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## REVIEW OF FINANCIAL CONDITIONS: JUNE 2012

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### HOUSEHOLD SECTOR

Real household disposable income increased by 1.4 per cent in the March quarter to be 2.8 per cent higher over the year. The household saving ratio fell to 9.3 per cent, from an upwardly revised 9.4 per cent in the December quarter. Household interest payments (including FISIM) fell modestly to be just below 11 per cent of disposable income. This largely reflects lower average outstanding rates on housing and personal debt over the quarter.

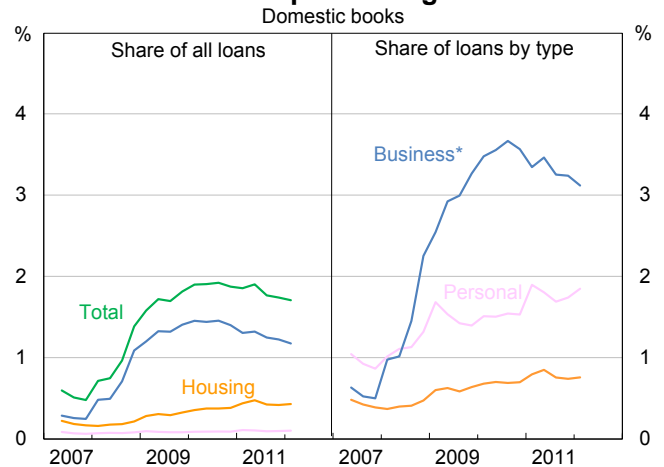
### PROPERTY

Preliminary estimates suggest that capital city dwelling prices have risen by 0.7 per cent over June to date, but are down 1.3 per cent over the quarter and 4.3 per cent over the year. There is broad-based weakness across the major capital cities, particularly in Melbourne, which has fallen 7½ per cent in year-ended terms. Other housing indicators remain subdued: low turnover has led to a high stock of unsold homes; vendors continue to offer large discounts and despite recent increases, auction clearance rates remain below their post-2000 averages, particularly in Melbourne.

### Lending Conditions

Banks' non-performing domestic loans, as a share of their total on-balance sheet loans, fell marginally over the March quarter to be 1.7 per cent, around 20 basis points below the 2010 peak (Graph 8). The decline from the 2010 peak partly reflects a decline in non-performing business loans. Over the quarter, non-performing housing and personal loans, as a share of total loans, remained broadly unchanged.

**Graph 8**  
Banks' Non-performing Assets

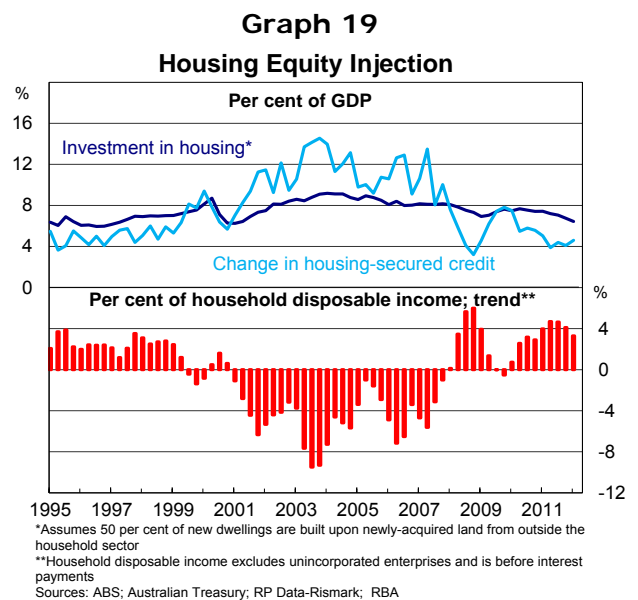


\* Includes lending to financial businesses, bills and debt securities and other non-household loans  
Source: APRA

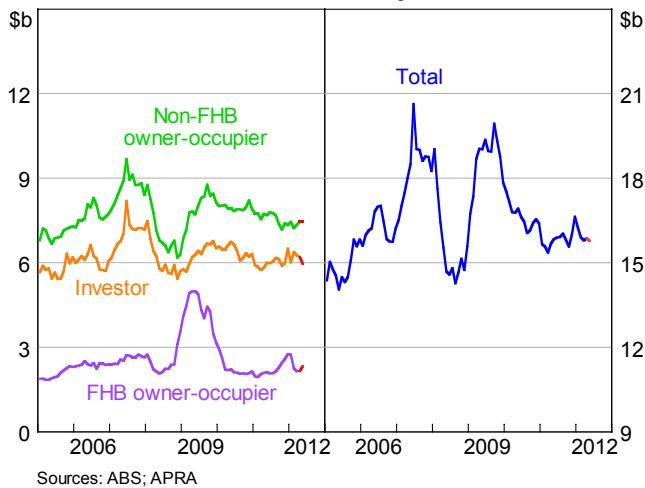
In trend terms, **housing equity injection** is estimated to have been around 3.3 per cent of household disposable income in the March quarter, down from around 4.1 per cent in the December quarter (Graph 19).

## Financing

Preliminary APRA data suggests the value of net housing **loan approvals** fell by around 0.5 per cent in May, to be 0.5 per cent lower over the year (Graph 21). Excluding investor approvals for new construction, which tend to be volatile, total loan approvals rose by almost 1 per cent. **Owner-occupier loan approvals** increased by 1½ per cent, driven by a 7 per cent rise in first-home buyer approvals. In contrast, **investor loan approvals** fell by 4 per cent; excluding approvals for new construction, investor approvals fell by 0.5 per cent.



**Graph 21**  
**Value of Housing Loan Approvals**  
Net of refinancing



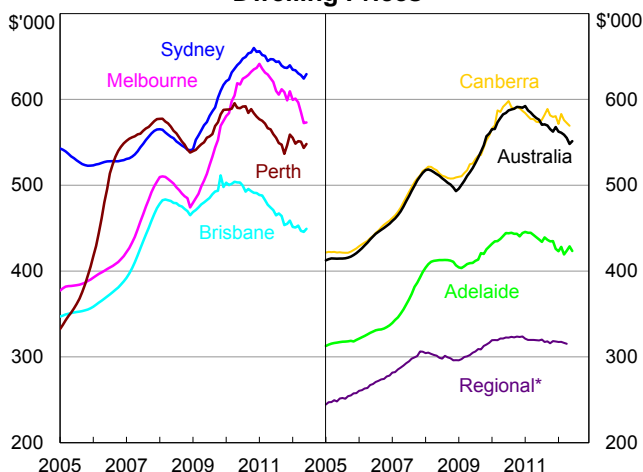
## PROPERTY

### Residential Property

According to the RP Data-Rismark index, capital city **dwelling prices** have risen 0.7 per cent over June to date, but are 1.3 per cent lower over the quarter and 4.3 per cent over the year (Graph 23, Table 2). Prices are estimated to have risen in all mainland state capital cities except Adelaide, where, in contrast to the other cities, prices increased in April and May.

The fall in prices over the year has been broad-based: prices in Melbourne have fallen by 7½ per cent, while Sydney, Brisbane, Perth and Adelaide have fared slightly better, with prices down by between 2 and 5 per cent over the year.

**Graph 23**  
**Dwelling Prices**



\* Excluding apartments; measured as areas outside of capital cities in New South Wales, Victoria, Queensland, Western Australia and South Australia  
Sources: RBA; RP Data-Rismark

**Table 2**

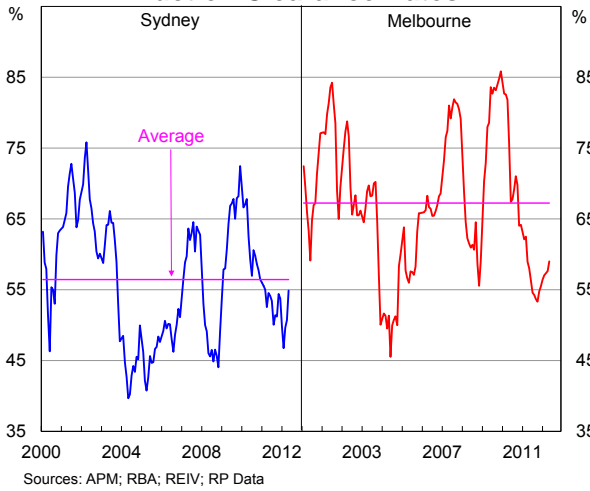
**Dwelling Price Growth**  
As at 20 June 2012; per cent

	Monthly	Quarterly	Yearly
Sydney	0.8	-0.2	-2.7
Melbourne	0.3	-3.8	-7.5
Brisbane	0.8	-0.8	-4.6
Perth	1.1	-0.4	-1.8
Adelaide	-1.2	1.0	-3.0
<b>Australia</b>	<b>0.7</b>	<b>-1.3</b>	<b>-4.3</b>

Sources: RBA; RP Data-Rismark

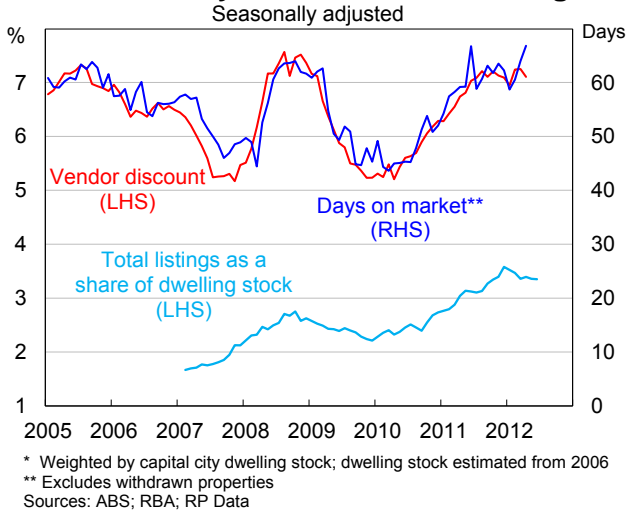
Auction clearance rates remain well below average in Melbourne, although they have risen above their late 2011 troughs (Graph 24). Preliminary estimates see the national turnover rate for the March quarter at 4 per cent of the dwelling stock, which is close to its historical low of the early 1990s. This has led to a high stock of unsold homes (3½ per cent of the dwelling stock compared to 1½ per cent in early 2007) (Graph 25). The rate of vendor discounting (defined as the difference between the initial listing price and the final sale price) remains elevated.

**Graph 24**  
**Auction Clearance Rates**



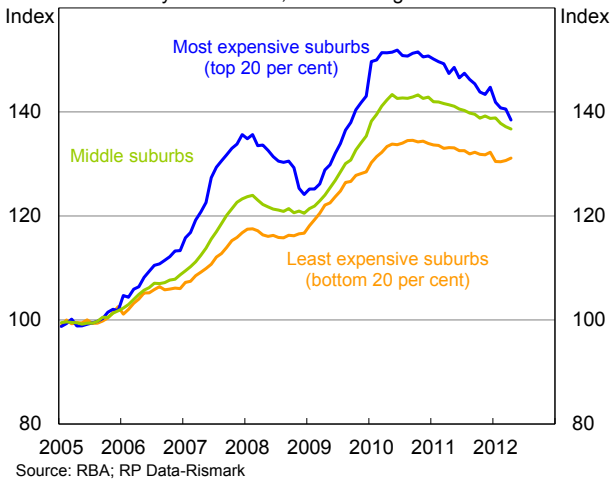
**Graph 25**

**Discounts, Days on Market and Listings\***

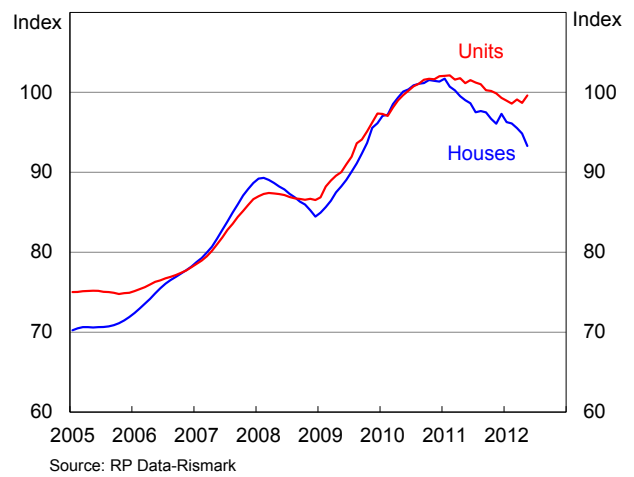


Prices have fallen further in more expensive suburbs than in more affordable suburbs over the year, while apartment prices have held up better than house prices (Graphs 26 & 27).

**Graph 26**  
**State Capital Dwelling Prices**  
By suburb cost, 2005 average = 100

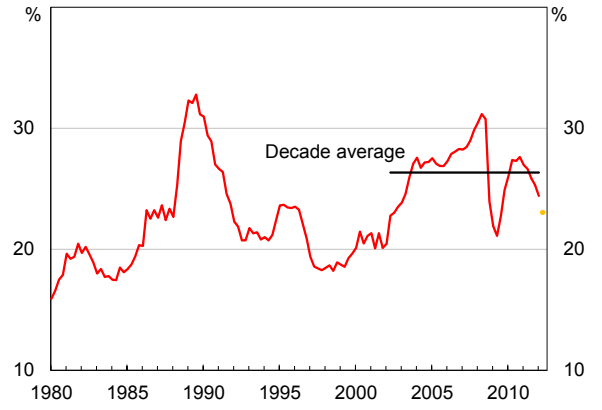


**Graph 27**  
**House and Unit Prices**  
2010 = 100



Falling dwelling prices and lending rates have improved housing affordability: mortgage repayments fell to one quarter of disposable income, and are expected to fall further in the June quarter (Graph 29)

**Graph 29**  
**Repayments on New Housing Loans**  
 Per cent of household disposable income\*



\* Housing loan repayments calculated as the required repayment on a new 80 per cent LVR loan with full documentation for the nationwide median-price home. Based on capital city house price data prior to 1990; Household disposable income is before interest payments; RBA estimate for June quarter 2012  
 Sources: ABS; RBA; RP Data-Rismark

## CONFIDENTIAL

**Meetings with Mortgage Brokers – June 2012**

*Staff from Domestic Markets and Financial Stability recently met with mortgage brokers: discussions focused on and developments in the housing finance market.*

*; lending standards have been little changed over the past year, apart from some tightening in property valuation practices;*

**Conditions in the Housing Finance Market**

Lending standards do not appear to have changed materially over the past year, apart from valuation practices (discussed below). This includes policies around interest rate serviceability margins, which do not appear to have changed considerably as the cash rate has been reduced.

Brokers remain cautious about recommending low-doc loans based on their uncertainty about their increased responsibilities under the National Consumer Credit Protection (NCCP) legislation, including its requirement that loans are appropriate for the borrowers. Consequently, some brokers are reportedly referring low-doc customers directly to financial institutions rather than acting as an intermediary.

## CONFIDENTIAL

### *Valuation standards*

The surveyed brokers noted that banks had increased their focus on valuation practices. Banks increasingly require a full physical inspection of a property, whereas previously they may have been content with a 'desktop' or 'kerb-side' valuation. Banks have also started to spend more resources on evaluating their valuers, requiring the directors of the valuation firms to sign-off on their valuations, and shortened the period for which they will accept an 'old' valuation of a property, rather than commission a new valuation, from two years to often only six months. More recently, however, there has been some evidence that banks are willing to extend the time period before a new valuation is required.

Brokers noted that valuation firms also seem more conservative in their assessment of property values amid concerns about exposure to professional liability claims. The increased focus on property valuations has also introduced more uncertainty into the loan approval process for higher LVR loans.



CONFIDENTIAL

Institutional Markets Section  
28 June 2012

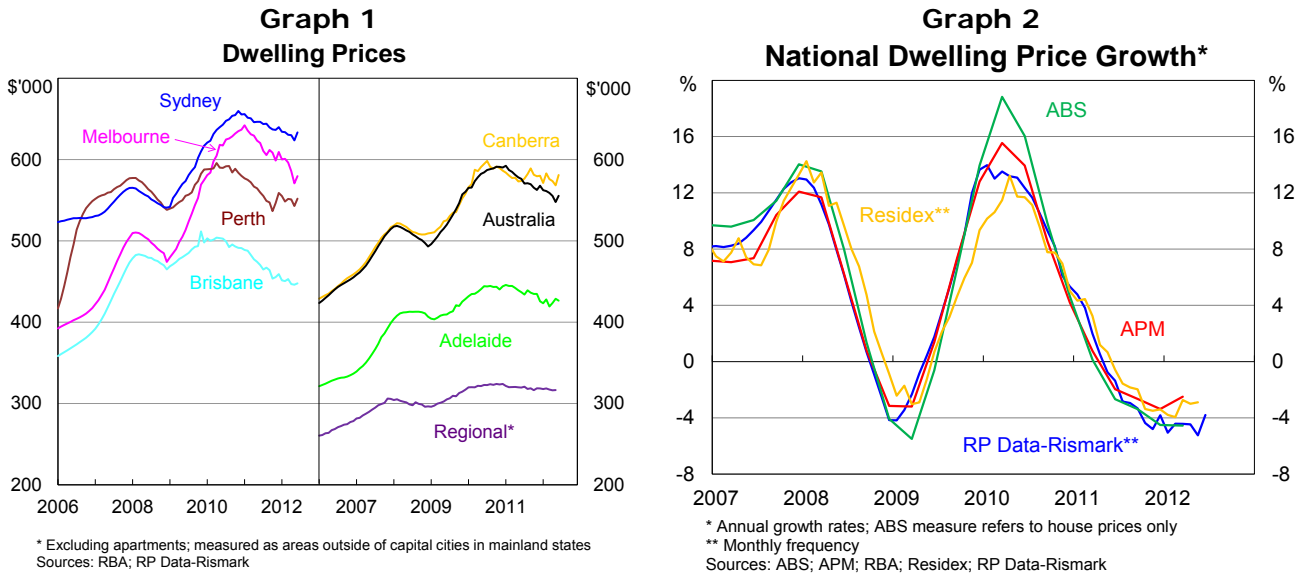
## Dwelling Prices Monthly Review – June 2012

Dwelling prices rose by a seasonally adjusted 1.4 per cent in June according to RP Data-Rismark (RP), which is the largest monthly rise in 2½ years. However, this should be seen in the light of the 1.4 per cent fall in May, with prices still 0.6 per cent lower over the quarter and 3.6 per cent lower over the year. Perth, Sydney and Melbourne recorded the strongest monthly gains (all up by around 1½ per cent), but as with the national result this essentially reverses sharp falls in May. Prices in Melbourne and Brisbane have fallen by 5 to 7 per cent over the year, while the other mainland capitals have fallen by between 1 and 3 per cent. Taking all indicators into consideration, the established housing market remains weak: prices have fallen by 6 per cent since the 2011 peak, auction clearance rates remain below average, and both turnover and dwelling investment are historically very low.

