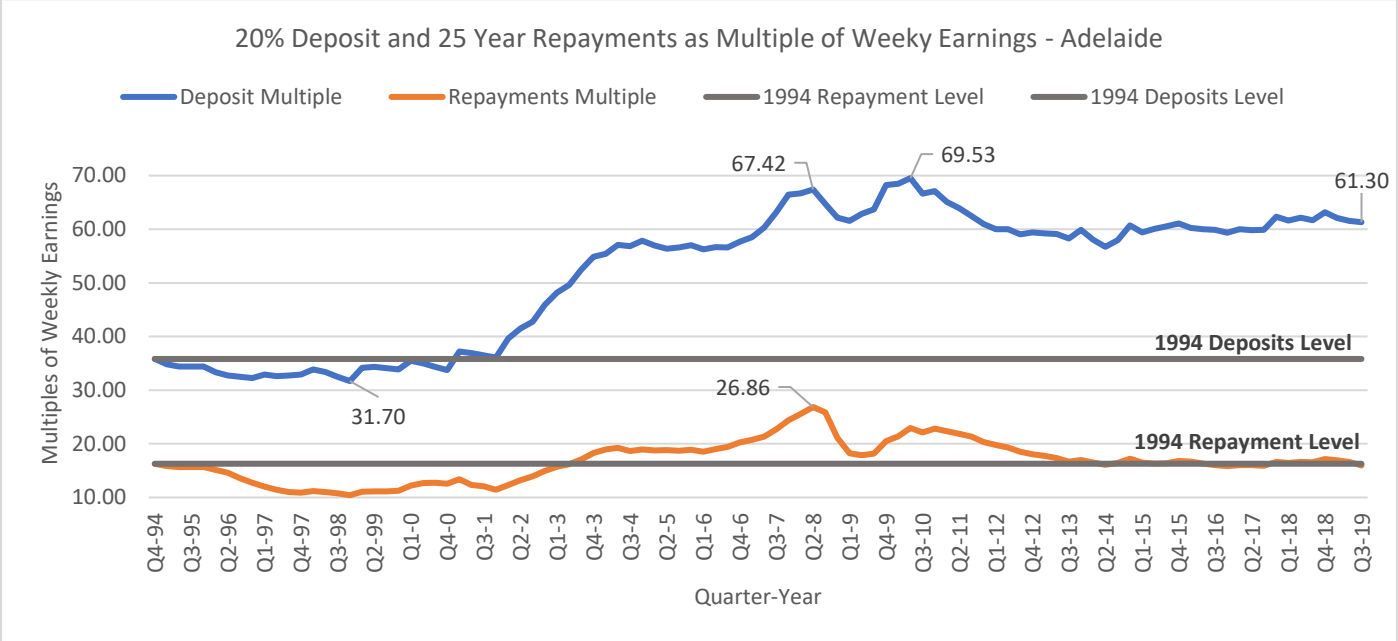
Brisbane


Housing Deposit and Repayment Indexes - Brisbane (1994-2004 baseline = 100)
Deposit Index
Repayments Index
Baseline
Index
Quarter-Year
120.95
95.07
81.45
151.09
175.16
141.06
116.85
137.74
100.00

