JUNE QUARTER 2012 6416.0

Australian Bureau of Statistics

HOUSE PRICE INDEXES: EIGHT CAPITAL CITIES

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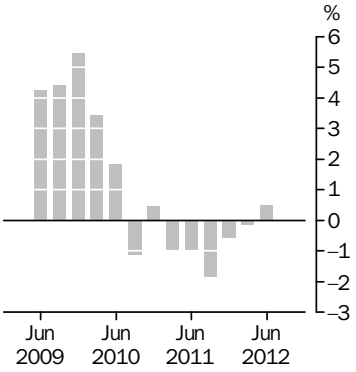
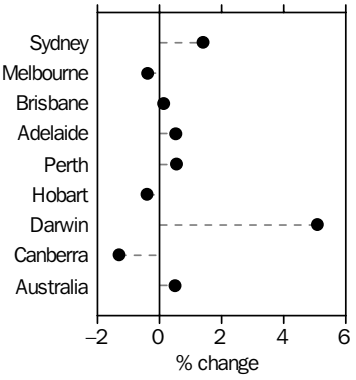
Established house prices
Weighted average of eight capital cities
Quarterly % change



Established house prices
Quarterly % change
June quarter 2012



KEY FIGURES

ESTABLISHED HOUSE PRICES	*Mar Qtr 12 to Jun Qtr 12* % change	*Jun Qtr 11 to Jun Qtr 12* % change
Weighted average of eight capital cities	**0.5**	**–2.1**
Sydney	1.4	–0.9
Melbourne	–0.4	–4.8
Brisbane	0.1	–2.7
Adelaide	0.5	–1.3
Perth	0.6	1.1
Hobart	–0.4	–3.2
Darwin	5.1	12.3
Canberra	–1.3	–2.6

KEY POINTS

ESTABLISHED HOUSE PRICES

QUARTERLY CHANGES

- Preliminary estimates show the price index for established houses for the weighted average of the eight capital cities rose 0.5% in the June quarter 2012.
- The capital city indexes rose in Sydney (+1.4%), Perth (+0.6%), Adelaide (+0.5%), Darwin (+5.1%) and Brisbane (+0.1%) and fell in Melbourne (–0.4%), Canberra (–1.3%) and Hobart (–0.4%).

ANNUAL CHANGES (JUNE QUARTER 2011 TO JUNE QUARTER 2012)

- Preliminary estimates show that the price index for established houses for the weighted average of the eight capital cities fell 2.1% in the year to June quarter 2012.
- Annually, house prices fell in Melbourne (–4.8%), Hobart (–3.2%), Brisbane (–2.7%), Canberra (–2.6%), Adelaide (–1.3%) and Sydney (–0.9%) and rose in Darwin (+12.3%) and Perth (+1.1%).

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Mark Dubner on Sydney (02) 9268 4448.

NOTES

FORTHCOMING ISSUES

ISSUE (Quarter)	*RELEASE DATE*
September 2012	6 November 2012
December 2012	5 February 2013
March 2013	7 May 2013
June 2013	6 August 2013

CHANGES IN THIS ISSUE

The established house price index currently covers detached houses in the eight capital cities. To complement the established house price index, new experimental price indexes have been developed for other dwellings in the capital cities and for all dwellings in the capital cities. This publication includes a feature article which provides some information about the development of the new price indexes and a data cube with a time series of the new indexes.

REVISIONS

Estimates for the two most recent quarters of the HPI series are preliminary and subject to revision (see paragraphs 15 to 19 of the Explanatory Notes).

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ASGC	Australian Standard Geographical Classification
ASGS	Australian Statistical Geography Standard
CPI	Consumer Price Index
GCCSA	Greater Capital City Statistical Area
HPI	House Price Index
SD	statistical division
SEIFA	Socio-Economic Indexes for Areas
VGs	Valuers-General

Brian Pink
Australian Statistician

INTRODUCTION OF CARBON PRICING AND IMPACT ON ABS PRICE INDEXES

INTRODUCTION OF CARBON PRICING AND IMPACT ON ABS PRICE INDEXES

On 1 July 2012, the Australian Government introduced a $23 per tonne carbon price on greenhouse emissions, to be paid directly by Australia's largest greenhouse gas emitting companies, together with compensation and incentive packages. Carbon pricing changes the relative prices of high and low emission-intensive goods. The extent that any carbon costs translate into general increases in prices depends on a range of factors. Carbon pricing will be occurring at the same time as normal variations in prices are occurring driven by productivity, the terms of trade or changing preferences. The extent to which businesses pass on the carbon price will depend on their consideration of issues such as operating costs, margins, and other economic factors (such as degree of competition).