### Dwelling Prices

Seasonally adjusted data from RP suggests that capital city dwelling prices rose by 1.4 per cent in June, to be down 0.6 per cent over the quarter and 3.6 per cent over the year (non-seasonally adjusted data show a rise of 1.0 per cent over the month) (Graph 1). This is only the third monthly increase since the peak in January 2011, but follows a large fall in May (1.4 per cent).

The RP index – which is the timeliest index – indicates weaker quarterly growth than the last read from alternative sources (APM, ABS and Residex), but in year-ended terms the measures are fairly consistent (Graph 2). While it is evident that the pace of decline has slowed, prices are still falling in year-ended terms. June quarter APM and ABS data will be available near the end of July.



In year-ended terms there is broad weakness across the major capital cities (Table 1). Melbourne is the weakest market, down 6.6 per cent over the year. Brisbane also remains weak, with prices having fallen by 4.8 per cent over the year (and by 11 per cent since the 2010 peak). Prices in Sydney, Perth and Adelaide fell by between 1 and 3 per cent in year-ended terms, though prices in Perth and Adelaide have been broadly flat over the past six months.

**Table 1: Dwelling Price Growth - June 2012**

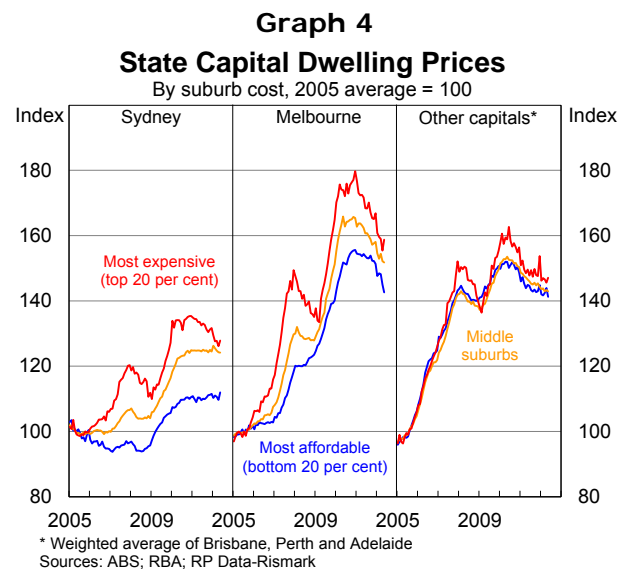
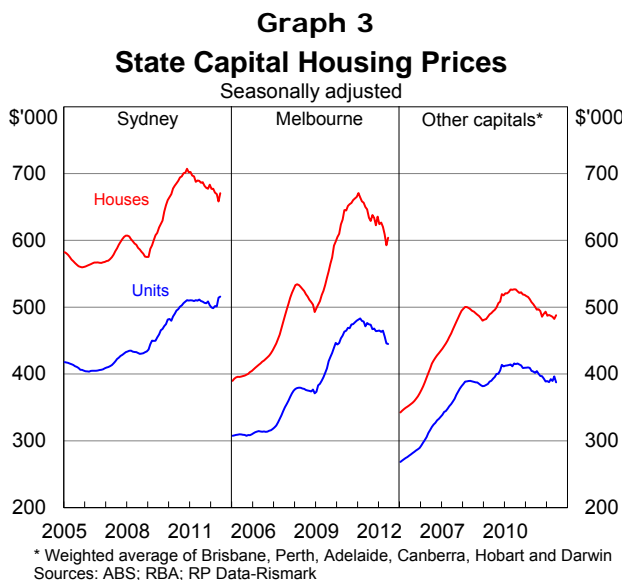
Seasonally adjusted; per cent

	Monthly	Quarterly	Yearly	Houses y-e	Units y-e
Sydney	1.6	0.5	-2.0	-2.7	0.9
Melbourne	1.5	-2.8	-6.6	-6.6	-6.6
Brisbane	0.4	-1.1	-4.8	-5.0	-2.6
Perth	1.7	0.0	-1.4	-1.1	-4.4
Adelaide	-0.5	1.7	-2.4	-2.2	-3.8
Canberra	2.2	0.9	1.3	1.5	-0.8
Darwin	-0.6	-0.3	0.4	2.1	-6.6
<b>Australia</b>	<b>1.4</b>	<b>-0.6</b>	<b>-3.6</b>	<b>-3.8</b>	<b>-2.0</b>

Source: RP Data-Rismark

### House and Apartment Prices

House prices rose by 1.7 per cent in June, while unit prices recorded a slight fall (Graph 3). However, this largely retraces May's moves, and in year-ended terms house prices are still underperforming relative to apartment prices (-3.8 per cent versus -2.0 per cent).



### Market Segments within Capital Cities

Dwelling prices in more expensive suburbs rose by 1.8 per cent in May while prices in more affordable suburbs fell by 0.6 per cent. Again in year-ended terms, less expensive housing has fared better than the top end of the market (Graph 4).

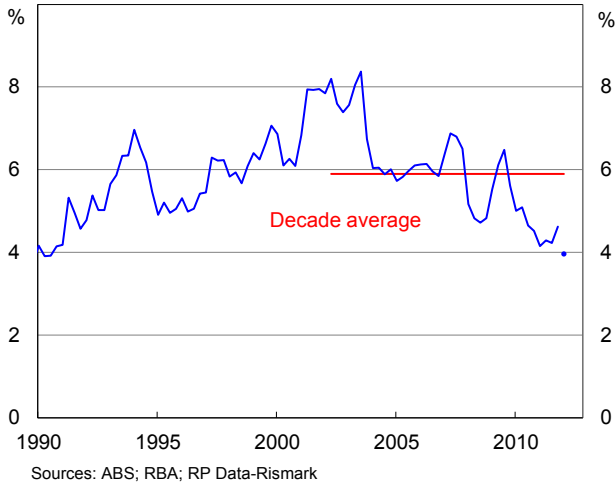
### Regional House Prices

At the aggregate level, house prices in regional areas were broadly unchanged in May, with increases in New South Wales and Victoria offsetting a large fall in Western Australia (4½ per cent). Western Australia, South Australia and Victoria appear to be continuing their downward trend since 2010 after a large run-up in the preceding years, while New South Wales and Queensland have been broadly flat.

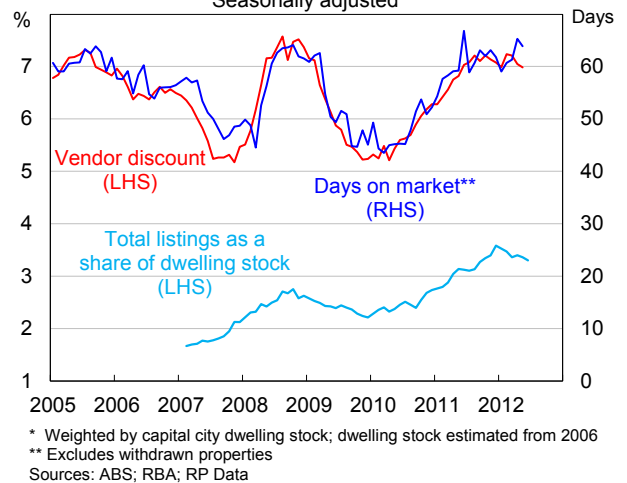
## Turnover, Discounting, Listings and Days on Market

National turnover in the March quarter was very low and is close to its historical low of the early 1990s (Graph 5). To secure a sale, vendors are offering large discounts relative to original listing prices, and it is taking a relatively long time to sell a property (Graph 6). The low turnover rate has led to a high stock of unsold homes (currently 3¼ per cent of the dwelling stock), although property listings have fallen by 6 per cent relative to the December peak.

**Graph 5**  
**National Dwelling Turnover Rate**  
 Share of dwelling stock, annualised



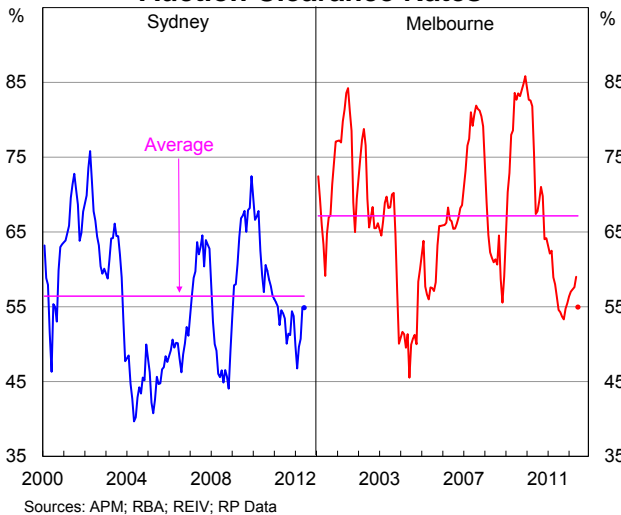
**Graph 6**  
**Discounts, Days on Market and Listings\***  
 Seasonally adjusted



## Auctions, Affordability, Sentiment

Auction clearance rates remain below average in Melbourne, and to a lesser extent Sydney, although they have risen above their respective troughs of late 2011 (Graph 7). In line with recent policy easing, improving housing affordability and a tight rental market, consumer sentiment towards purchasing a house rose in June.

**Graph 7**  
**Auction Clearance Rates**



## **Assessment**

The residential property market remains weak: prices are down 6 per cent from the 2011 peak, turnover is near historical lows which has led to a high stock of unsold homes, vendors are offering large discounts and dwelling investment is subdued. Despite the monthly increase, it is probably too early to characterise the market as stabilising (since monthly prices can be volatile), but the *absence* of a further monthly fall is encouraging, especially after the large fall in May. More information from other data providers will be available in late July.

It should also be noted that changes in state housing initiatives – such as stamp duty exemptions and first home owner grants – may add to price volatility in the months ahead

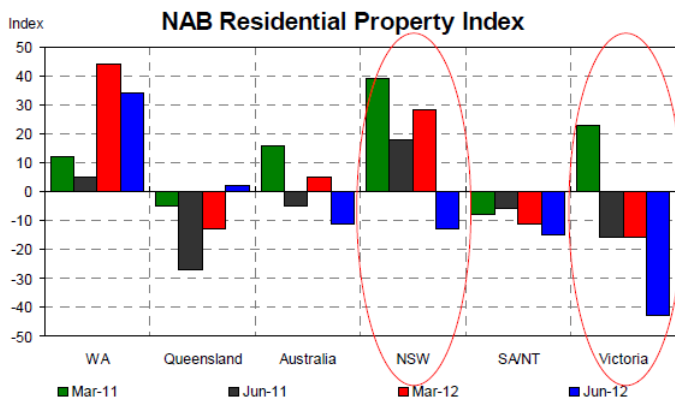
Financial Conditions Section  
Economic Analysis Department  
2 July 2012

Conditions in the residential property market deteriorated in the June quarter according to the NAB survey, with national housing prices falling and rental growth slowing. By region, weakness in New South Wales and Victoria more than offset strength in Western Australia and Queensland. Aggregate house prices are expected to fall by 0.7 per cent over the next 12 months (in March they were expected to fall by 0.2 per cent), although again there is substantial variation between states. Capital growth expectations are rated as 'good' in the sub-\$500,000 range, while the outlook for properties over \$2 million remains 'poor'. Nationwide rental growth is expected to slow over the next 1-2 years.

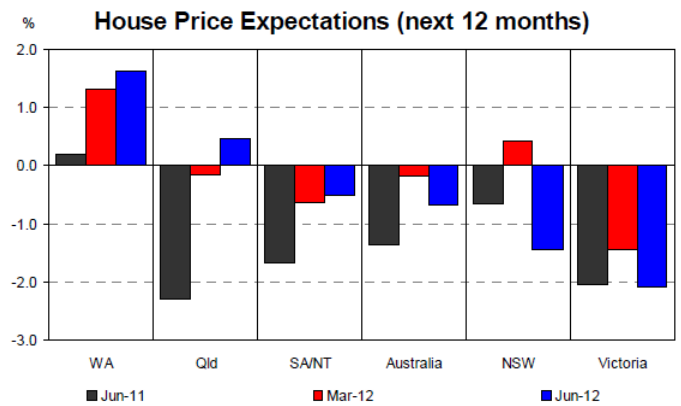
**Prices<sup>2</sup>**

The **NAB Residential Property Index**, an average of capital values and rents, fell by 16 points in the June quarter (from 5 to -11), driven by falling house prices (Graph 1). Weakness was driven by New South Wales and Victoria. Aggregate house prices are expected to fall by 0.7 per cent over the next 12 months (in March they were expected to fall by 0.2 per cent), though again, there is substantial variation between states (Graph 2). A modest recovery is expected over the following year, with prices expected to be 1 per cent higher, compared to an expectation of 1.4 per cent in the previous survey.

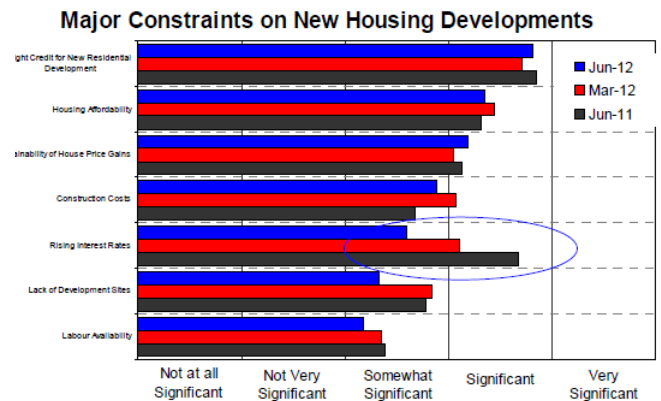
**Graph 1**



**Graph 2**



**Graph 4**



<sup>1</sup> The [NAB Residential Property Survey](#) provides information on expectations of prices and rents, a breakdown of sector demand in both new and existing property markets, as well as information on constraints facing developers and buyers. Around 300 panellists participated in the June 2012 survey, comprising a variety of industry insiders as well as owners and investors.

<sup>2</sup> For more information on the current state of the residential housing market see [Dwelling Price Review – June 2012](#).

## New Property Market

The share of first home buyers in the new property market rose to 22 per cent in June (from 18 per cent in March). First home buyers were most active in WA (31 per cent) and Victoria (25 per cent), where there was a surge in the number of buyers in the lead up to the expiry of the first home owner bonus.<sup>4</sup> The demand was strongest for inner-city low rise dwellings.

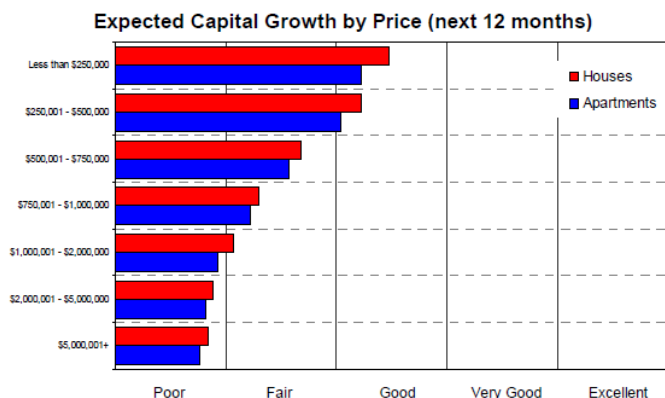
Survey respondents cited tight credit conditions [on developers] and housing affordability as the most significant constraints on new housing development, while the extent of concern over interest rates is falling rapidly as lending rates continued to fall over the survey period (Graph 4). Of particular note, there was a big decline in respondents citing a lack of development sites as a significant constraint on new housing developments. This was particularly evident in Victoria, where the government is actively pushing to encourage more housing developments on former farm and green wedge land.