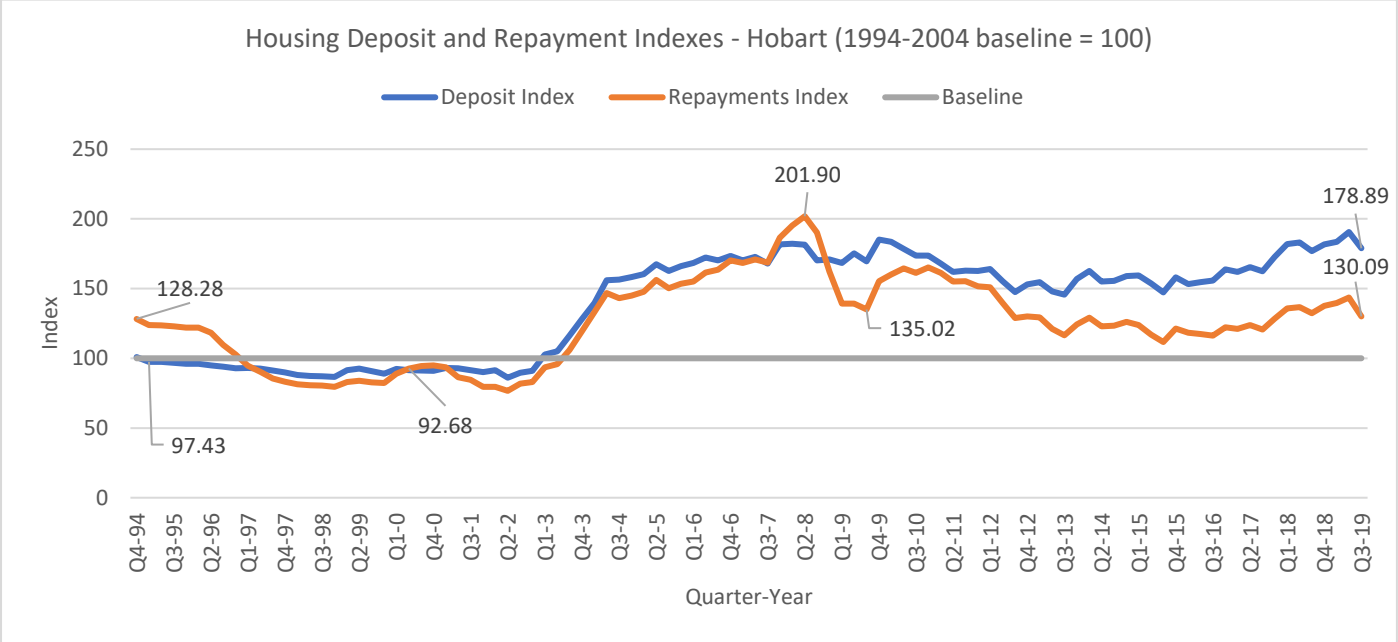

20% Deposit and 25 Year Repayments as Multiple of Weeky Earnings - Brisbane
Deposit Multiple
Repayments Multiple
1994 Repayment Level
1994 Deposits Level
Multiples of Weekly Earnings
Quarter-Year
75.97
65.53
29.78
13.85
17.05
1994 Deposits Level
1994 Repayment Level