The Australian Bureau of Statistics (ABS) released an *Information Paper: Recording emissions reduction schemes in ABS statistics* (cat. no. 5257.0.55.001) on 30 July 2012. This information paper summarises the nature of emissions permits measures introduced under the Clean Energy Act 2011, and how the ABS expects to include estimates of various carbon credit schemes in economic and environment statistics, commencing with the September quarter 2012.

The ABS will not be able to quantify the impact of carbon pricing, compensation or other government incentives and will not be producing estimates of price change exclusive of the carbon price or measuring the impact of the carbon price. Any changes in the prices charged by companies for their outputs, paid by companies for their inputs or paid by consumers, will be reflected in the suite of price indexes compiled and published by the ABS. Further information on the expected impacts of the introduction of carbon pricing is available in the publication *Strong Growth, Low Pollution - Modelling a Carbon Price* (The Treasury, 2011).

ANALYSIS

PRELIMINARY:

June Quarter 2012 (0.5%)

The preliminary price index for established houses for the weighted average of the eight capital cities rose 0.5% in the June quarter 2012. The index fell 2.1% through the year to the June quarter 2012.

The positive movement in the June quarter 2012 was the result of rises in Sydney (+1.4%), Perth (+0.6%), Adelaide (+0.5%), Darwin (+5.1%) and Brisbane (+0.1%). This was partially offset by falls in Melbourne (–0.4%), Canberra (–1.3%) and Hobart (–0.4%).

The preliminary estimate for Sydney (+1.4%) follows an increase in the March quarter 2012 (+0.8%) and falls in all but one of the preceding six quarters (–0.3%, –0.3%, –0.3%, +0.2%, –1.9% and –1.2% from the September quarter 2010 to the December quarter 2011 respectively). The increase in the June quarter 2012 for Sydney was driven by clusters with median prices below $1 000 000. The index fell 0.9% through the year to the June quarter 2012, the fifth consecutive through the year fall, but the smallest since the June quarter 2011 (–0.6%).

The preliminary estimate for Perth (+0.6%) follows rises in the preceding two quarters (+0.5% and +0.7% in the December quarter 2011 and the March quarter 2012 respectively). Price increases in clusters with median prices between $400 000 and $900 000 drove the upward movement, but were partially offset by falls in clusters at the top and bottom ends of the price range. The index for Perth rose 1.1% through the year to the June quarter 2012, and together with Darwin (+12.3%) were the only cities to rise through the year.

The preliminary estimate for Melbourne (–0.4%) follows falls in the preceding five quarters (–1.4%, –1.1%, –2.0%, –1.2% and –1.3% in the March to the December quarters 2011 and the March quarter 2012 respectively). Clusters with median prices at the top and bottom of the range of prices contributed to the June quarter 2012 fall, however there were offsetting rises in clusters with median prices between $350 000 and $700 000. The index for Melbourne fell 4.8% through the year to the June quarter 2012, a smaller through the year decrease than the preceding two quarters (–5.6% and –5.5% in the December quarter 2011 and the March quarter 2012 respectively).

REVISED:

March Quarter 2012 (–0.1%)

The preliminary price index for established houses for the weighted average of the eight capital cities fell 0.1% in the March quarter 2012. This was revised from a preliminary estimated fall of 1.1%. The through the year movement has been revised from an estimated fall of 4.5% to an estimated fall of 3.5%.