## Existing Property Market

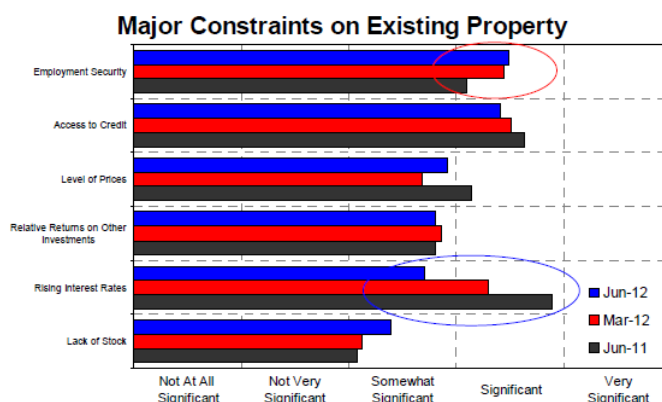
Demand for existing property weakened in most locations and for most property types in the June quarter. Looking ahead, demand is expected to pick up slightly in all locations and all property types over the next 12 months, with inner-city housing remaining the most sought after property type.

The sub-\$500,000 segment of the market is expected to have 'good' capital growth while the more expensive segment is expected to be 'poor' (Graph 5). Capital growth expectations for properties over \$2 million is 'poor', consistent with reports that the prestige sector remains the sector under most pressure at present, with less buyer interest, longer selling periods and higher discounting.

**Graph 5**



**Graph 6**



Survey respondents claim that employment security is now the biggest concern for home buyers, and concerns of rising interest rates fell (Graph 6). Poor access to credit continues to be cited as a significant impediment, although its importance has fallen.

Financial Conditions  
Economic Analysis  
13 July 2012

<sup>4</sup> See [Hsieh \(2012\)](#) for more details on government housing initiatives

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## REVIEW OF FINANCIAL CONDITIONS: JULY 2012

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### HOUSEHOLD SECTOR

Household net worth increased by  $\frac{1}{2}$  per cent in the March quarter to be  $2\frac{1}{2}$  per cent lower over the year. On the asset side of the balance sheet the value of dwellings fell in the quarter, while the value of financial assets grew strongly. Household liabilities grew 1.2 per cent over the quarter. In the June quarter household net worth is expected to fall somewhat, reflecting falls in the value of household financial assets and the value of dwellings.

### PROPERTY

Preliminary estimates suggest that capital city dwelling prices have risen by  $\frac{1}{2}$  per cent over July to date, to be  $\frac{1}{2}$  per cent higher over the last three months but 2.2 per cent lower over the year. In year-ended terms the pace of price falls has slowed, and looking across all price sources, prices appear to be stabilising. However, other housing indicators remain subdued: low turnover has led to a high stock of unsold homes; vendors continue to offer large discounts, and despite recent increases, auction clearance rates remain below their post 2000 averages, particularly in Melbourne.

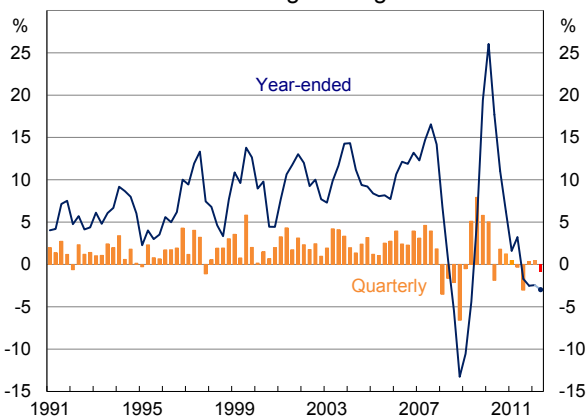
The national capital city CBD office vacancy rate increased in the June quarter to 7.8 per cent, slightly above the decade average. Effective market rents for prime CBD offices are estimated to have increased by 1.8 per cent in the quarter to be around 8 per cent higher over the year.



## HOUSEHOLD SECTOR

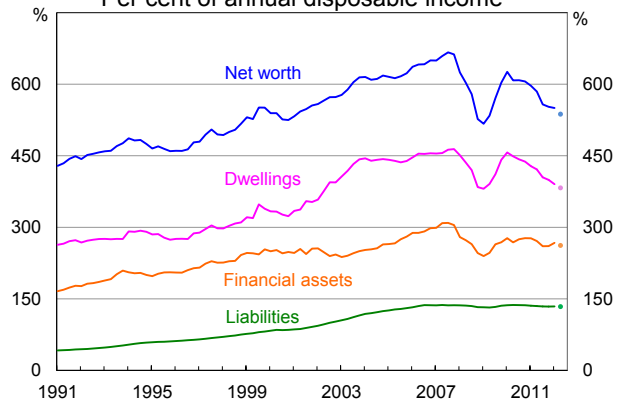
**Household net worth** increased by  $\frac{1}{2}$  per cent in the March quarter to be  $2\frac{1}{2}$  per cent lower over the year (Graph 11). On the asset side of the balance sheet, the value of dwellings fell by  $1\frac{1}{4}$  per cent in the quarter, while the value of financial assets increased by around  $3\frac{3}{4}$  per cent. Household liabilities continued to increase at a moderate quarterly pace of 1.2 per cent. Net worth as a share of household disposable income declined slightly in the March quarter, but remains around 5.5 times income (Graph 12). A further decline in the ratio of net worth to income is expected in the June quarter, reflecting expected falls in financial assets and the value of dwellings.

**Graph 11**  
**Household Net Worth**  
Percentage change\*



\* RBA estimate for June quarter 2012  
Sources: ABS; RBA; RP Data Rismark

**Graph 12**  
**Household Wealth and Liabilities**  
Per cent of annual disposable income\*



\* Household sector includes unincorporated enterprises; disposable income is after tax and before the deduction of interest payments; RBA estimate for June quarter 2012  
Sources: ABS; RBA; RP Data Rismark

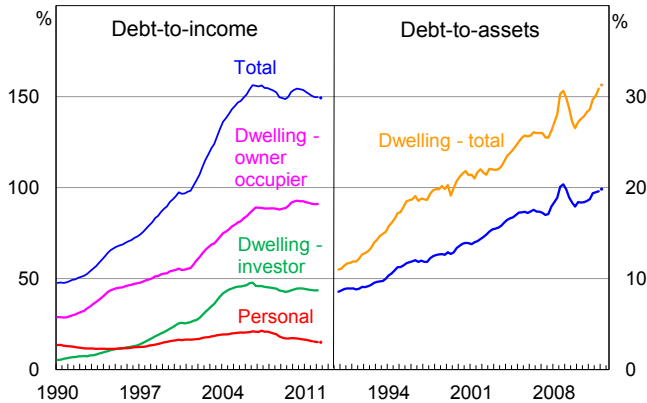
**Flows** into financial assets declined in the March quarter, to be 11.6 per cent of household disposable income; households placed 4.2 per cent of their disposable income into deposits, down from 7.1 per cent in the December quarter.

**Household debt** grew by 1.2 per cent in the March quarter, reflecting an increase in owner-occupier and investor housing debt; personal debt was broadly unchanged. The **household debt burden** (the debt-to-income ratio) remained broadly stable over the quarter at around 150 per cent. The debt-to-assets ratio (**household gearing**) increased slightly, with debt increasing faster than assets; a similar increase in gearing is expected in the June quarter (Graph 13).

**Graph 13**

### Household Gearing

Income and balance sheet measures



\* Household assets includes the financial assets of unincorporated enterprises and unfunded superannuation; household disposable income excludes unincorporated enterprises and is before interest payments; RBA estimates for the June quarter 2012

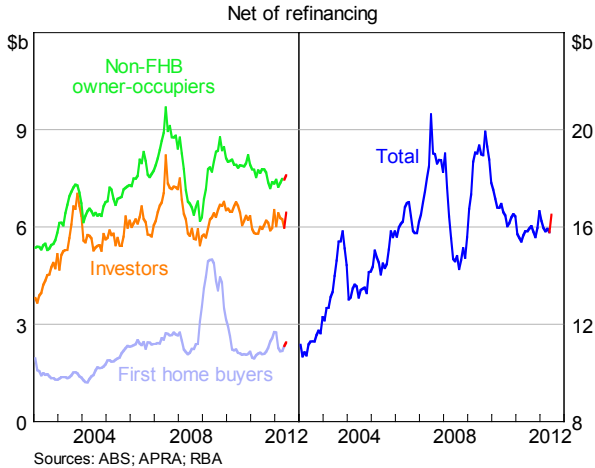
Sources: ABS; RBA; RP Data Rismark

## Financing

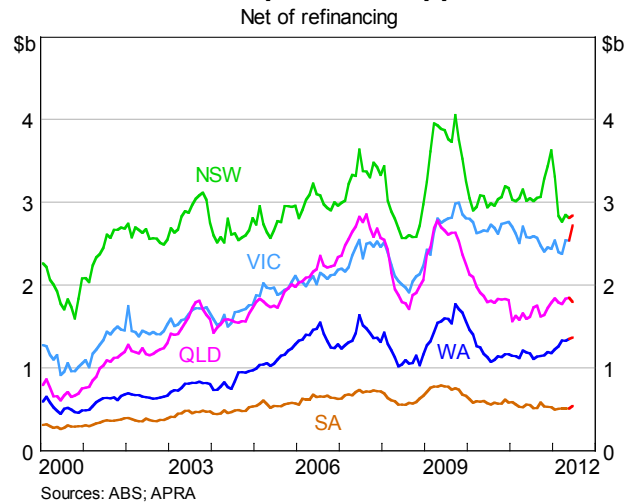
Preliminary APRA data suggests the value of net housing **loan approvals** grew by around 4½ per cent in June (Graph 16). Excluding investor approvals for new construction, which tend to be volatile, total loan approvals rose by around 3 per cent.

**Owner-occupier loan approvals** are estimated to have increased 2½ per cent in June, driven by both repeat and first home buyers. By state, Victoria and South Australia recorded the strongest growth in owner-occupier approvals (Graph 17). The 17 per cent increase in Victoria was likely driven by the expiry of a first home buyer scheme on 30 June 2012. **Investor loan approvals** grew by around 7½ per cent; excluding approvals for new construction, investor approvals increased by 3½ per cent.

**Graph 16**  
Value of Housing Loan Approvals



**Graph 17**  
Owner-occupier Loan Approvals



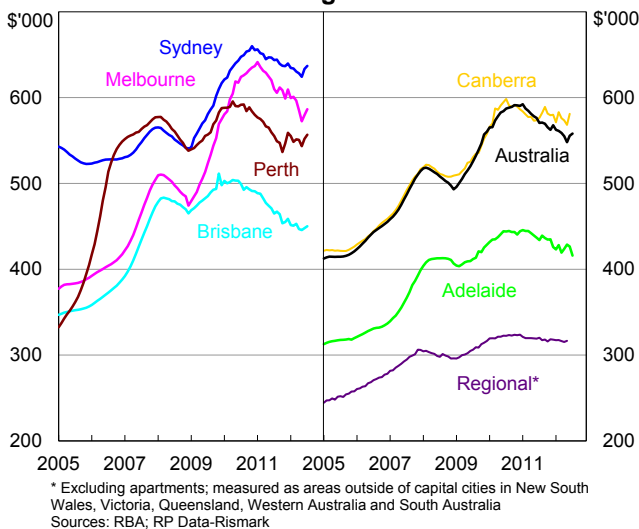
## PROPERTY

### Residential Property

According to the RP Data-Rismark index, capital city **dwelling prices** have risen ½ per cent over July to date, to be ½ per cent higher over the last three months but 2.2 per cent lower over the year (Graph 18, Table 2). Prices are estimated to have risen in all mainland state capitals except Adelaide over the month and quarter.

In year-ended terms the pace of price falls has slowed: prices in Melbourne, Brisbane and Adelaide have fallen by 3 to 4 per cent, Sydney is down 1 per cent, while Perth is up 0.3 per cent. This compares to year-ended price falls of between 2-8 per cent two months ago.

**Graph 18**  
Dwelling Prices



**Table 2**

**Dwelling Price Growth**  
As at 24 July 2012; per cent

	Monthly	3-month ended	Yearly
Sydney	0.6	1.1	-1.0
Melbourne	1.2	0.1	-3.9
Brisbane	0.5	0.7	-3.1
Perth	0.9	1.0	0.3
Adelaide	-2.5	-1.8	-4.1
<b>Australia</b>	<b>0.5</b>	<b>0.5</b>	<b>-2.2</b>

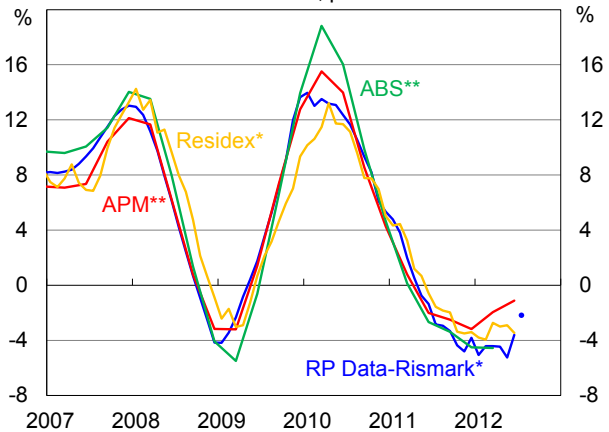
Source: RP Data-Rismark

APM data suggest that dwelling prices were flat in the June quarter, with house prices rising by 0.4 per cent while unit prices fell by 0.8 per cent. Year-ended falls moderated to -1.1 per cent, from a trough of -3.2 per cent in December 2011 (Graph 19).

Taking all price sources and housing indicators into consideration, it appears that prices may be stabilising. However, historically low turnover and a large stock of unsold homes is likely to reduce the probability of a strong rebound.

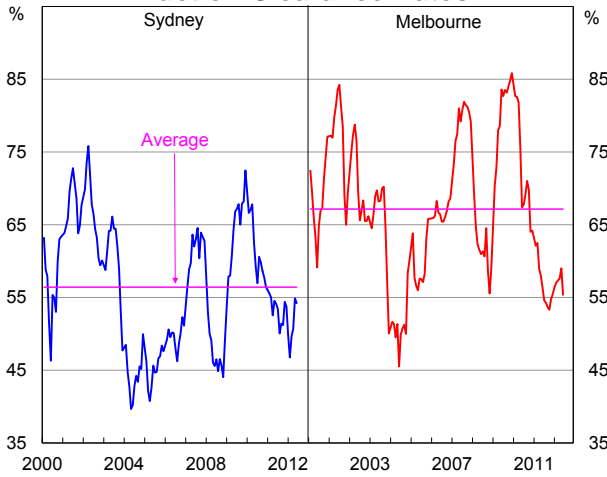
**Auction clearance rates** remain well below average in Melbourne; in Sydney they are below, but close to, average (Graph 20). The national turnover rate for the March quarter was 4 per cent of the dwelling stock, which is close to its historical low of the early 1990s. This has led to a high stock of unsold homes (3½ per cent of the dwelling stock compared to 1½ per cent in early 2007) (Graph 21). The rate of vendor discounting (defined as the difference between the initial listing price and the final sale price) remains elevated.

**Graph 19**  
**Growth in National Dwelling Prices**  
Year-ended, per cent



\* Monthly frequency  
\*\* Quarterly frequency  
Sources: ABS; APM; RBA; Residex; RP Data-Rismark

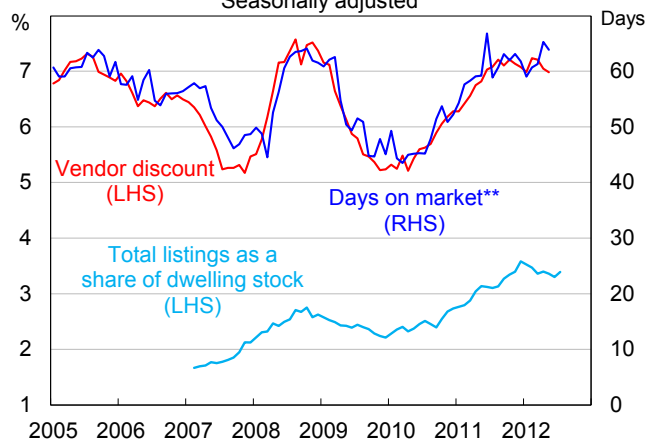
**Graph 20**  
**Auction Clearance Rates**



Sources: APM; RBA; REIV; RP Data

**Graph 21**

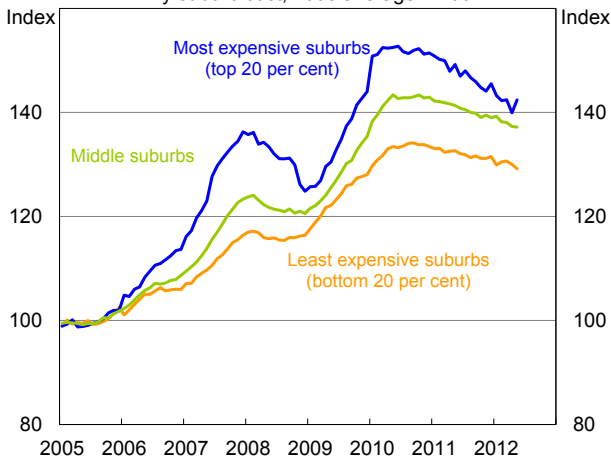
**Discounts, Days on Market and Listings\***  
Seasonally adjusted



\* Weighted by capital city dwelling stock; dwelling stock estimated from 2006  
\*\* Excludes withdrawn properties  
Sources: ABS; RBA; RP Data

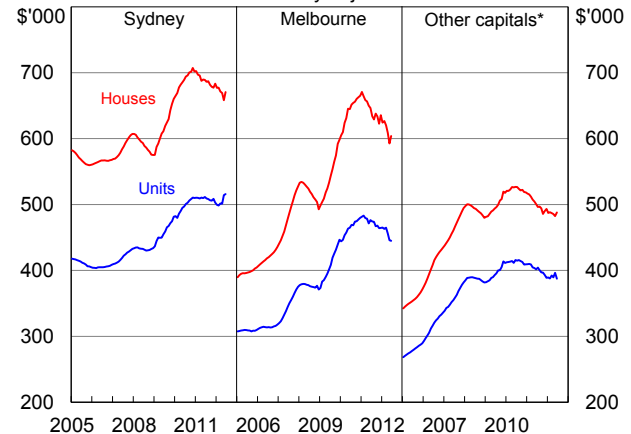
Prices have fallen further in more expensive suburbs than in more affordable suburbs over the year, while apartment prices have held up better than house prices (Graphs 22 & 23). However, the opposite occurred in some of the capital cities in the month of June.