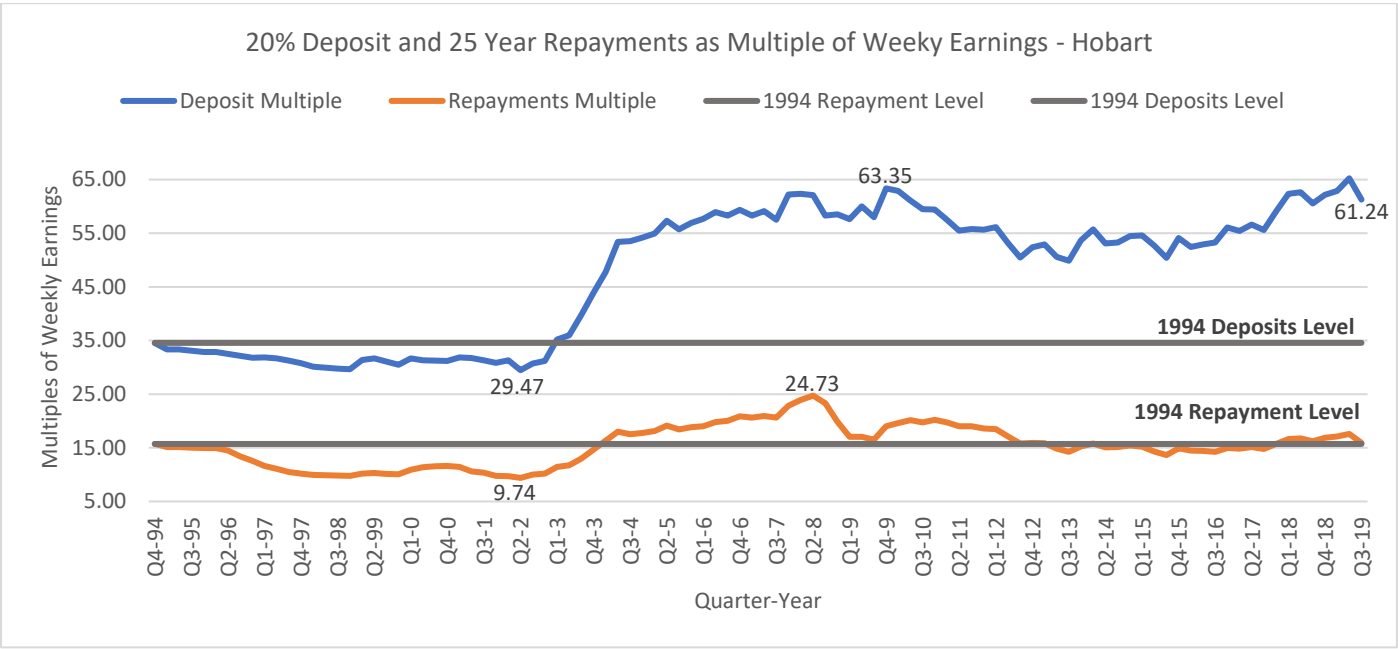
Adelaide


Housing Deposit and Repayment Indexes - Adelaide (1994-2004 baseline = 100)
Deposits Index
Repayments Index
Baseline
Index
Quarter-Year
118.13
92.29
82.78
194.81
173.72
129.56
157.95
115.70

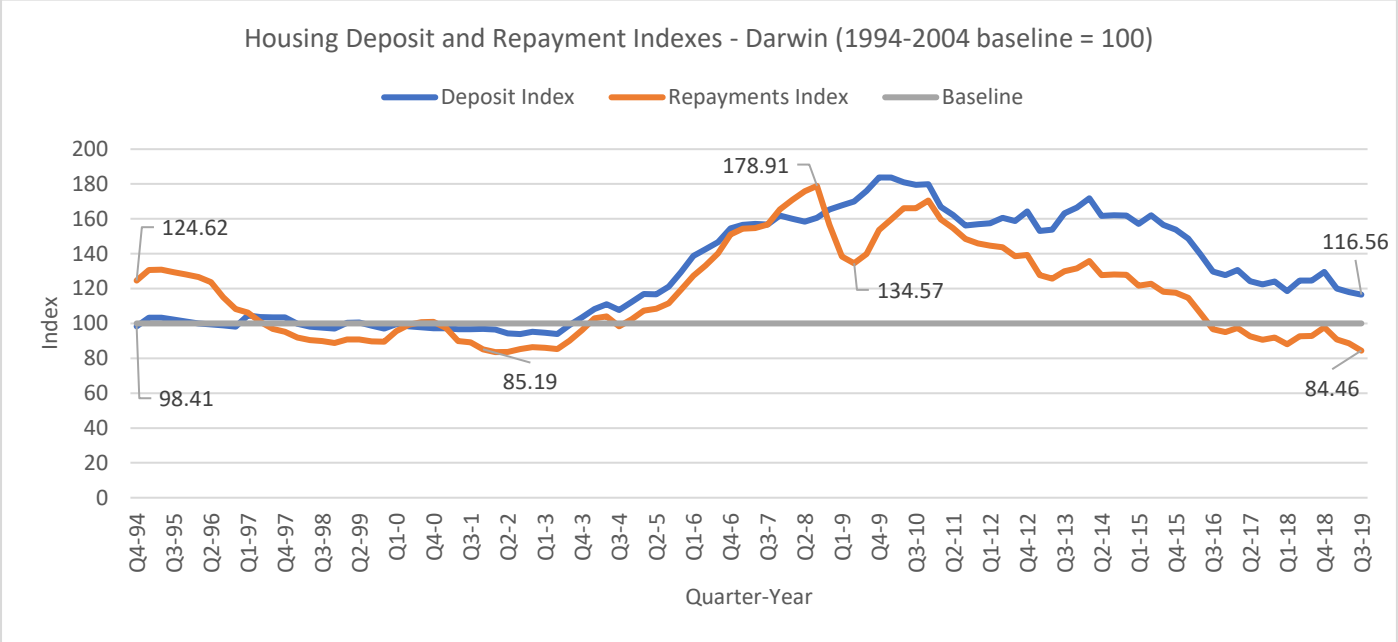

20% Deposit and 25 Year Repayments as Multiple of Weeky Earnings - Adelaide
Deposit Multiple
Repayments Multiple
1994 Repayment Level
1994 Deposits Level
Multiples of Weekly Earnings
Quarter-Year
67.42
69.53
61.30
31.70
26.86
1994 Deposits Level
1994 Repayment Level