The negative movement in the March quarter 2012 was the result of falls in Melbourne (–1.3%, revised from –2.2%), Adelaide (–1.2%, revised from –0.9%), Hobart (–2.0%, revised from –2.7%) and Brisbane (–0.1%, revised from +0.4%). This was partially offset by rises in Sydney (+0.8%, revised from –1.8%), Perth (+0.7%, revised from +1.1%), Darwin (+4.4%, unchanged) and Canberra (+0.3%, revised from +1.2%).

The revision to the preliminary estimate for Sydney (from –1.8% to +0.8%) was the main contributor to the revision to the weighted average of the eight capital cities. Clusters in Sydney with median prices between $350 000 and $800 000 contributed most to the rise in the March quarter 2012. Sydney fell 2.1% through the year to the March quarter 2012, revised from a fall of 4.6%.

FINAL:

December Quarter 2011 (–0.6%)

The final price index for established houses for the weighted average of the eight capital cities fell 0.6% in the December quarter 2011. This was revised from a second preliminary estimated fall of 0.7%. The movement through the year to the December quarter 2011 was revised from a fall of 4.5% to a fall of 4.4%.

The negative movement in the December quarter 2011 was the result of falls in Sydney (–1.2%, unchanged) and Melbourne (–1.2%, revised from –1.4%). This was partially offset by rises in Perth (+0.5%, revised from +0.9%), Canberra (+2.1%, revised from +2.0%), Hobart (+1.5%, revised from +1.7%), Brisbane (+0.1%, revised from –0.3%) and Darwin (+1.7%, revised from +1.6%). Adelaide showed no movement for the quarter (revised from –0.1%).

ABS HOUSE PRICE METHODOLOGY

The ABS uses a stratification approach to control for compositional change in the sample of houses used to compile the House Price Indexes each quarter. This approach stratifies (clusters) houses according to two characteristics: the long-term level of prices for the suburb in which the house is located, and the neighbourhood characteristics of the suburb, as represented by the ABS Socio-Economic Indexes for Areas (SEIFA).

Each cluster of houses in a capital city contributes a proportion of the total value of the housing stock in that capital city. The proportion of the total value is referred to as the cluster's weight. Some clusters have a large weight; some have a small weight.

Each quarter, the clusters are re-valued by applying a price relative which is derived by comparing the current median price of the cluster to the previous median price of the cluster. The current period values of each cluster are then summed to derive the current value of the total housing stock in the capital city. Index numbers are subsequently derived from the total values.

Thus the movement of a particular index is determined by both the movements of the median prices of the clusters and the weights of the clusters in the index structure.

Low numbers of price observations can affect the reliability of the cluster medians, and therefore index movements.

For more detailed information, please refer to the Explanatory Notes in this issue, or to *Information Paper: House Price Indexes: Concepts, Sources and Methods* (cat. no. 6464.0).

EXPERIMENTAL OTHER DWELLINGS PRICE INDEX

INTRODUCTION

1 This article provides information about the development of a new experimental price index which covers the prices of other dwellings (which includes flats, units, apartments and semi-detached houses) in the eight capital cities. This article outlines the index methodology and presents experimental price index results for other dwellings as well as a total price index for all dwellings. Subject to further analysis, available funding, and feedback from users, the ABS intends to incorporate the new indexes into its suite of price statistics in the future.

BACKGROUND

2 The coverage of the Established House Price Index (referred to from now on as the HPI) is currently limited to detached houses in the eight capital cities. A 2004 review of the HPI identified several possible improvements to the measure, one being the expansion in coverage to include dwellings other than detached houses (from now on referred to as other dwellings). In 2009 the ABS was provided funds for regular production of performance indicators related to the Council of Australian Governments (COAG) National Affordable Housing Agreement. One of these was a measure of housing affordability and this work has resulted in an extension of the collection and processing of house sales data from State and Territory Valuers-General (VGs) to cover all dwellings in the whole of each state. The collection of additional data and development of editing and processing tools for these data has provided the opportunity to do work on extending the scope of the HPI to include other dwellings.

3 According to 2011 Census data, other dwellings make up almost a quarter (24%) of all occupied private dwellings in Australia. The current coverage of the HPI may not be representative of all dwellings: segments of the property market may experience different demand and supply factors at any one time and over periods of time. Extending the coverage to all dwelling types in the capital city is a significant step to improving the usefulness of the HPI as an economic indicator. There is also a significant amount of user interest for the ABS to produce an index for other dwellings.