**Graph 22**  
**State Capital Dwelling Prices**  
By suburb cost, 2005 average = 100



Source: RBA; RP Data-Rismark

**Graph 23**  
**State Capital Housing Prices**  
Seasonally adjusted



\* Weighted average of Brisbane, Perth, Adelaide, Canberra, Hobart and Darwin  
Sources: ABS; RBA; RP Data-Rismark



Prices in the established housing market appear to be stabilising, with data from RP Data-Rismark (RP) and APM indicating that nationwide dwelling prices were broadly flat in the June quarter. Moreover, ABS house price data indicate a rise of ½ a per cent in the June quarter. In year-ended terms the pace of price falls has slowed, with year-ended prices falling by 1 to 3 per cent, compared to the recent falls of 3 and 5 per cent. However, other housing indicators remain subdued: low turnover has led to a high stock of unsold homes, vendors continue to offer large discounts, and auction clearance rates are below average. This suggests that any recovery is unlikely to be strong.

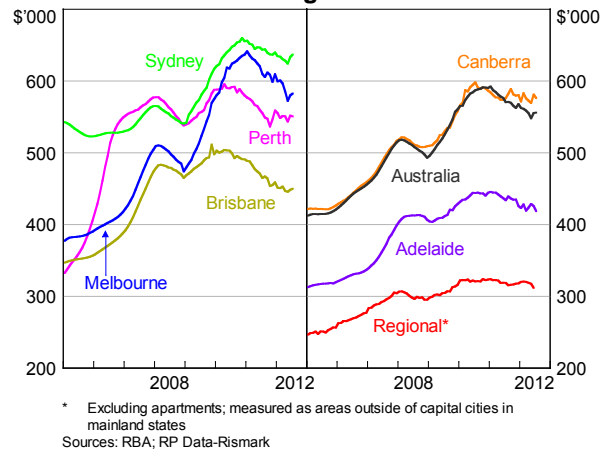
**Dwelling Prices**

Monthly data from RP suggest that capital city dwelling prices rose by 0.2 per cent over the three months to July, to be 2½ per cent lower in year-ended terms (Graph 1 & Table 1). Prices are around 6 per cent below the January 2011 peak.

Recent growth has been strongest in Sydney, while prices in Perth and Brisbane appear to have stabilised after falling by 7 to 10 per cent from their peaks. Melbourne grew by ½ a per cent in July, but is still 9 per cent below its January 2011 peak.

APM data suggest that dwelling prices were flat in the June quarter, with year-ended growth moderating to -1.1 per cent, from a low point of -3.2 per cent in December 2011.

**Graph 1  
Dwelling Prices**



\* Excluding apartments; measured as areas outside of capital cities in mainland states  
Sources: RBA; RP Data-Rismark

**Table 1 - Capital City Dwelling Price Measures**

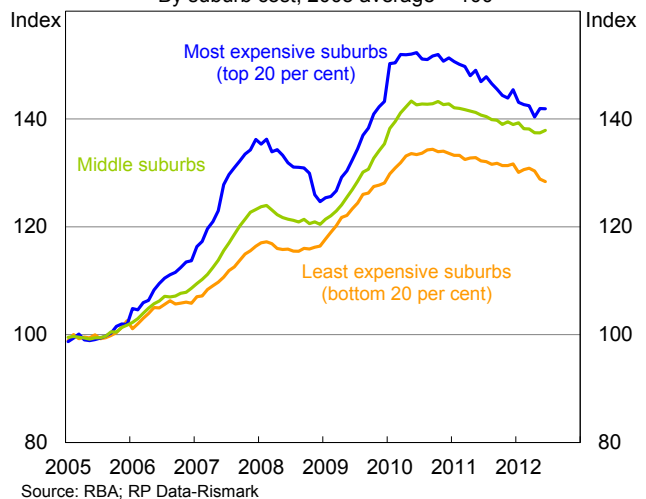
	Percentage change				
	RP Data-Rismark			APM	
	Month	Quarter	Year-ended	Quarter	Year-ended
	July	July	July	June	June
Sydney	0.6	1.4	-1.0	0.0	0.0
Melbourne	0.5	-0.4	-4.5	0.9	-2.6
Brisbane	0.4	0.7	-3.2	-1.3	-3.1
Adelaide	-1.7	-1.2	-3.5	0.2	-2.3
Perth	-0.2	0.0	-0.8	-0.6	0.5
<b>Australia</b>	<b>0.1</b>	<b>0.2</b>	<b>-2.5</b>	<b>0.0</b>	<b>-1.1</b>

Sources: APM; RP Data-Rismark

**Market Segments within Capital Cities**

Over the year dwelling prices in more expensive suburbs have fallen further than in other suburbs (by 3½ per cent, compared with falls of 2-3 per cent in other suburbs; Graph 2, Appendix Table 1). However, in the June quarter this phenomenon was reversed as more expensive properties rebounded. (Aggregate price changes derived from these series are different to the main RP series as two are constructed differently.)

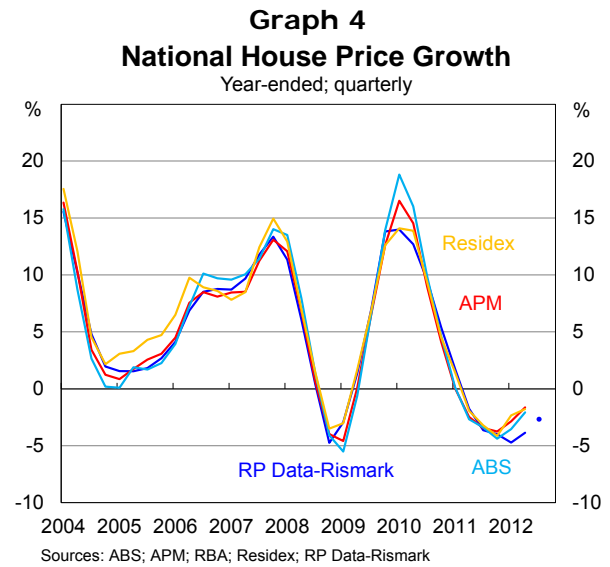
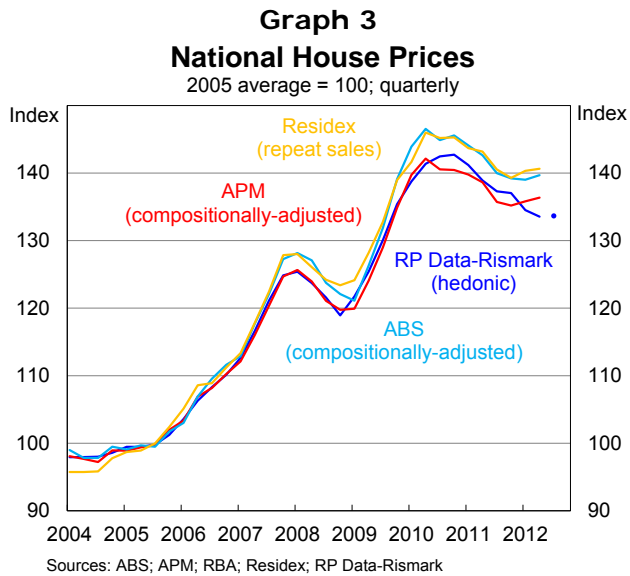
**Graph 2  
State Capital Dwelling Prices**  
By suburb cost, 2005 average = 100



Source: RBA; RP Data-Rismark

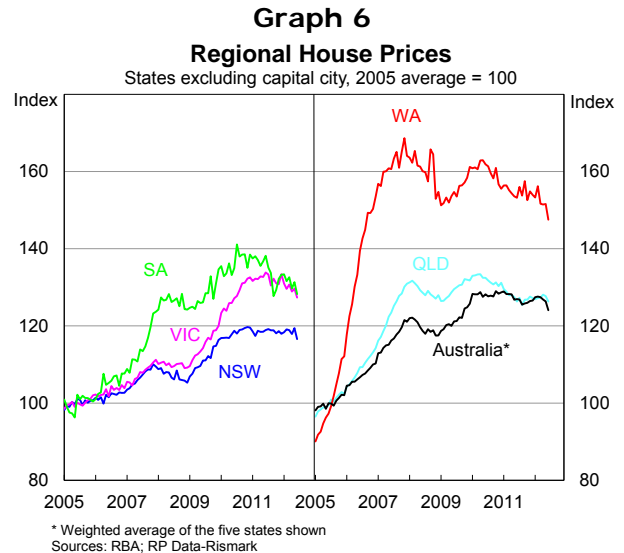
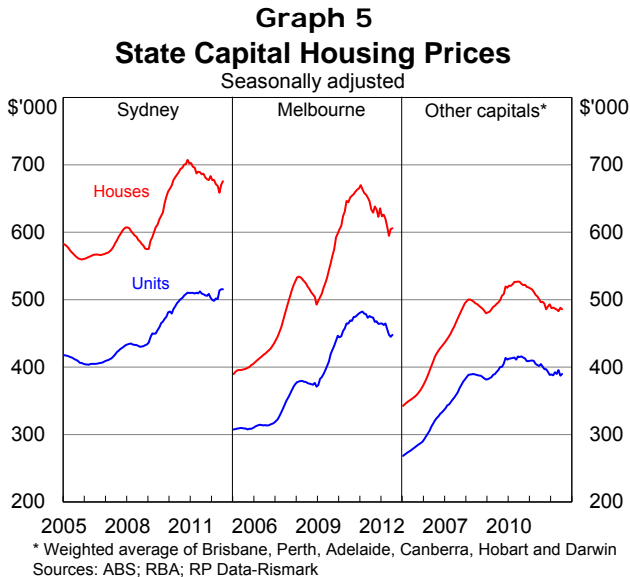
## House Prices

The ABS measure of capital-city house prices rose by 0.5 per cent in the June quarter, following a 0.1 per cent fall in the March quarter (revised up from a fall of 1.1 per cent).<sup>1</sup> In year-ended terms, the ABS measure fell by 2.1 per cent, which compares to house price falls of 2.7 per cent, 1.6 per cent, and 1.8 per cent according to RP (to July), APM and Residex, respectively (Graphs 3 & 4; Appendix Table 2).



## Apartment Prices

According to RP, unit prices rose by 0.9 per cent in the three months to July, while house prices rose by 0.1 per cent. In year-ended terms unit prices have held up better than house prices, falling by 1.7 per cent, compared to houses which fell by 2.7 per cent (Graph 5; Appendix Table 3). APM data show a similar trend: unit prices were flat in year-ended terms while house prices fell by 1.6 per cent.



## Regional House Prices

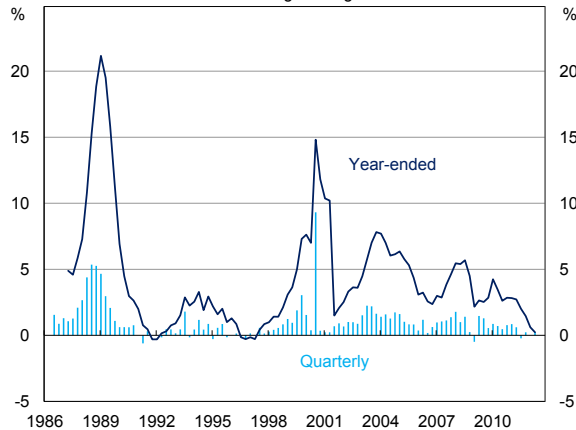
House prices in Australia's regional areas fell by 2.6 per cent in the June quarter, according to RP, following a rise of 0.7 per cent in the March quarter (Graph 6). Regional prices are down by around 2½ per cent in year-ended terms, with most states falling by between 2 to 7 per cent, except for Queensland which was flat.

<sup>1</sup> The ABS released a *dwelling* price index in today's release in addition to the regular house price index. However, the latest data is as at December 2011 and the ABS comment that the 'series are experimental and subject to revision'.

## Project Home Prices

According to the ABS, capital city project home prices rose by 0.2 per cent in the June quarter to be 0.2 per cent higher over the year (Graph 7; Table 2). This is the lowest annual growth rate since 1997.

**Graph 7**  
Project Home Prices  
Percentage change



**Table 2 - Project Home Prices**  
Percentage change

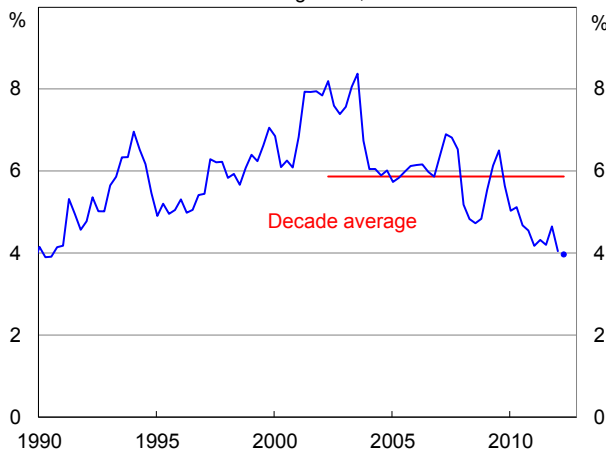
	Mar-12	Jun-12	Year to Jun-12
Sydney	0.2	1.1	1.7
Melbourne	-0.2	-1.3	-1.4
Brisbane	-0.2	0.8	-1.0
Adelaide	-0.3	0.1	-1.2
Perth	0.6	0.7	2.4
<b>All Capitals</b>	<b>0.0</b>	<b>0.2</b>	<b>0.2</b>

Source: ABS

## Turnover, Discounting, Listings and Days on Market

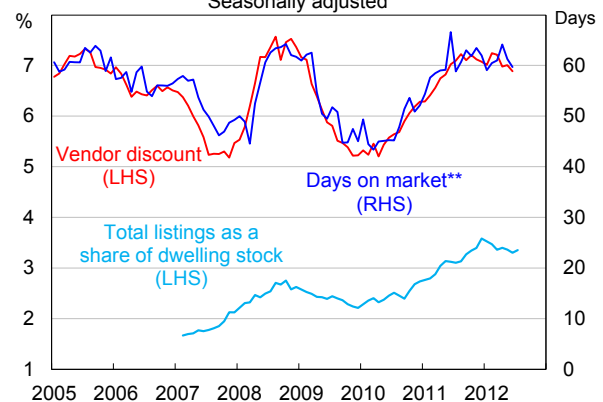
Preliminary data for the June quarter suggest that the national turnover rate was steady at 4 per cent of the dwelling stock. The turnover rate is well below the decade average and at a level not observed since the early 1990s (Graph 8). Total property listings have fallen by 6 per cent since the December peak, to be around 3½ per cent of the dwelling stock, up from 1½ per cent in 2007. Both days on market and vendor discounting moderated during the June quarter, but have remained at a high level for the past year (Graph 9).

**Graph 8**  
National Dwelling Turnover Rate  
Share of dwelling stock, annualised



Sources: ABS; RBA; RP Data-Rismark

**Graph 9**  
Discounts, Days on Market and Listings\*  
Seasonally adjusted



\* Weighted by capital city dwelling stock; dwelling stock estimated from 2006

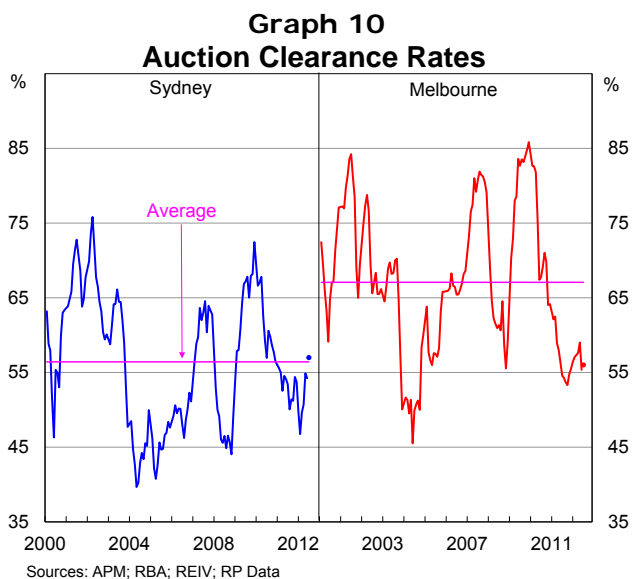
\*\* Excludes withdrawn properties

Sources: ABS; RBA; RP Data



### Auction Markets

Auction clearance rates are around average in Sydney, but remain well below average in Melbourne (Graph 10). Volumes have fallen over the last 4 months in both Sydney and Melbourne.