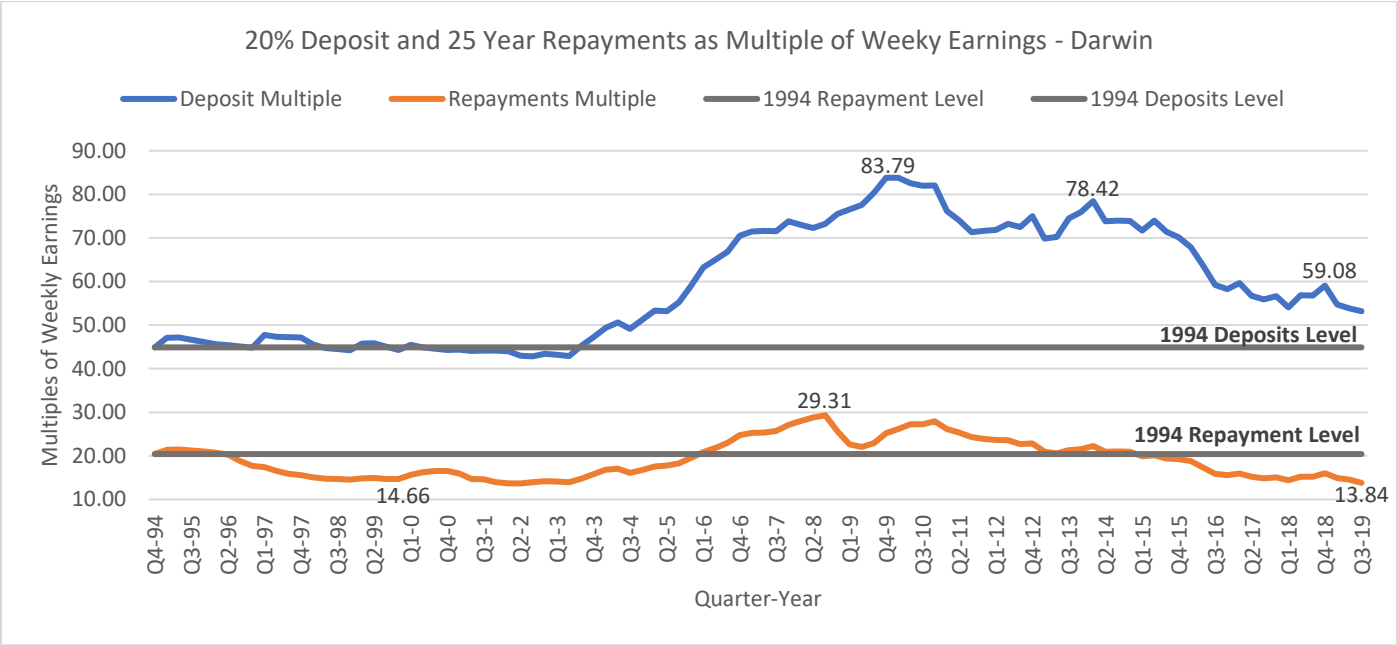
Hobart


Housing Deposit and Repayment Indexes - Hobart (1994-2004 baseline = 100)
Deposit Index
Repayments Index
Baseline
Index
250
200
150
100
50
0
128.28
97.43
92.68
201.90
135.02
178.89
130.09
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year