4 The ABS has adopted a two-stage approach to produce the HPI. The first stage is to compile the benchmark series based on the complete, or near complete, VGs dataset for each quarter. The second stage, referred to as the leading indicator series, involves compiling price indexes for the two most recent quarters based on a combination of mortgage lenders' data and the VGs data available at that point in time. This article explains the proposed methodology (for both the benchmark, and leading indicator series) for an Experimental Other Dwellings Price Index (EODPI) to complement the current HPI, as well as an Experimental All Dwellings Price Index (EADPI) covering both detached houses and other dwellings in the eight capital cities. Experimental results of the two benchmark indexes are presented in a time series spreadsheet as part of this publication.

CONCEPTS AND METHODS

Approach Used for the Experimental Other Dwellings Price Index

5 The standard procedure for constructing price indexes is to select a sample of representative items and to re-price the identical items through time (a matched sample). This approach is not viable in the case of established houses or other dwellings as the observable prices in each period invariably relate to a different set of dwellings. The EODPI uses a stratification approach to control for compositional change in the

Approach Used for the Experimental Other Dwellings Price Index continued

sample of other dwellings used to compile the EODPI each quarter. This approach stratifies (clusters) other dwellings according to two characteristics: the long-term level of prices for the suburb in which the other dwelling is located, and the neighbourhood characteristics of the suburb, as represented by the ABS Socio-Economic Indexes for Areas (SEIFA). The cluster design process aims to seek a balance between maximising the homogeneity of dwellings within each cluster and ensuring that there will be sufficient price observations in each cluster to produce a reliable median price. The approach used to produce the EODPI clusters is identical to that used in the HPI, however the outcome for the EODPI is a different set of clusters to that produced for the HPI. The number of clusters in both indexes is presented below.

6 The EODPI is a fixed weighted index, where the weights are based on the value of the in-scope housing stock (other dwellings). The quantities underpinning the values are sourced from the most recent Population Census and are held constant until they can be updated with new Census data. Link period or base period values for each cluster are derived as the product of the number of other dwellings in the cluster and the average price of other dwellings in the cluster at the link or base period. Like the HPI, the EODPI is actually two indexes which have been chain linked at March quarter 2008. Series 1, based on the 2001 Census covers the September quarter 2003 to the March quarter 2008. Series 2, the current series is based on the 2006 Census and covers the March quarter 2008 to the present quarter. ABS intends to re-weight the index based on the results of the 2011 Census of Population and Housing. Further information about re-weighting and linking is available from *House Price Indexes: Concepts, Sources and Methods, Australia* (cat. no. 6416.0)

7 The VGs data provided to the ABS for use in construction of the EODPI will also allow for the compilation of a time series of the number of transfers and unstratified median prices for other dwellings in each of the eight capital cities. These figures are presented in a datacube as part of this publication.

NUMBER OF CLUSTERS FROM THE MARCH QUARTER 2008 ONWARDS

	Other Dwellings	*Established Houses*
Sydney	10	22
Melbourne	10	20
Brisbane	10	20
Adelaide	5	11
Perth	4	10
Hobart	3	5
Darwin	3	6
Canberra	4	7

Benchmark Index Construction

8 The benchmark index number is produced for each quarter once data has been collected over three quarters - by this time the VGs dataset is considered complete or near complete (e.g. this Feature Article is being published in the June quarter 2012 which means the Benchmark series will go up to the December quarter 2011). In the regular production of the HPI the benchmark series is considered final and not subject to any further revision. Users should note, however, that as the EODPI and EADPI are

Benchmark Index Construction continued

experimental indexes, the data published in this Feature Article may be revised when the ABS first publishes the new series in the future.

9 The reliability of each index is largely dependant on the availability of sufficient pricing information each quarter. Users should note that the small cities of Hobart and Darwin have considerably fewer sales than other cities, with around 200 to 400 sales each quarter in each city, and there may be occasions when clusters have a low number of price observations leading to volatility in the index. Rather than suppress publication, the series are included here because it is believed that the long term trends are reliable. However, because of the limitations in the reliability of individual quarter-to-quarter movements, users are advised to exercise due care when analysing such movements.