**Next release: 1 November 2012**

Financial Conditions Section  
Economic Analysis Department  
1 August 2012

## Appendix

**Table A1 - Dwelling Price Growth**  
Percentage change - June 2012

	Monthly	Quarterly	Yearly	Affordable Lowest 20%	Middle Middle 60%	Expensive Highest 20%	Houses y/y	Units y/y	Regional Houses y/y
Sydney	1.5	0.5	-2.0	-0.1	0.0	-2.0	-2.7	0.6	-1.9
Melbourne	1.3	-2.8	-6.5	-6.1	-5.5	-7.3	-6.4	-6.5	-2.6
Brisbane	0.6	-1.0	-4.8	-5.8	-1.6	-1.3	-5.0	-2.7	-0.8
Perth	1.5	0.1	-1.4	0.5	0.3	-0.4	-1.1	-4.4	-2.7
Adelaide	-0.7	1.5	-2.5	-4.0	-2.7	-0.4	-2.4	-3.8	-3.3
Canberra	2.1	0.9	1.3	--	--	--	1.5	-0.6	--
Darwin	-1.3	-0.7	0.2	--	--	--	2.0	-6.3	--
<b>Australia</b>	<b>1.4</b>	<b>-0.6</b>	<b>-3.6</b>	<b>-2.9</b>	<b>-2.0</b>	<b>-3.4</b>	<b>-3.9</b>	<b>-2.1</b>	<b>-2.6</b>

Source: RP Data-Rismark

**Table A2 - Capital City House Price Measures**  
Percentage change; quarterly

	ABS		RP Data-Rismark		APM	
	<i>Compositional adj.</i>		<i>Hedonic</i>		<i>Compositional adj.</i>	
	Year-ended		Year-ended		Year-ended	
	Jun qtr	Jun qtr	Jun qtr	Jun qtr	Jun qtr	Jun qtr
Sydney	1.4	-0.9	-0.1	-2.7	0.2	-1.0
Melbourne	-0.4	-4.8	-2.4	-6.4	1.6	-2.6
Brisbane	0.1	-2.7	-0.8	-5.0	-1.3	-3.7
Adelaide	0.5	-1.3	1.9	-2.4	0.0	-2.1
Perth	0.6	1.1	0.1	-1.1	0.2	0.7
Canberra	-1.3	-2.6	1.1	1.5	1.1	1.0
Hobart	-0.4	-3.2	--	--	0.5	1.1
Darwin	5.1	12.3	0.0	2.0	-1.2	2.0
Regional*	--	--	-2.6	-2.3	2.3	1.9
<b>Australia</b>	<b>0.5</b>	<b>-2.1</b>	<b>-0.7</b>	<b>-3.9</b>	<b>0.4</b>	<b>-1.6</b>

\* Measured as areas outside of capital cities in NSW, VIC, QLD, WA and SA

Sources: ABS; APM; RP Data-Rismark

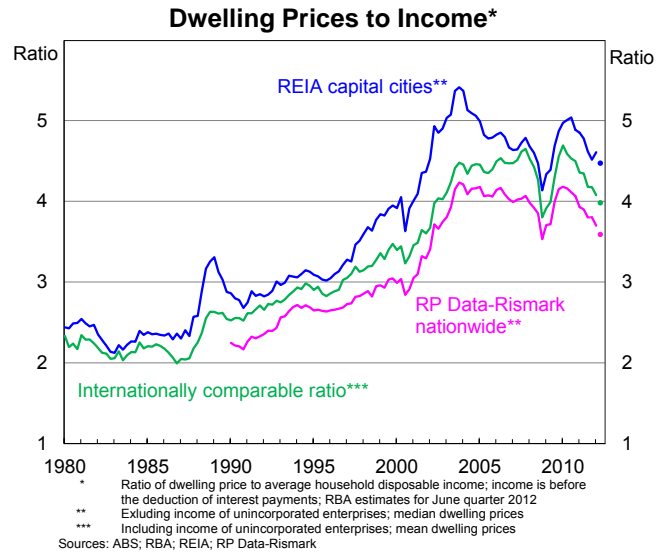
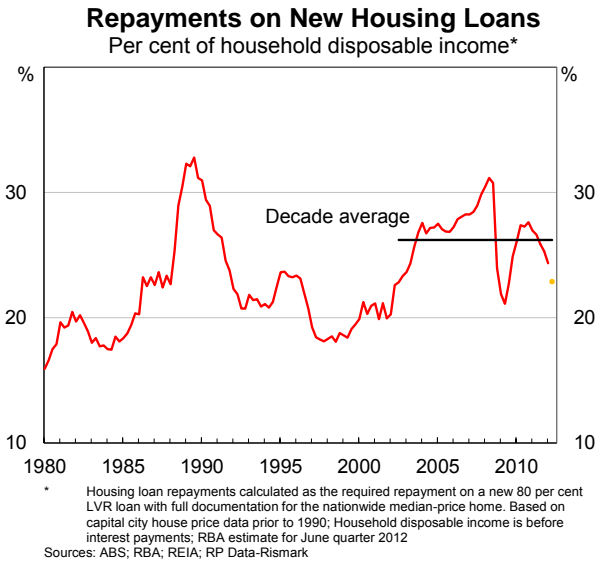
**Table A3 - Capital City Unit Price Measures**  
Percentage change; quarterly

	APM		RP Data-Rismark		Simple Average	
	<i>Compositional adj.</i>		<i>Hedonic</i>			
	Year-ended		Year-ended		Year-ended	
	Jun qtr	Jun qtr	Jun qtr	Jun qtr	Jun qtr	Jun qtr
Sydney	-0.2	1.6	2.7	0.6	1.3	1.1
Melbourne	-1.2	-2.6	-4.3	-6.5	-2.7	-4.6
Brisbane	-1.7	-0.8	-1.5	-2.7	-1.6	-1.7
Adelaide	1.0	-3.3	-2.0	-3.8	-0.5	-3.5
Perth	-4.5	-0.6	0.0	-4.4	-2.3	-2.5
<b>Capital Cities</b>	<b>-0.8</b>	<b>0.0</b>	<b>0.3</b>	<b>-2.1</b>	<b>-0.2</b>	<b>-1.0</b>

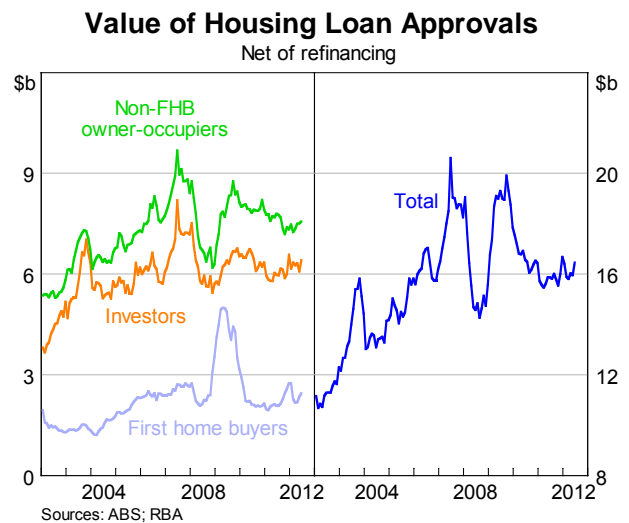
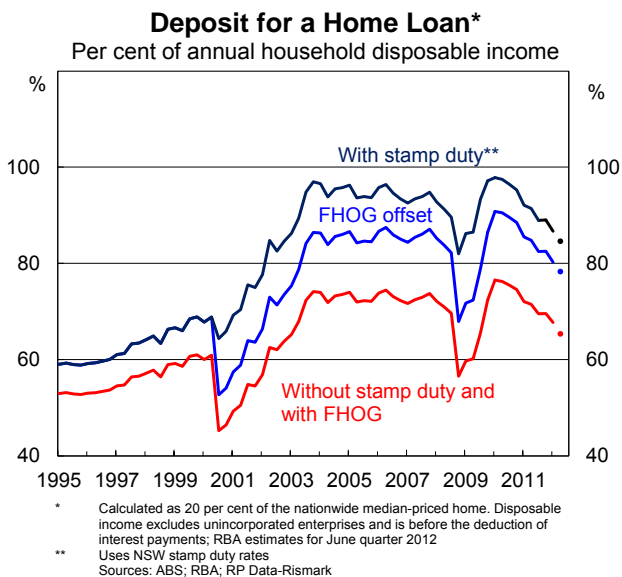
Sources: ABS; APM; RP Data-Rismark

**BRIEFING – HOUSING AFFORDABILITY**

- **Housing affordability** improved in the March and June quarters as a result of falling dwelling prices, moderate income growth and lower lending rates. Repayments on a new loan on a median-priced house, as a share of disposable income, have fallen by around 2½ percentage points since December 2011 (from around 25½ per cent of disposable income to 23 per cent).
- **The dwelling price-to-income ratio** fell in the June quarter according to all our measures; it is ½ to ¾ percentage points below its recent 2010 peak, and 0.35 to 0.4 percentage points below its decade average, depending on the measure.



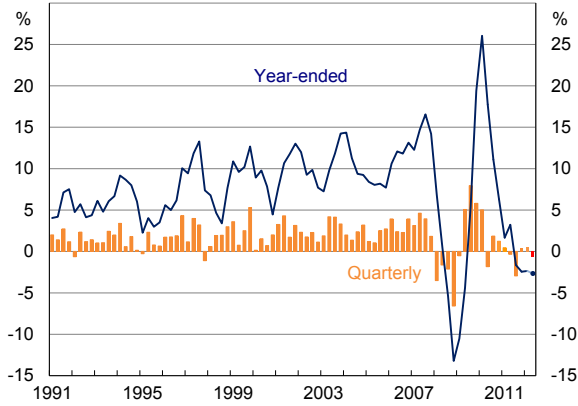
- **The required deposit** for an 80 per cent LVR home loan on a median priced dwelling, as a share of household disposable income, fell in the June quarter to be around 84½ per cent of income.
- **Total housing loan approvals** have increased by 3.7 per cent since June 2011 and are now around 17 per cent below their September 2009 peak.
- **Loan approvals to owner-occupiers** are up 1½ per cent over the year to June 2012. **First home buyers' share** of the number of owner-occupier approvals is now 14½ percentage points below the historical high of 42½ per cent reached in May 2009. The **average value of owner-occupier approvals** has fallen from around \$330,000 (the peak in February 2011) to \$320,000.
- **Investor loan approvals** have increased by 7.3 per cent over the year to June 2012, with approvals in Queensland up by around 21 per cent and in Western Australia up by 10 per cent over the year.



**BRIEFING – HOUSEHOLD NET WORTH, GEARING AND SAVING**

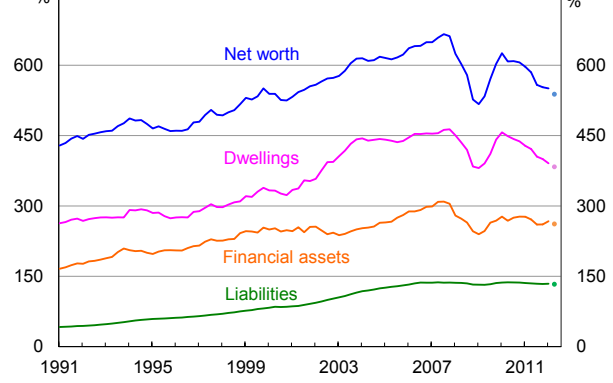
- **Household wealth** is estimated to have fallen by around 0.7 per cent in the June quarter, to be 2.7 per cent lower over the year, with a 1 per cent increase in liabilities over the quarter and falls of ½ per cent in financial assets and ¼ per cent in non-financial assets.

**Household Net Worth**  
Percentage change\*



\* RBA estimate for June quarter 2012  
Sources: ABS; RBA; RP Data Rismark

**Household Wealth and Liabilities**  
Per cent of annual disposable income\*

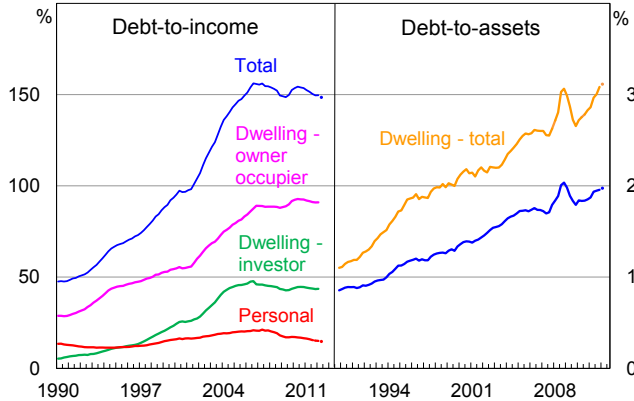


\* Household sector includes unincorporated enterprises; disposable income is after tax and before the deduction of interest payments; RBA estimate for June quarter 2012  
Sources: ABS; RBA; RP Data Rismark

- **Per-household net worth** is estimated to have been around \$650,000 in June 2012, up from a trough of \$560,000 in March 2009. This is equivalent to around 5½ times annual household disposable income.
- With income growing faster than debt, the household **debt-to-income ratio** is estimated to have fallen to 148½ per cent in the June quarter 2012; this remains high by historical standards.
- The **household debt-to-assets ratio** is estimated to have increased slightly in the June quarter 2012, with debt growing faster than assets.
- **Australia's debt-to-income ratio** is similar to that in many developed countries. The bulk of our debt is housing debt rather than personal debt, similar to NZ and the UK.

**Household Gearing**

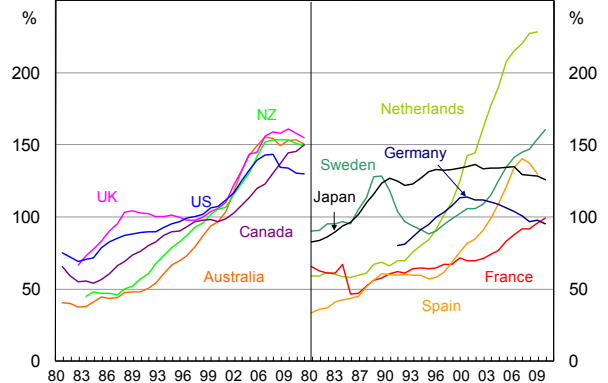
Income and balance sheet measures



\* Household assets includes the financial assets of unincorporated enterprises and unfunded superannuation; household disposable income excludes unincorporated enterprises and is before interest payments; RBA estimates for the June quarter 2012  
Sources: ABS; RBA; RP Data Rismark

**Household Debt\***

Per cent of household disposable income



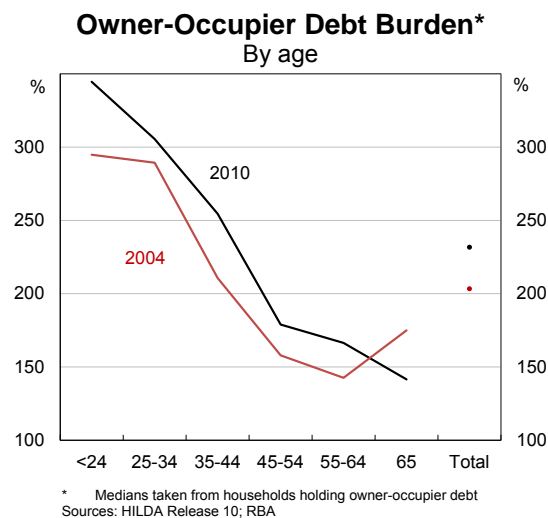
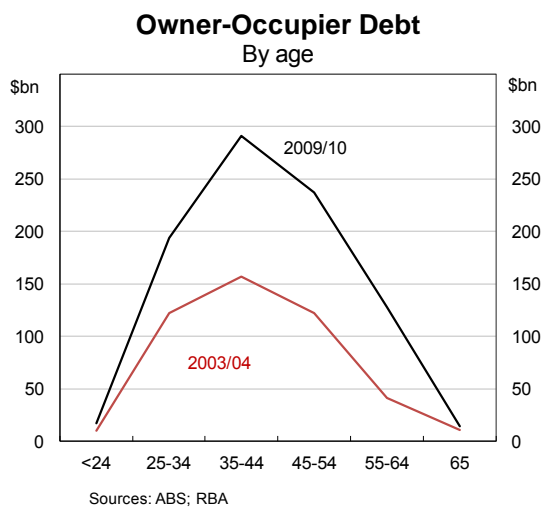
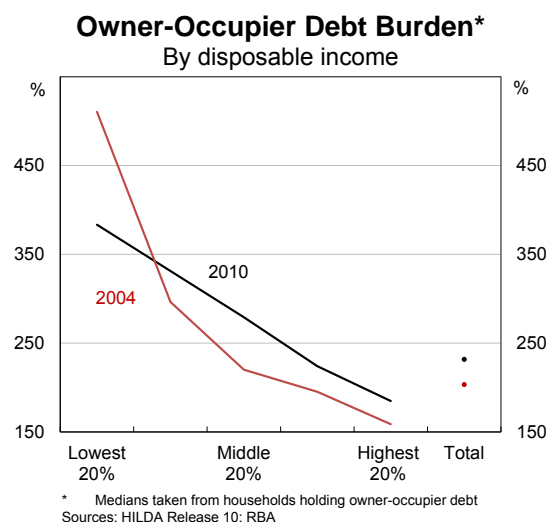
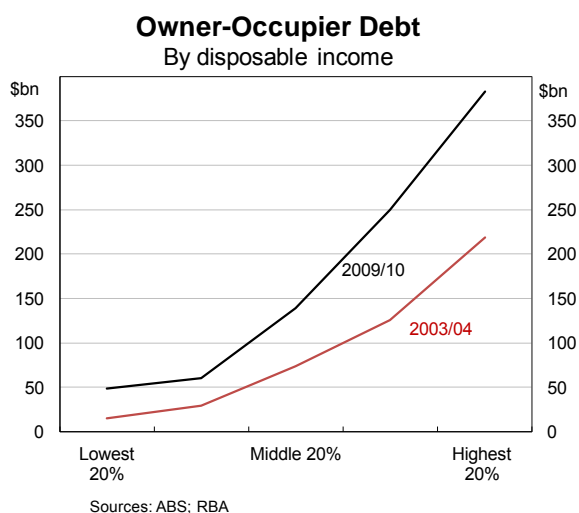
\* Figures are not necessarily comparable due to differences in definitions and institutional arrangements; the latest data for Australia, Canada, Germany, New Zealand, the UK and the US are for September quarter 2011; data for Sweden, France and Japan are for December quarter 2010; data for the Netherlands and Spain are for December quarter 2009  
Sources: National sources

- **Distribution of debt by income quintile:**

Survey data suggest that the increase in the value of the owner-occupier debt stock held by the highest income quintile, as a group, far exceeded the increase in the value of the debt stock held by the lower income quintiles over the latter half of the last decade. Of those with debt, the median debt burden (the debt-to-income ratio) has declined for lower income groups and increased slightly for higher income households.