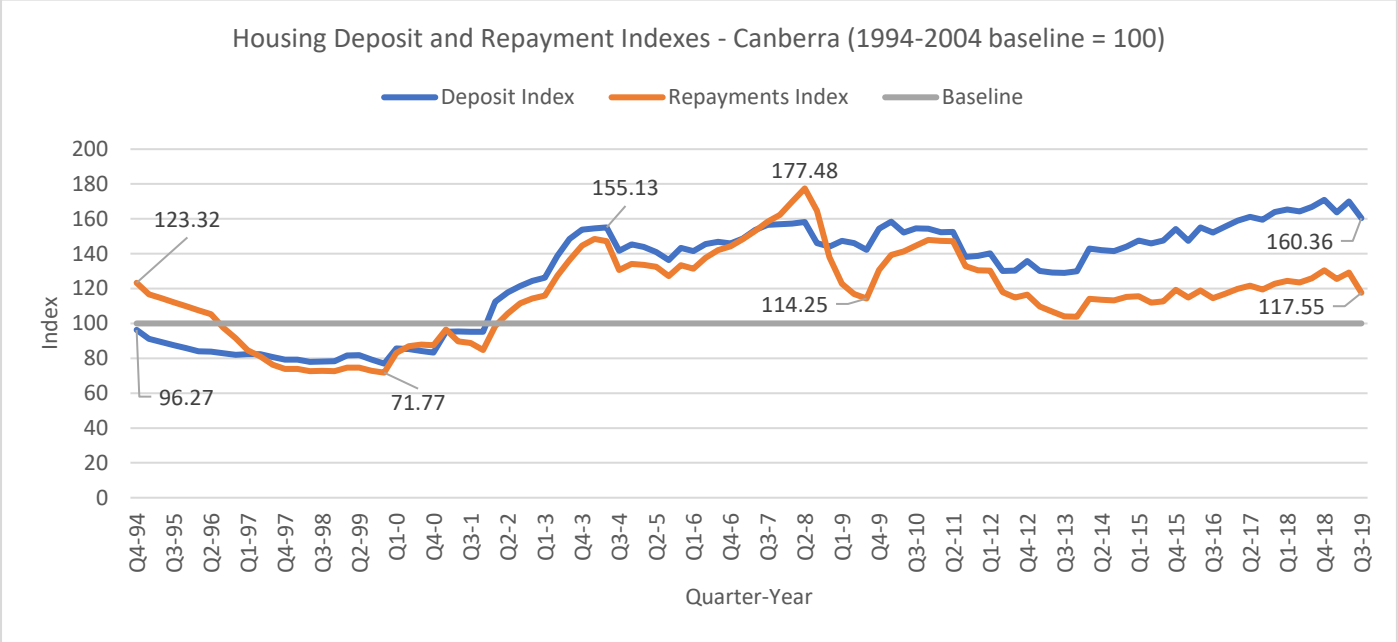

20% Deposit and 25 Year Repayments as Multiple of Weeky Earnings - Hobart
Deposit Multiple
Repayments Multiple
1994 Repayment Level
1994 Deposits Level
Multiples of Weekly Earnings
65.00
55.00
45.00
35.00
25.00
15.00
5.00
63.35
61.24
29.47
24.73
9.74
1994 Deposits Level
1994 Repayment Level
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year