10 To calculate the benchmark series, each quarter a price relative for each cluster is obtained by dividing the median other dwelling price in the current period by the median other dwelling price in the previous period. The dwelling stock is then re-valued based on the price relatives. This value is then the current estimated value of the other dwelling stock in each cluster. An aggregate capital city value is obtained by summing the value of each cluster, and then the price index for the city is then derived by dividing this current period value by a link or base period value and then multiplying by a link or base period index number. The manner of index construction is the same as is used in the HPI. Refer to *House Price Indexes: Concepts, Sources and Methods, Australia* (cat. no. 6464.0) for more information on this approach.

11 Once the current period value of the dwelling stock in all capital cities has been obtained, these values can be summed together to allow the derivation of a weighted average index of the eight capital cities. The weight of each capital city in the eight capitals index is presented below.

EXPERIMENTAL OTHER DWELLINGS PRICE INDEX: WEIGHTING PATTERN(a), percentage contribution to the weighted average of eight capital cities

	Other Dwellings(b)
Sydney	45.6
Melbourne	26.9
Brisbane	9.2
Adelaide	5.8
Perth	9.2
Hobart	0.7
Darwin	0.7
Canberra	2.1

(a) As at the March quarter 2008.
(b) Percentages may not add due to rounding.

Proposed Methodology for the Leading Indicator Series

12 In the HPI, the two most recent quarters (the leading indicator series) are compiled by using a combination of mortgage lenders' data and VGs data. Both sets of data are merged and duplicates (where the same property appears in both data sets) are identified and removed (the VGs data is kept, whilst the mortgage lenders data is discarded where a duplicate is found). The first estimate (the most recent quarter) of the

Proposed Methodology for the Leading Indicator Series continued

EODPI and HPI is referred to as the P1 estimate and the second estimate (the second most recent quarter) is referred to as the P2 estimate. Due to the fact that identification of duplicates is not as straightforward for other dwellings as it is for houses, a number of alternative methods were investigated for compiling the EODPI indicator series. These methods were assessed on how accurately the leading indicators predicted the benchmark result.

13 For the P2 estimate, it is proposed to compile the index in the same way as the benchmark series, using only VGs data. For the P1 estimate (except for Perth), the proposed method involves using VGs data for the first two months of the quarter, and mortgage lenders data for the third. For example, the data used to compile the June quarter 2012 P1 estimate would consist of VGs data for properties with exchange dates in April and May 2012 and mortgage lenders data for properties with exchange dates in June 2012. This merged data set is then used to calculate the median for each cluster and update the estimated value of the other dwelling stock accordingly. For Perth, it is proposed to compile the P1 estimate using VGs data only as this produces fewer revisions to the indexes. As in the HPI, P2 and P1 estimates for the EODPI (and consequently the EADPI) will be subject to revision, even if compiled only from VGs data.

14 As in the HPI, in order to minimise bias in compiling the index, price relatives are determined only by comparing current benchmark medians with previous benchmark medians and current leading indicator medians with previous leading indicator medians. Thus, in the leading indicator series, medians from the current second preliminary estimates (P2) quarter are compared with medians from the previous second preliminary estimates quarter, and medians from the current first preliminary estimates (P1) quarter are compared with medians from the previous first preliminary estimates quarter. Using this approach, price relatives are derived from datasets which have a similar composition of VGs and mortgage lenders' data.

15 The methods proposed above have, to date, produced the most reliable leading indicator series. However, the methodology proposed is subject to change as the leading indicator series is still being evaluated, and for this reason results of the leading indicator series are not presented in this Feature Article. The ABS welcomes user feedback on the proposed methodology.