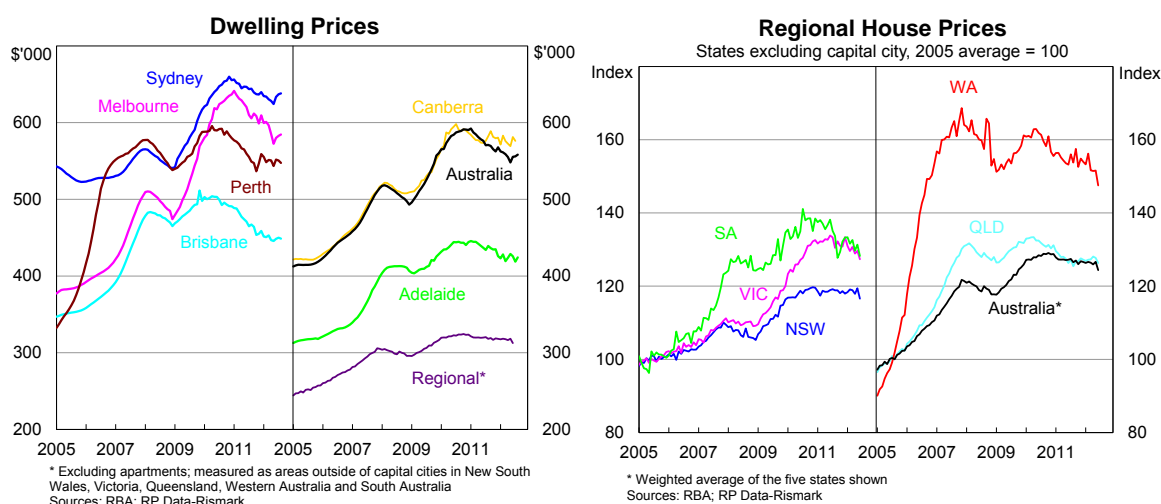
- **Distribution of debt by age:**

Survey data suggest that the increase in the value of the owner-occupier debt stock held by middle-aged people, as a group, far exceeded the increase in the value of the debt stock held by younger and older people over the latter half of the last decade. Of those with debt, the increase in the median debt burden has been relatively uniform, albeit a little larger for the youngest households.



## BRIEFING – HOUSING PRICES

- National dwelling prices appear to be stabilising, with data from RP Data-Rismark (RP) and APM indicating that prices were broadly flat in the June quarter. Prices have risen by 0.5 per cent in seasonally adjusted terms over the September quarter to date.
- Even so, prices remain 6 per cent below the recent peak. The peak-to-trough fall from January 2011 to May 2012 was 7½ per cent, which compares to a fall of 5 per cent in the 2008 downturn.
- Recent growth has been strongest in Sydney, while prices in Perth and Brisbane appear to have stabilised after falling by 7½ to 10½ per cent from their peaks. Melbourne grew by ½ a per cent in July, but is still 9 per cent below its January 2011 peak.
- In year-ended terms house prices have fallen further than unit prices, capital cities have fallen by more than regional areas, and expensive suburbs were weaker than more affordable suburbs. However, these trends have reversed in the last 3 months.
- Auction clearance rates are around average in Sydney, but remain well below average in Melbourne.
- The number of days on market required to sell a house remains high and buyers are also securing relatively large discounts from vendors' offering prices. Turnover is well below the decade average level and the stock of unsold homes is high. However, some of these factors have stabilised or improved over the past three months or so.



### Dwelling Price Growth

As at 22 August 2012; per cent

	Monthly	3-month ended	Yearly
Sydney	0.2	2.2	-0.9
Melbourne	0.3	2.1	-3.5
Brisbane	-0.3	0.7	-3.9
Perth	-0.6	0.7	-0.3
Adelaide	1.3	-1.1	-3.4
<b>Australia</b>	<b>0.4</b>	<b>1.8</b>	<b>-2.2</b>

Source: RP Data-Rismark

### National Housing Price Growth

Per cent

	3 months to March 2012	3 months to June 2012	Year to June 2012
<b>Capital Cities</b>			
ABS <sup>(a),(b)</sup>	-0.1	0.5	-2.1
APM <sup>(b)</sup>	0.9	0.0	-1.1
RP Data-Rismark	-1.6	-0.6	-3.6
<b>Regional Areas</b>			
APM <sup>(b)</sup>	1.1	1.9	1.8
RP Data-Rismark <sup>(a)</sup>	-0.1	-1.6	-2.2

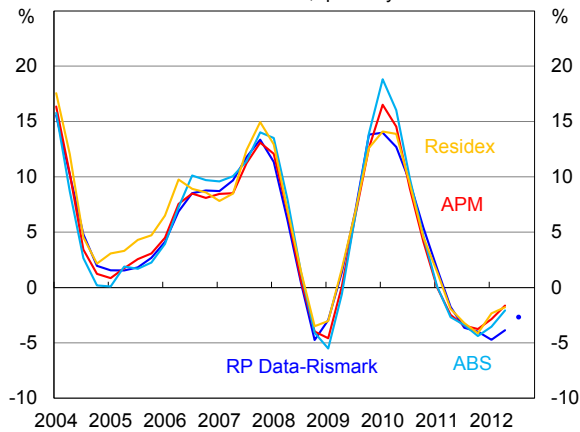
(a) Detached houses only

(b) Quarter-on-quarter growth rate

Sources: ABS; APM; RBA; RP Data-Rismark

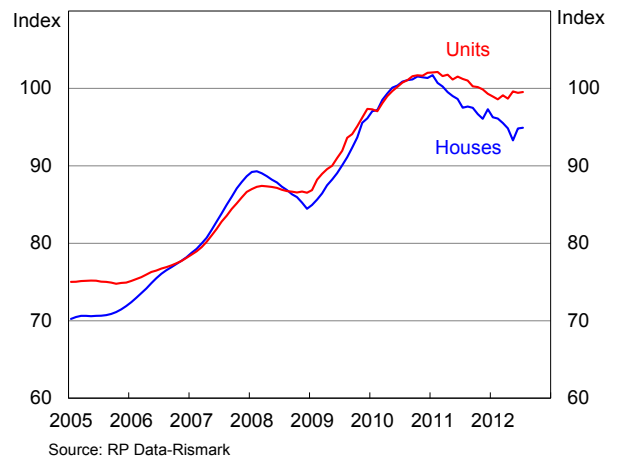
### National House Price Growth

Year-ended; quarterly



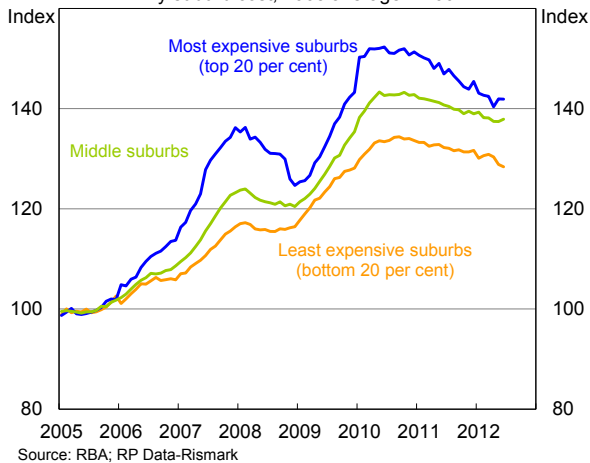
### House and Unit Prices

2010 = 100

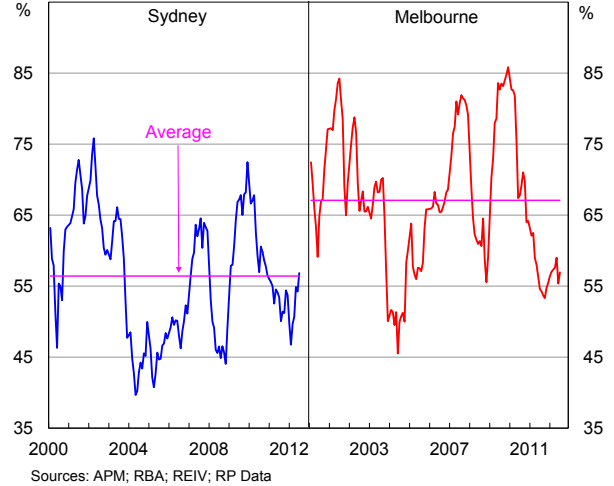


### State Capital Dwelling Prices

By suburb cost, 2005 average = 100

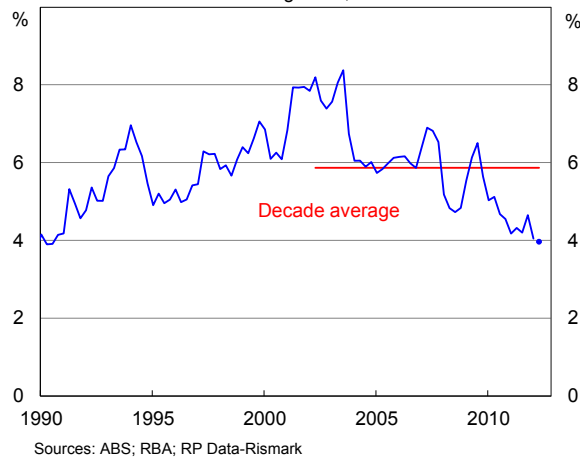


### Auction Clearance Rates



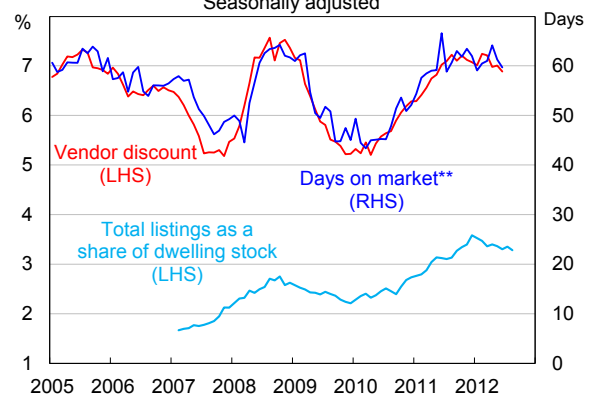
### National Dwelling Turnover Rate

Share of dwelling stock, annualised



### Discounts, Days on Market and Listings\*

Seasonally adjusted



\* Weighted by capital city dwelling stock; dwelling stock estimated from 2006

\*\* Excludes withdrawn properties

Sources: ABS; RBA; RP Data

## An International Comparison of Dwelling Price to Income Ratios

This note introduces a new cross-country dataset on dwelling price to income ratios that are much more comparable than past attempts. Previous measures indicated that Australia had a relatively high ratio and thus was deemed relatively expensive by international standards. However, with more strictly comparable data across a larger range of countries, Australia now appears to have a ratio that is quite typical of developed countries.

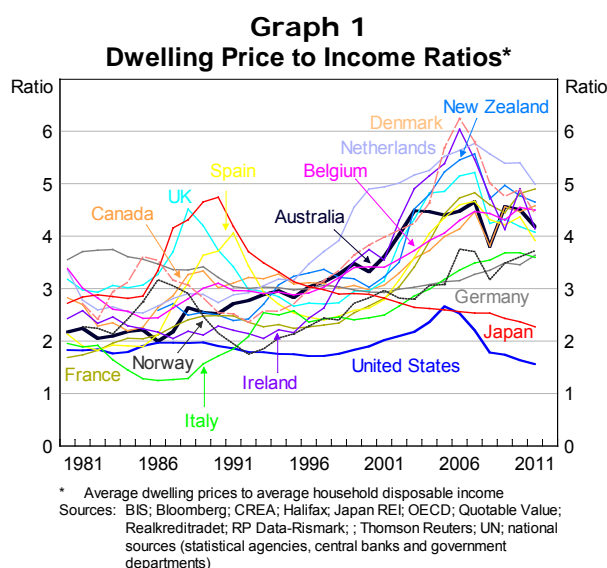
The structure of the note is as follows: past work on affordability and price to income ratios is referenced and the improved dataset is detailed. Some stylised facts are then examined. Finally, some conclusions and caveats are drawn, and possibilities for further research are considered.

### Introduction

The dwelling price to income ratio is a commonly used metric of housing affordability. However, with so many different measures of both prices and incomes, as well as difficulties in securing high quality data, sound international comparisons are difficult. The Bank has contributed both data and commentary to the housing affordability debate, although previous attempts at international comparisons have fallen short due to insufficiently comparable data. The main innovation of this note is to provide *comparable* price to income ratio levels across a wide range of developed countries.

We find that Australia has a ratio that is similar in both level and profile to other developed countries (Graph 1). There has been an obvious upward trend in ratios over the past two decades, notwithstanding general post-crisis price falls and a few exceptional countries (US, Japan and Germany). This upward shift is largely attributable to an economic regime change across most developed countries caused by a fall in inflation and interest rates, financial liberalisation and higher female participation rates. The implication is that even if ratios are quite high by historical standards, this need not imply that dwelling prices are “overvalued” and that there will be an associated fall back to some long-run equilibrium, since the equilibrium, if it exists, has likely *permanently* shifted upwards.<sup>1</sup>

The rationale for comparing dwelling prices to incomes is straightforward: it is the income of a household that determines the affordability of a potential dwelling purchase. Other metrics should also be considered as part of the wider debate, but this note restricts itself to the ratio of price to income (hereafter, simply referred to as ‘ratio’).<sup>2</sup> By the same token, analysing these metrics for particular age cohorts, family units and geographic areas would shed light on where affordability concerns are most acute, but comparable international microdata is even more difficult to source.



<sup>1</sup> [Financial Conditions \(2010\)](#) comments on some issues surrounding the data and methodology used by some overseas commentators who conclude that Australian housing is overvalued (eg. The Economist (2009) and (2010)).

<sup>2</sup> While the price to income ratio is only one of many available metrics, it seems to be one of the most commonly cited. Other metrics include: price to rent ratio (inverse of the rental yield); mortgage repayments as a share of disposable income; minimum income required to service a loan (assuming that repayments are 30 per cent of income); the deposit gap and dwelling prices to GDP.



## Dataset

The new dataset improves on previous attempts at international comparisons in terms of both comparability and scope. Housing prices and incomes are defined and measured in the same way, and Australia is compared to more countries (including Continental Europe and Japan), whereas past comparisons have been limited to the Anglo sphere (the US, the UK, Canada, NZ and Ireland).<sup>3</sup> Comparable data for some developed countries (such as Sweden, Finland and South Korea) could not be found, and important emerging economies (such as China and India) were not considered.

Another point to note is that we compare *levels* data as opposed to an index. That is, we are comparing the level of property prices to the level of income across countries. An *index* would have been relatively easy to obtain by sourcing property price data from the BIS and household income data from the OECD; one can then set the index at 100 at say 2002, and make judgments about under or overvaluation, but a comparison of the absolute level cannot be made. Also, it is unclear what is included in some of the measures of prices and incomes in these off-the-shelf datasets (see Graphs A3-A6 in [Appendix A](#) for index comparisons).

### *Income*

Total household disposable income, as opposed to average individual worker income, is the preferred measure. This is because using the income of a single wage earner does not account for the structural rise in female participation in the labour force, and therefore does not reflect a household's increased capacity to service loan repayments. Also, after tax disposable income is more relevant than before tax income, as this is money that can be allocated towards mortgage repayments. ([Appendix A](#) provides a comparison using a measure of total income).<sup>4</sup> Income is defined as:

$$\frac{\text{Total income (including imputed rent and unincorporate profits)} - \text{taxes and social contributions}}{\text{number of households}}$$

This is equivalent to:

$$\frac{\text{Gross disposable income} + \text{interest paid}}{\text{number of households}}$$

Income is sourced from each country's national accounts; each national statistical authority adheres to the *System of National Accounts* definitions and methodology, making data comparable, as well as relatively timely.

The main drawback with using an average measure is that it does not represent the 'typical' household, as a median would, and can be distorted by an unequal distribution of income. This problem is assuaged somewhat, however, as *average* income is used for each country, and is compared with *average* prices.

### *Property Prices*

Each country's price data includes all regions (both urban and regional areas) and all manner of housing (detached house, semi-detached and units). Average dwelling prices are used so as to align with average income, but also because data is easier to source. There are a range of ways to calculate the average price, beginning with the easiest:

- Use an accessible average transaction price index: Australia, Belgium, Canada, Ireland, the Netherlands and the United Kingdom.
- Divide the market value of the entire dwelling stock (from national balance sheet data) by the number of dwellings (from the Census): France, Germany, Italy, Japan, New Zealand and the United States.

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<sup>3</sup> Note that only comparing Australia to the US can result in unjustified conclusions of 'extreme levels of unaffordability', as the US has such a low structural level of house prices (discussed below).