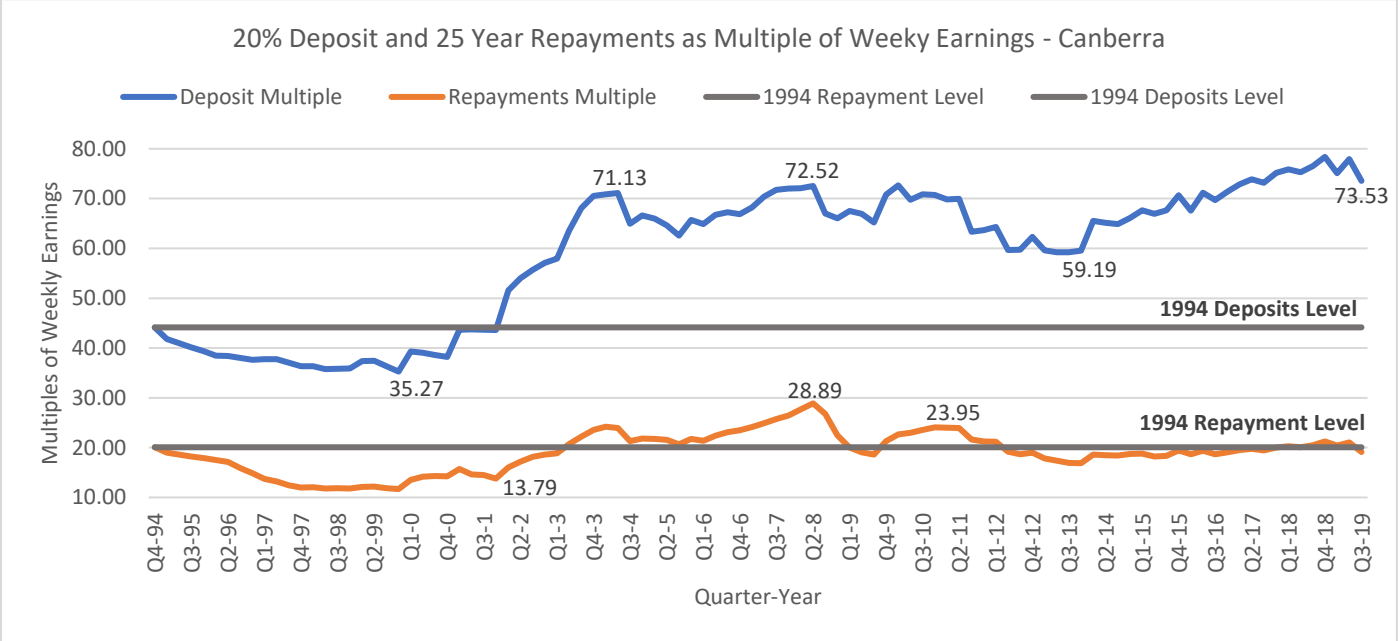
Darwin


Housing Deposit and Repayment Indexes - Darwin (1994-2004 baseline = 100)
Deposit Index
Repayments Index
Baseline
Index
200
180
160
140
120
100
80
60
40
20
0
124.62
178.91
116.56
134.57
98.41
85.19
84.46
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year