Approach used for the Experimental All Dwellings Price Index

16 A benefit of using the total value of the dwelling stock to construct price indexes allows for aggregation to higher levels (as values are expressed in dollars, they can be added together without further transformation). This property is the basis for the construction of the weighted average of the eight capital cities in both the HPI and EODPI. The value of the dwelling stock for each city in the current period is added together for a value of the dwelling stock in the eight capital cities. This additivity means that with information on the total value of the established house dwelling stock and other dwelling stock, prices indexes can be constructed for all dwellings in each of the capital cities, as well as a weighted average of the eight capital cities. The Experimental All Dwellings Price Index (EADPI) is an experimental price index that measures the price change for the stock of all dwellings in each capital (as well as a weighted average of the eight capital cities).

Approach used for the Experimental All Dwellings Price Index continued

17 Users should note however, that prior to the March quarter 2008, the Experimental All Dwellings Price indexes are not constructed in the manner described above. Methodological differences between the HPI and EODPI prevent the use of the standard value aggregate approach. Prior to the March quarter 2008, the Experimental All Dwellings Price Indexes are weighted averages of the HPI and EODPI. The weights are based on the value of the capital city housing stock from the 2001 Census at the September quarter 2003 prices as this methodology is similar to that used for the construction of link period value aggregates.

18 For example, if the weight for other dwellings was 0.3 (and the index was 120.0), and the weight for established houses was 0.7 (and the index was 110.0), the EADPI would be calculated as follows:

EADPI = (0.3 x 120.0) + (0.7 x 110.0)

EADPI = 113.0

19 The weighting pattern for the EADPI is presented below.

EXPERIMENTAL ALL DWELLINGS PRICE INDEX: WEIGHTING PATTERN(a)(b)

	Percentage contribution to capital city index			*Percentage contribution to weighted average of eight capital cities*
	Established Houses	Other Dwellings	All Dwellings	All Dwellings
Sydney	69.3	30.7	100.0	36.4
Melbourne	75.7	24.3	100.0	27.2
Brisbane	81.4	18.6	100.0	12.2
Adelaide	80.0	20.0	100.0	7.1
Perth	82.6	17.4	100.0	13.0
Hobart	84.5	15.5	100.0	1.1
Darwin	73.5	26.5	100.0	0.6
Canberra	78.8	21.2	100.0	2.4

(a) As at the March quarter 2008.
(b) Percentages may not add due to rounding.

THE EXPERIMENTAL OTHER DWELLINGS PRICE INDEX

Scope and Coverage

20 The HPI measures price change of the stock of established houses over time. Established houses are defined as detached residential dwellings on their own block of land regardless of age. The EODPI is designed to measure the price change of the stock of other dwellings in the capital cities whose primary purpose is residential. For the purposes of the EODPI, other dwellings are defined consistent with ABS standards, the *Functional Classification of Buildings* (cat. no. 1268.0.55.001) and the Dwelling Structure Classification (STRD) used in the Census of Population and Housing (refer to *Census Dictionary, 2006* (cat. no. 2901.0)).

21 Examples of dwellings in scope of the EODPI are:

- Semi-detached, row or terrace houses
- Townhouses
- Flats, units and apartments.

Scope and Coverage continued

22 Examples of dwellings out of scope of the EODPI are:

- Detached houses
- House with office
- House with flat.

23 When data are received by the ABS, processing classifies residential buildings into either established houses or other dwellings. However, given that the VGs in each State and Territory have different methods of classifying residential buildings, some dwellings (in Sydney, Brisbane, Hobart and Darwin) in-scope for EODPI may instead be included in the HPI established houses price sample.

24 The scope of the EODPI includes other dwellings within capital city statistical divisions (SD), as defined in the *Australian Standard Geographic Classification* (cat. no. 1216.0), however coverage is limited to those suburbs which existed within SD boundaries at the time of the 2006 Census. As the ABS has moved to a new geography classification, the *Australian Statistical Geography Standard (ASGS)* (Vol 1, cat. no. 1270.0.55.001), it is planned that the EODPI, together with the HPI will move to the ASGS during the next re-weight (to be implemented for the HPI in the December quarter 2013), and capital cities will be defined by the ASGS Greater Capital Cities Statistical Areas.