<sup>4</sup> For reasons of comparability, this note uses a slightly different income definition than the Bank's preferred measure in that it *includes* profits from unincorporated enterprises (around 10 per cent of income).

- Multiply the average floor area by the price per square metre, then splice on an appropriate dwelling price index (Denmark, Norway and Spain)

The value of the publicly and socially owned housing stock is not available for some countries, reducing the value of the dwelling stock. Therefore prices may be slightly underestimated in the United States, Italy and New Zealand (see Table 5 of Ellis (2006) for information on the share of public housing in selected developed countries). Public housing is included in the dwelling stock where possible.

See [Appendix B](#) for more information on sources and methodology.

## Analysis

### Stylised Facts

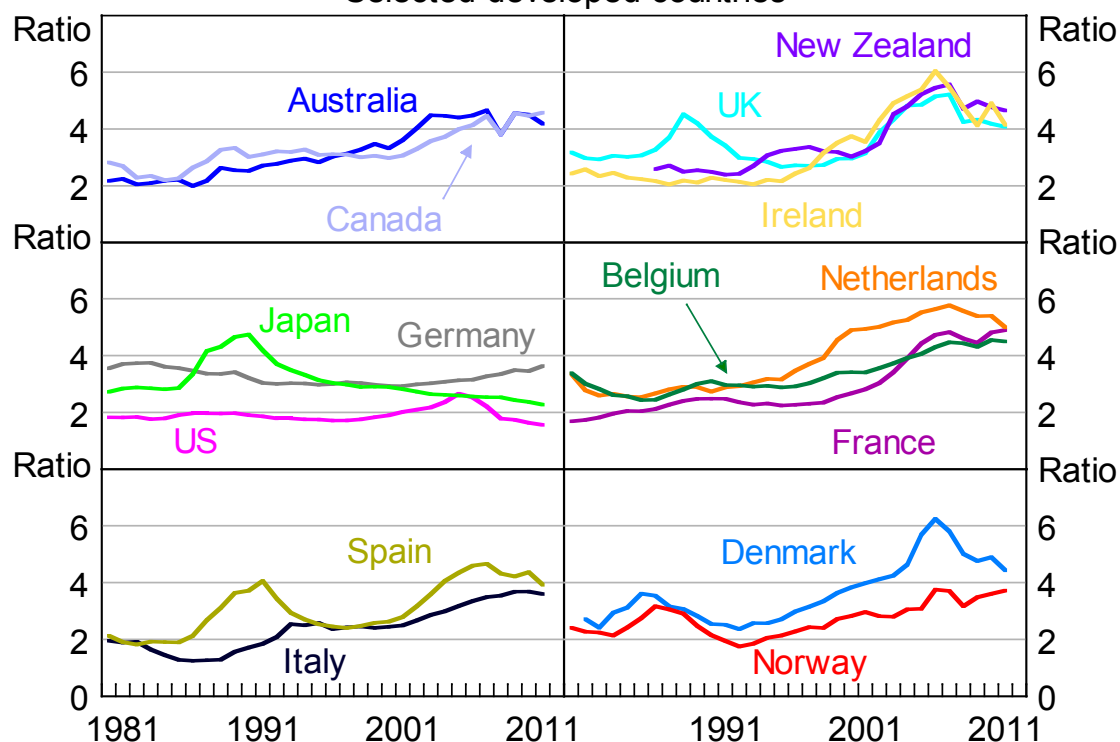
Four stylised facts stand out (Graphs 1 & 2):

1. Ratios in most countries have trended upwards over the past two decades.
2. Australia's ratio appears to be quite typical of a developed country (although Australia did have a relatively high ratio in the early 2000s).
3. Some countries have surprisingly low and/or stable ratios (the US, Japan and Germany).
4. Following the financial crisis there have been considerable falls in some countries that experienced large increases in the preceding years (US, UK, Ireland, Spain).

Graph 2

## Dwelling Price to Income Ratios\*

Selected developed countries



\* Average dwelling prices to average household disposable income; income is after taxes, includes profits from unincorporated enterprises and imputed rent, and is before the deduction of interest payments  
Sources: BIS; Bloomberg; CoreLogic; CREA; Halifax; Japan REI; Quotable Value; Realkreditradet; RP Data-Rismark; Thomson Reuters; UN; national sources (statistical agencies, central banks and government departments)

We now examine in detail possible factors behind these stylised facts.

*Regime change – Interest Rates, Deregulation and Cultural Shifts*

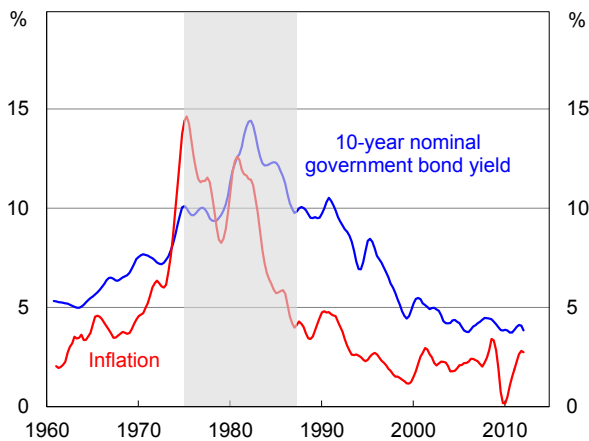
Inflation fell considerably during the 1980s and 1990s, after having increased sharply in the 1970s, and this flowed through to lower nominal interest rates (Graph 3). Lower interest rates reduced the degree of ‘front-end loading’ in housing loans – whereby the servicing and repayment burden is the most in the early years of the loan – thus increasing maximum possible loan sizes (Stevens, 1997). Further, financial deregulation meant less credit rationing, thus opening the borrowing market to even more households.

In addition to the changing economic climate, there was also a shift in cultural norms regarding women in the workplace: the average female labour force participation rate rose steadily from 40 per cent in 1980 to 55 per cent in 2010 in developed countries (Graph 4). This has been a strong driver of household disposable income, and since the primary income presumably covered all essentials, the secondary income would be largely discretionary, providing a disproportionate boost to income that can be used for housing. Additionally, as couples have delayed having children, more disposable income is available to service a mortgage in the early years of household formation, relaxing credit constraints further.

These long-term trends, which have substantially increased household borrowing capacity, have been the largest factors behind the rise in dwelling prices and price to income ratios.

**Graph 3**

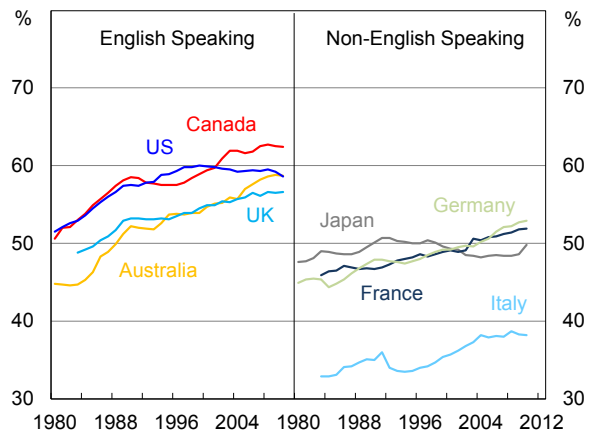
**Interest Rates and Inflation\***



\* Simple annual average of developed peers.  
 \*\* Shaded area indicates financial deregulation  
 Sources: OECD; Ellis and Andrews (2001)

**Graph 4**

**Female Labour Force Participation**



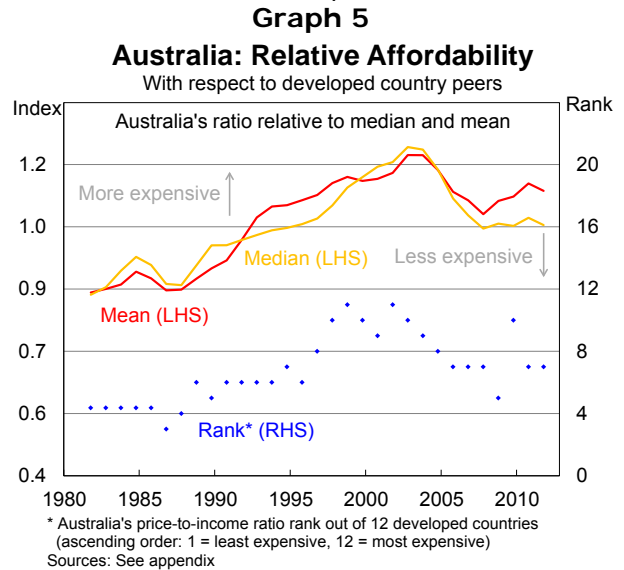
Source: ILO (KILM 7th edition, Table 1b)

### The Rise of the Australian Ratio

In addition to the economic regime shifts of lower inflation, nominal and real interest rates, financial market deregulation, and greater female labour force participation, a number of other possible influences on ratios have been put forward, which we summarise below.

Firstly a brief timeline on Australia's ratio relative to other countries (Graph 5):

- Australia was relatively less expensive during the 1980s and early 1990s (notwithstanding the large boom towards the end of the 80s).
- But rapid dwelling price growth in the 1990s and early 2000s saw the ratio increase relatively faster.
- Despite continued growth in dwelling prices, by the mid to late 2000s the price to income ratio stabilised in Australia at about 4 times income, and the metric is currently quite typical of developed countries.



Some possible reasons for relatively high housing prices have been documented elsewhere, but generally include:

- An unresponsive supply side: while there does not appear to be a physical scarcity of suitable housing land in Australia, policy measures could create *artificial* restrictions. For example, complex and rigid planning processes, high community infrastructure charges, zoning restrictions on higher density housing in established areas and perhaps a lack of land release.
- Building larger and higher quality homes: Abelson and Cheung (2005) estimate that one third of the increase in house prices over the period 1970-2003 is attributable to quality improvements (see also footnote 3 in Richards (2008) and Battellino (2009)).
- Taxation and subsidies: capital gains tax concessions and the ability of investors to negatively gear property investments can bid up prices. Grants for first home owners may also inflate demand at various times.
- Geography and city structure: It has been argued that the average national price may be higher in Australia since most people live in coastal cities (discussed below).
- A culture of home ownership: while speculative, it could be the case that Australians are more comfortable devoting a higher proportion of income to mortgage repayments in order to own their own home. Property may also be regarded as a superior store of wealth to fund retirement (exacerbated by generous taxation treatment of owner-occupied primary homes; no taxes on imputed rents, and low land taxes).

*Low or stable ratios – US, Germany and Japan*

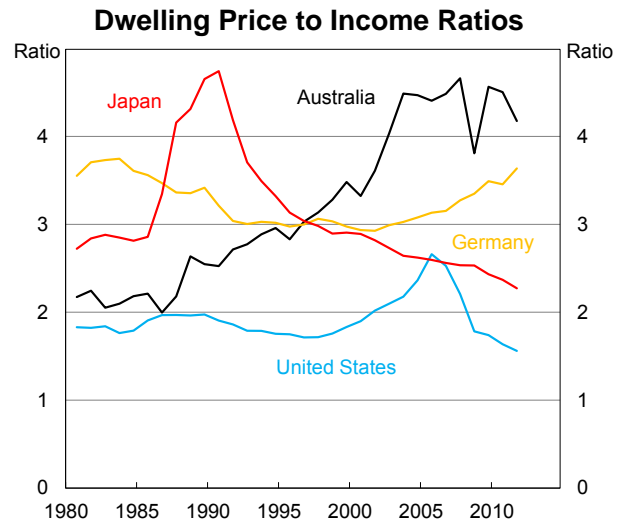
Not all countries have seen a steady upward trend in ratios over the past couple of decades: by international standards the US ratio has been consistently low despite a housing boom in the first half of the 2000s; Germany's ratio has been very steady and relatively low for over 30 years; and Japan saw a boom in the 1980s but subsequently fell sharply and is now at a low level (Graph 6). The cases of the US and Germany will be explored, while we simply note that Japan has had a weak macroeconomic environment for two decades.

*United States*

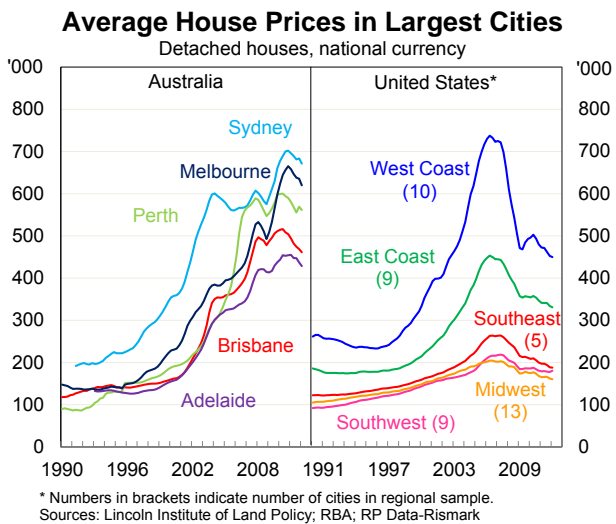
Even after abstracting from the recent large fall in dwelling prices, the ratio in the US has been historically very low relative to other developed countries (this finding is robust across a range of price indices and definitions of income). This is attributable to surprisingly low house prices – average house prices in the US are around half those in Australia, for example (Graph 7).<sup>8</sup> One explanation put forward for this is based on geography and city structure, and their effect on land prices.

Around 50 per cent of Americans live in the largest 46 metropolitan areas. These are scattered throughout the country, with inland cities generally built along rivers (a city size of 1.2 million people – Adelaide's population – is chosen as the lower limit). This compares to around 60 per cent of Australians residing in the five largest coastal cities, for example. Given a higher premium paid for land in urban areas (especially if there is poor infrastructure and the labour market is concentrated in city centres), America's relatively low urbanisation rate in part explains their low *average* house prices. Ellis and Andrews (2001) estimate that roughly one-third of the difference between the dwelling price-to-income ratios of Australia and the United States is attributed to different population distribution across cities.

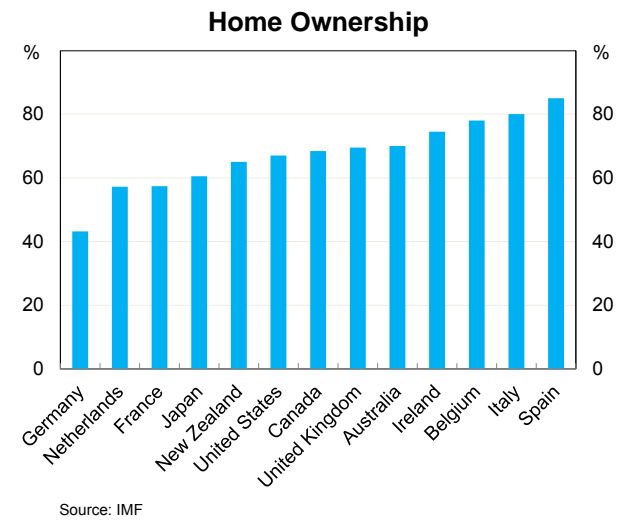
**Graph 6**



**Graph 7**



**Graph 8**



This argument does not explain all of the discrepancy, however. Comparing cities of similar national importance, prices in New York and Los Angeles, America's two largest metropolises,

<sup>8</sup> Since the \$A is around parity with the US dollar, current nominal prices are roughly comparable.

are *lower* than those in Sydney and Melbourne, and similar to those in Brisbane and Adelaide (although they were higher than Sydney and Melbourne before their recent fall). Average prices in Chicago, Philadelphia and Houston, the next three largest cities, range from \$200,000 to \$300,000, well below prices in Australia's cheapest mainland capital city, Adelaide.

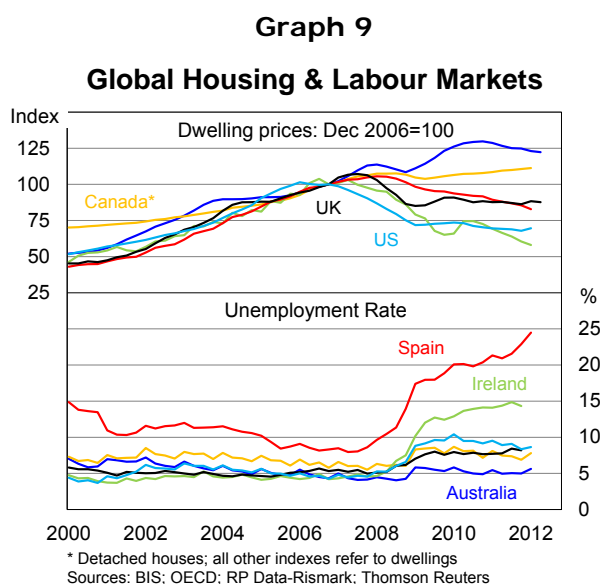
### Germany

There are three main reasons for the low and stable German ratio. First, after reunification Germany introduced a very generous tax break on dwelling construction.<sup>10</sup> This led to a dwelling investment boom and pushed prices down; after the concession was abolished in 1998 there was a supply glut and prices stagnated. Second, the home ownership rate in Germany is very low by developed country standards as it is quite attractive to rent in Germany (Graph 8).<sup>11</sup> Lastly, prices have been relatively stable due to strict lending standards, with low LVRs.<sup>12</sup>

### Post-crisis 'Corrections'

A great deal has been written about the financial crisis and the consequences for housing markets in certain countries, most notably the US, Ireland, Spain and the UK. Without adding more to this vast literature, we simply note that housing markets in economies that have continued to enjoy low unemployment have generally fared much better than those with rising unemployment (Graph 9).