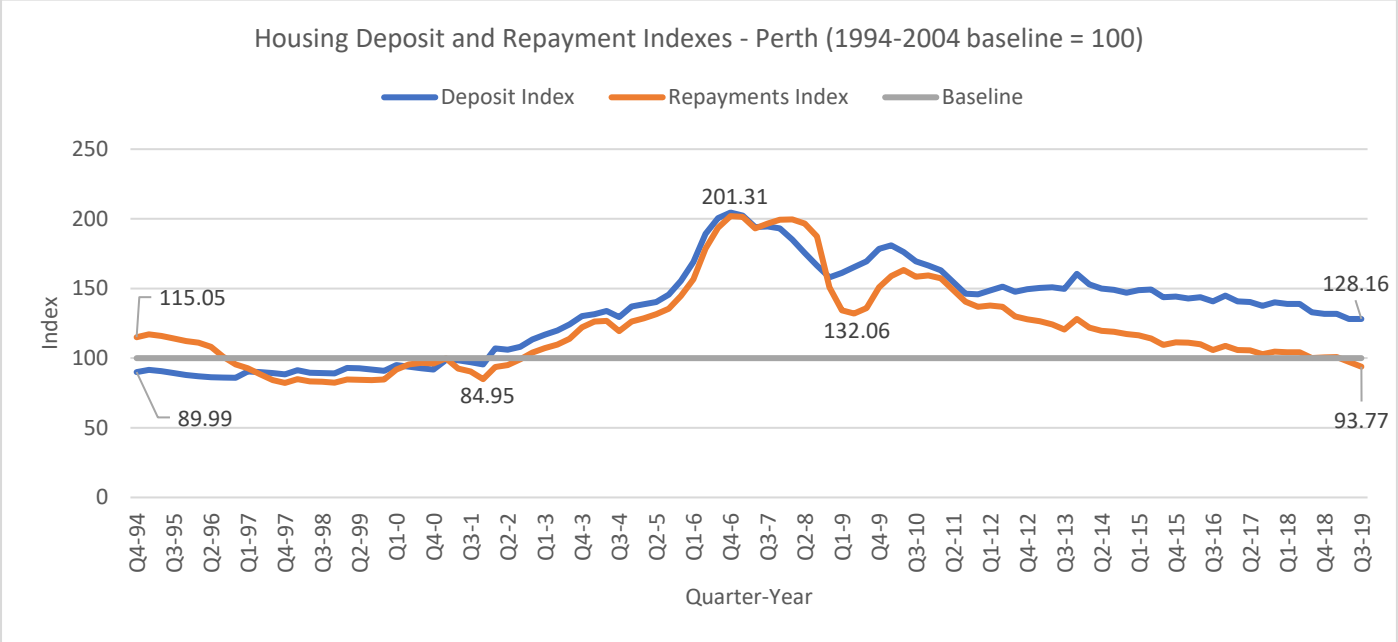

20% Deposit and 25 Year Repayments as Multiple of Weeky Earnings - Darwin
Deposit Multiple
Repayments Multiple
1994 Repayment Level
1994 Deposits Level
Multiples of Weekly Earnings
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
83.79
78.42
59.08
1994 Deposits Level
29.31
1994 Repayment Level
14.66
13.84
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year

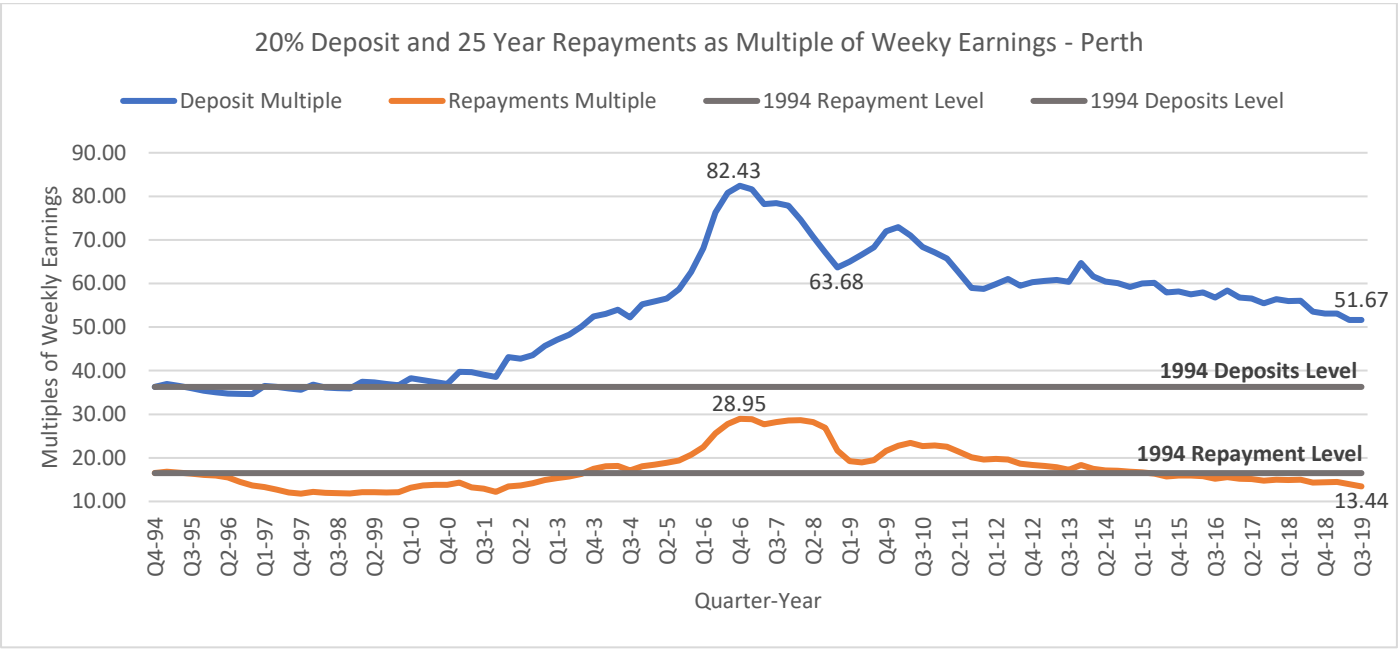
Canberra


Housing Deposit and Repayment Indexes - Canberra (1994-2004 baseline = 100)
Deposit Index
Repayments Index
Baseline
Index
Quarter-Year
123.32
96.27
71.77
155.13
177.48
114.25
160.36
117.55


20% Deposit and 25 Year Repayments as Multiple of Weeky Earnings - Canberra
Deposit Multiple
Repayments Multiple
1994 Repayment Level
1994 Deposits Level
Multiples of Weekly Earnings
Quarter-Year
71.13
72.52
73.53
59.19
35.27
28.89
23.95
13.79

Perth


Housing Deposit and Repayment Indexes - Perth (1994-2004 baseline = 100)
Deposit Index
Repayments Index
Baseline
Index
250
200
150
100
50
0
115.05
89.99
84.95
201.31
132.06
128.16
93.77
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year


20% Deposit and 25 Year Repayments as Multiple of Weeky Earnings - Perth
Deposit Multiple
Repayments Multiple
1994 Repayment Level
1994 Deposits Level
Multiples of Weekly Earnings
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
82.43
63.68
51.67
28.95
13.44
1994 Deposits Level
1994 Repayment Level
Q4-94
Q3-95
Q2-96
Q1-97
Q4-97
Q3-98
Q2-99
Q1-0
Q4-0
Q3-1
Q2-2
Q1-3
Q4-3
Q3-4
Q2-5
Q1-6
Q4-6
Q3-7
Q2-8
Q1-9
Q4-9
Q3-10
Q2-11
Q1-12
Q4-12
Q3-13
Q2-14
Q1-15
Q4-15
Q3-16
Q2-17
Q1-18
Q4-18
Q3-19
Quarter-Year

Methodology

Since the majority of Australians rely on a mixture of debt and equity to purchase real estate, it is necessary to analyse housing affordability based on the cost of deposits and repayments. To reflect the real experience of home buyers, rather than just the increase in capital values, we model the cost of notional deposits and house repayments between Q4:1994 and Q3:2019 across Australia's eight most populous cities.

For the mortgage structure, we assume a 20% home deposit as well as monthly payments and daily compounding over a 25-year mortgage period. We calculate the average owner-occupier home loan rate over a given quarter, providing us with an estimate for the mortgage rate over the following 25-year loan period. In addition to using the median residential price for a given capital city, we also use average weekly earnings reported on the state level.

To calculate the repayment multiplier, we take the total yearly payment for a principal interest loan divided by the average weekly earnings for a given city and quarter. To calculate the deposit multiplier, we instead divide the cost of a deposit by average weekly earnings. Note that due to the limited housing data available, we take the national average weekly multiplier to be the simple average of the weekly multiplier for Australia's 8 most populous cities. Using the weekly multiplier values, we use a city's average weekly multiplier over the period Q4:1994 to Q4:2004 as the baseline for that city's index (with the baseline indexed to 100).

The datasets used within this model include: ABS 6302 Average Weekly Earnings, ABS 6412 Residential Property Prices Indexes for post-2002 median house prices, table 1 of Abelson 2003 for pre-2002 median house prices, and RBA F5 Indicator Lending Rates for owner-occupier variable standard housing loan rates.

References

1. Abelson, Peter; Chung, Demi. (2004). *Housing Prices in Australia: 1970 to 2003*. Published by The University of Sydney. Obtained via: https://www.researchgate.net/publication/5165791_Housing_Prices_in_Australia_-_1970_to_2003

2. ABS 6416. (September 2019 series). *Residential Property Price Indexes: Eight Capital Cities*. Obtained via: https://www.abs.gov.au/ausstats/abs@.nsf/mf/6416.0

3. ABS 6302. (May 2019 series). *Average Weekly Earnings: Australia*. Obtained via: https://www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/7F76D15354BB25D5CA2575BC001D5866?opendocument

4. RBA F05. (December 2019 series). *Indicator Lending Rates*. Obtained via: https://www.rba.gov.au/statistics/tables/xls/f05hist.xls