While dwelling prices have fallen in the order of 20 to 50 per cent in the UK, Spain and Ireland, their ratios remain elevated relative to history, in part due to falls in income (in Ireland and Spain).



A distinguishing feature in the Australian market is that dwelling investment has been relatively subdued over the last few years, in contrast to some countries that experienced a large construction boom such as the US, Ireland and Spain, where the excess supply has accentuated price falls. There was also substantial speculation and falling lending standards in some overseas markets, whereas that did not occur on a wide scale in Australia. Lastly, Australia's population has been growing, in part due to immigration, whereas populations in some other countries have stalled or even declined (Germany and Japan, for example).

<sup>10</sup> The *Fördergebietsgesetz* law, operating from 1991 to 1998, allowed investors who renovated or built real estate to write off the entire cost of the investment from their taxable income over 10 years. Effectively, the tax incentives were so generous that people over-invested leading to a supply glut. See [Der Spiegel \(2008\)](#) for further details and [Lieberknecht \(2012\)](#) for a graph of dwelling investment (page 9).

<sup>11</sup> See [Andrews and Caldera Sanchez \(2011a\)](#) for a cross-country comparison of home-ownership rates; also see Figures 5 and 6 in [Andrews, Caldera Sanchez and Johansson \(2011\)](#). With regard to renting, tenure is relatively secure and rents are set artificially low by large public housing companies. However, rents are likely to rise in coming years because state governments are forcing these companies to sell property in order to repay debts. For comparisons of rental favourability see Figures 19, 20, 24 and Box 5.

<sup>12</sup> See Table 4 and Figure 14 of [Andrews, Caldera Sanchez and Johansson \(2011\)](#) for a comparison of housing finance features, and Figure 27 and Box 7 for transaction costs which affect time needed to save for a deposit.

## Should ratios be expected to converge or 'return to equilibrium'?

An argument for convergence is that housing consumption across developed countries should be similar, or that there is no reason to expect one national group to be willing to pay a higher premium for housing than another group. But with large geographical, institutional and political differences, different equilibrium levels could be generated across countries and time. In fact, our data suggest that divergence has actually *increased* over time.

As for a return to equilibrium, it depends on how one defines it. Some commentators define equilibrium as simply the long-run average (say, 30 years), and interpret the rise in the ratio above this value as evidence of an overvalued market. (The usual mechanism to restore equilibrium is for *prices* to fall, sometimes substantially; but another possible scenario is an extended period of gradually rising incomes combined with flat housing prices). This argument usually ignores the structural rise in borrowing capacity and the fall in the user cost of housing to warrant a rise in the ratio over the past two decades. And with such major shifts unlikely to be reversed, it is also unlikely that the ratio will fall to an average 1990s level. The true equilibrium ratio is also likely to be time varying and unobservable, so perhaps basing arguments on such a concept is not particularly practical.

### Future work

Further data gathering and research could focus on price to rent ratios, or perhaps more granular data on regions and different types of households.<sup>13</sup> Data could also be sourced on the share of income devoted to loan repayments, as this incorporates the current stance of policy as well as the degree of interest rate pass through.

### Conclusion

The ratio of dwelling prices to income is often used as a proxy measure of housing affordability, and with Australia's ratio being historically quite high, despite recent dwelling price falls, some have concluded that Australia's housing market is overvalued. However, the increase in Australia's ratio has been quite typical of developed countries over the last two decades, largely due to shifts in the economic regime. So the argument posited by some commentators that the ratio is out of line with the international norm, and *must* fall, with the implication that prices must fall substantially, appears to be unjustified (although there may well be other valid arguments as to why Australian housing prices are too high).

Financial Conditions Section  
Economic Analysis Department  
2 August 2012

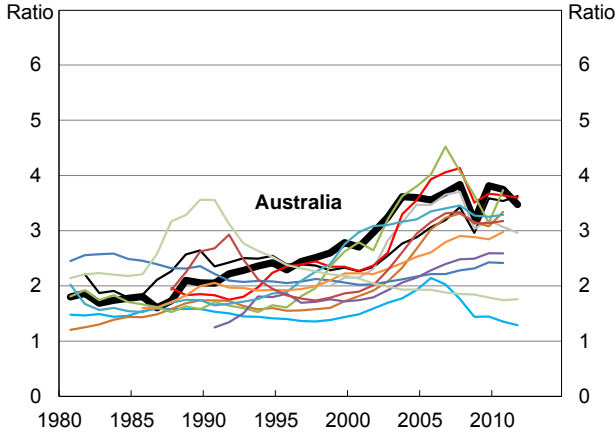
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<sup>13</sup> Data from the [Luxembourg Income Study \(LIS\)](#) appears to be a good source of microdata as a lot of work has been put into making survey measures from different countries as comparable as possible.

## Appendix A: Robustness Checks

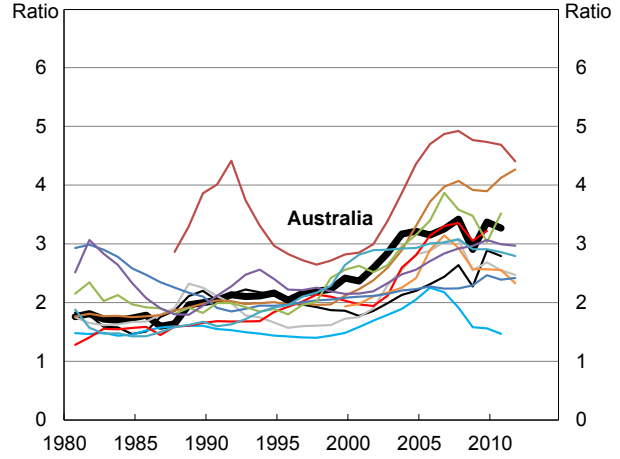
Australia's relativity is somewhat higher when using broader income measures that incorporate the taxation and social welfare system (Graphs A1 & A2). OECD indexes (A3-A6).

**Graph A1**  
**Dwelling Price to Total Income\***



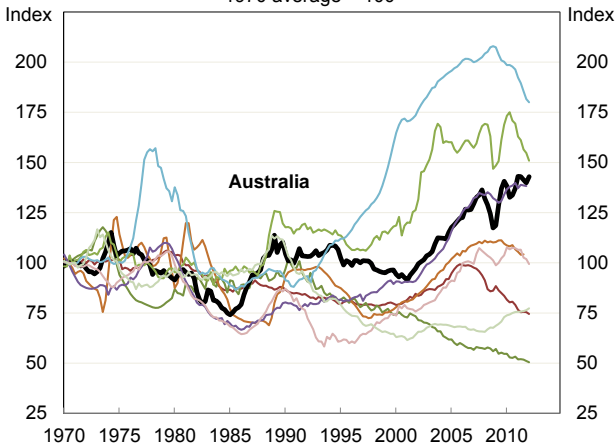
\* Total income defined as gross disposable income + tax paid + property income paid (interest and other) + social contributions + other transfers (ie. primary and secondary income with no deductions).

**Graph A2**  
**Dwelling Stock to GDP\***



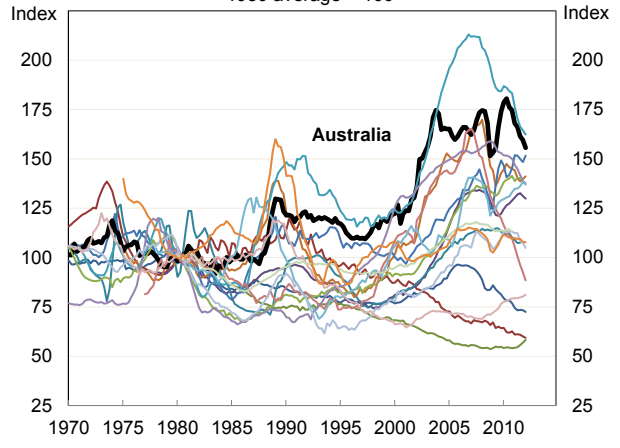
\* Dwelling stock relative to GNP yields similar results

**Graph A3**  
**Price to Income Ratios**  
1970 average = 100



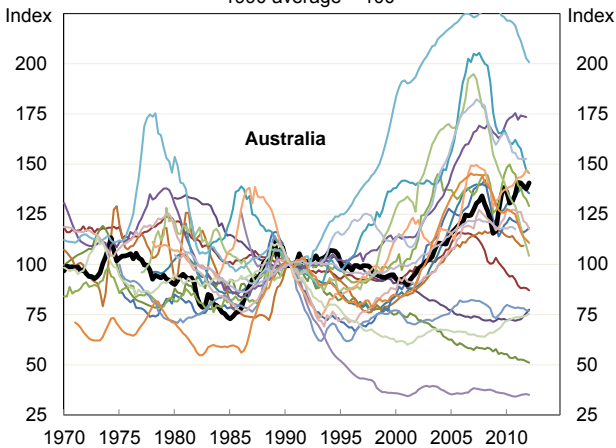
Source: OECD

**Graph A4**  
**Price to Income Ratios**  
1980 average = 100



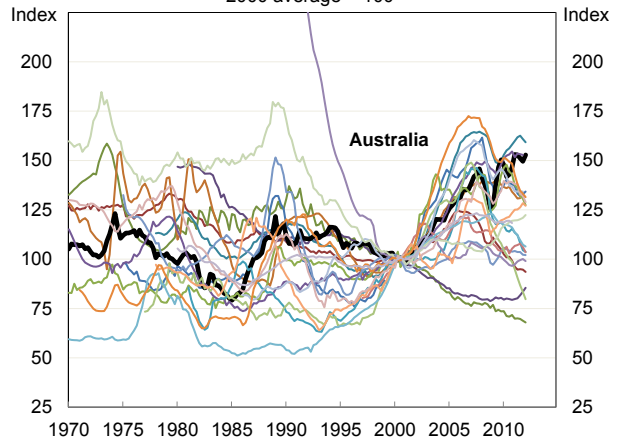
Source: OECD

**Graph A5**  
**Price to Income Ratios**  
1990 average = 100



Source: OECD

**Graph A6**  
**Price to Income Ratios**  
2000 average = 100



Source: OECD



## Appendix B: Sources and Methods

Country	Mean Dwelling Prices	Mean Household Incomes
Australia	RP Data-Rismark (weighted mean, all cities and regions) (1980-2011)	ABS (Catalogue 5206.0 Table 14; Census) (1980-2011)
Belgium	Statistics Belgium (dwelling stock weighted mean price 1985-2011); OECD price/income spliced (1980-84; 2011)	Eurostat (1985-2010); Number of households (Dutch Interior Ministry)
Canada	Canadian Real Estate Association (1988-2011); BIS spliced (1980-1987); OECD price/income spliced (1980)	Statistics Canada (Table 384-0012 – 1981-2010); Number of households from Statistics Canada Census)
Denmark	Price per square metre multiplied by average floor area in 2009 (Realkreditraadet; Dutch Interior Ministry), then spliced onto Realkreditraadet index from 1995-2010; OECD price/income spliced (1981-98; 2011)	Statistics Denmark (1999-2011); Number of households (Statistics Denmark)
France	INSEE (Tables 4507 & 4515, series AN.1111 + AN.2111) (1980-2009); BIS index spliced 2010; Department of Ecology, Sustainable Development and Energy (Housing Accounts, Tables 50 & 51 dwellings); OECD price/income spliced (2011)	Eurostat (1980-2010); Number of households (Dutch Interior Ministry)
Germany	Statistisches Bundesamt/Bundesbank (national balance sheet (1991-2010)); BIS spliced (1980-1990); Number of dwellings (Dutch Interior Ministry); OECD price/income spliced (2011)	Eurostat (1995-2010); Statistisches Bundesamt 'compensation of employees' spliced (1980-1994); Number of households (Dutch Interior Ministry)
Ireland	BIS (1980-2010); OECD price/income spliced (2011)	Eurostat (2002-2010); Thomson Reuters Datastream 'Net household disposable income' spliced (1980-2001); CSO (number of households)
Italy	Banca d'Italia (1995-2008); BIS spliced (1990-1994; 2009-10); Number of dwellings (Dutch Interior Ministry); UN; OECD price/income spliced (1980-89; 2011)	Eurostat (1990-2010); Number of households (Dutch Interior Ministry); UN
Japan	Japan Cabinet Office (1980-2009); Japan Real Estate Institute spliced (2010-2011); Statistics Japan (number of dwellings); OECD price/income spliced (2011)	Statistics Japan (1980-2010); Statistics Japan (number of households)
The Netherlands	BIS (1980-2011); OECD price/income spliced (2011)	Eurostat (1990-2010); Thomson Reuters Datastream (household disposable income) (1980-89); Dutch Interior Ministry (number of households)
New Zealand	RBNZ and Quotable Value (1991-2011); spliced RBNZ (1980-1990) Statistics NZ (number of dwellings); OECD price/income spliced (1986)	Statistics NZ (Institutional Sector Accounts: Table 4; 1987-2011); Statistics NZ (number of households)
Norway	Price per square metre multiplied by average floor area in 2010 (Statistics Norway), then spliced onto Statistics Norway index from 1992-2011; OECD price/income spliced (1980-91)	Statistics Norway (1978-2011); Number of households (Statistics Norway)
Spain	Price per square metre multiplied by average floor area in 2008 (BIS; Dutch Interior Ministry), then spliced onto BIS index from 1995-2011; spliced onto Banco de España (1987-1994); OECD price/income spliced (1980-86; 2011)	Eurostat (1990-2010); Number of households (Dutch Interior Ministry)
United Kingdom	Halifax (1987-2011); OECD price/income spliced (1980-1986)	ONS; Department of Communities and Local Government (number of households)
United States	Federal Reserve Flow of Funds (Table B.100 line 4 + B.103 line 4); US Census Bureau (number of dwellings)	Thomson Reuters Datastream (1980-2011); US Census Bureau (number of households)

**SUBMISSIONS TO THE SENATE INQUIRY INTO  
THE POST-GFC BANKING SECTOR**

There were 151 submissions to the Senate Inquiry into 'The Post-GFC Banking Sector'. The exceptionally large number of submissions, particularly from individuals and small businesses, largely reflected the inclusion of bank lending practices in the terms of reference.

- Most submissions by individuals and businesses focused on the valuation and foreclosure practices of institutions, particularly BankWest. In response, most banks highlighted that their lending criteria are broadly unchanged since the financial crisis, with all applications assessed against standard lending policies. In addition, they all endeavour to assist customers experiencing financial hardship and that foreclosure is taken as a last resort.

Institutional Markets Section  
Domestic Markets  
7 August 2012

### **Lending Practices**

Lending standards, and in particular valuation and foreclosure policies, were the focus of a large number of submissions by individuals and businesses. Although the Inquiry's terms of reference were broad, many of these submissions focused on individual experiences with the valuation and foreclosure practices of BankWest, particularly since its acquisition by CBA.

#### *Lending Standards*

Submissions tended to indicate that financial institutions have become more cautious in their assessment of risk since the onset of the financial crisis. While some of the major banks admitted there have been reductions in maximum loan-to-valuation ratios (LVRs), increases in risk margins and reductions in aggregate credit exposures to certain industries, they broadly indicate that their credit policies are little changed.

BankWest pointed out that although it has adjusted its lending practices since the GFC (largely in line with the major banks), these changes did not affect existing customer contracts. BankWest also highlighted that any operational obligations and covenants (such as debt service ratios and security coverage) are agreed with customers prior to the loan being advanced.

Submissions by the major banks drew attention to their credit approval frameworks, indicating that all applications are assessed against a number of objective factors. CBA and BankWest pointed out that while some customers may feel they have more restricted access to credit since the financial crisis, this is a reflection of the economic environment adversely affecting their financial profile rather than changes to lending standards.

#### *Valuation Policies*

The Inquiry received a number of submissions contesting recent valuations of property, with a number of parties suggesting there was collusion between lenders and valuers to the detriment of the borrower. By comparison, CBA and BankWest highlighted the use of independent valuers, both in initial credit assessments and during the review of existing facilities. BankWest also pointed out that it does not provide valuers with any information on the borrowers prior to a valuation.

Although BankWest indicated that it does not provide valuations to third parties (including the customer), CBA stated that it welcomed valuations initiated by customers, provided they are addressed in favour of CBA and acceptable to CBA.

#### *Treatment of Loans in Distress*

The Financial Ombudsman Service indicated that it had experienced a significant increase in the number of financial difficulty disputes, attributing this largely to the financial crisis. Many of these disputes focused on banks declining requests for assistance from their customers. By comparison, all financial institutions emphasised their policies in assisting borrowers experiencing financial hardship, and most highlighted the assistance provided to customers affected by natural disasters over recent years. In addition, NAB drew attention to the fact that it provides all its customers – be they business or retail, and across all products – with the same types of assistance.

ANZ, in particular, noted that there may be situations where assistance is not possible. If a customer's financial situation has permanently changed, then a restructure of their obligations may not be in either parties' interests as it postpones the inevitable default, and may lead to higher loan losses. Nevertheless, all banks emphasised that foreclosure is taken as a last resort. In response to many criticisms about unfair treatment, BankWest pointed out that it is not in its interest to manufacture customer defaults or to increase losses on lending deals. Furthermore, BankWest highlighted that its rate of receivership appointments have been broadly in line with its market share. BankWest also emphasised that, when a receiver is appointed, the receiver has a legal obligation to act in good faith towards both the lender and borrower, including selling the property for not less than its market value.

- The Banking and Finance Consumers Support Association (BFCSA) called for an immediate ban on no-doc and low-doc lending, and for National Consumer Credit Protection laws to be altered so that identification and verification of borrowers' financial positions are the responsibility of lenders.