25 The ABS uses the date of exchange of contracts to determine when the price of the property was agreed upon, even though the property may not legally change owners until several months after that. Exchange dates are not captured in South Australia or the Northern Territory. The exchange dates for Adelaide and Darwin are modelled based on the settlement date (the date the property legally changes hands).

Results and Analysis: December quarter 2011

26 The experimental price index for other dwellings for the weighted average of the eight capital cities fell 1.4% in the December quarter 2011, compared to the final index for established houses which fell 0.6% in the quarter. Overall, the experimental price index for all dwellings in the eight capitals fell 0.8% in the December quarter 2011.

27 For other dwellings, the negative quarterly movement was a result of falls in Sydney (–2.3%), Melbourne (–1.7%) and Perth (–0.7%). This was partially offset by rises in Brisbane (+1.4%), Adelaide (+1.6%), Canberra (+2.7%), Darwin (+0.4%) and Hobart (+0.2%).

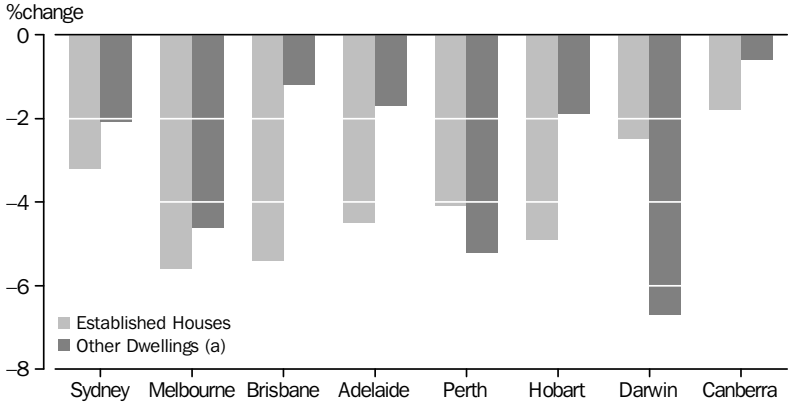
28 In Brisbane in the December quarter 2011, all of the positive contribution to growth was in clusters where median prices were below $400 000. Price increases in clusters with other dwellings median prices in the range of $200 000 to $400 000 were also seen in Sydney, Darwin, Hobart and Adelaide. Clusters with median prices above $600 000 experienced moderate falls in prices in Sydney and Melbourne in December quarter 2011.

29 For all dwellings, the negative quarterly movement was a result of falls in Sydney (–1.6%) and Melbourne (–1.3%). This was partially offset by rises in Canberra (+2.3%), Brisbane (+0.3%), Perth (+0.3%), Adelaide (+0.3%), Hobart (+1.3%) and Darwin (+1.4%).

Results and Analysis: December quarter 2011 continued

30 In the year to the December quarter 2011, the experimental price index for other dwellings for the weighted average of the eight capital cities fell 3.0%, whilst for established houses it fell 4.4%. Overall, the experimental price index for all dwellings in the eight capital cities fell 4.0%.

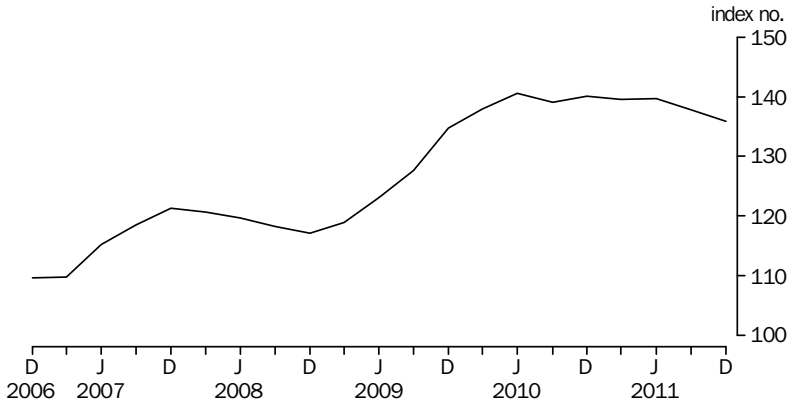
PERCENTAGE CHANGE FROM CORRESPONDING QUARTER OF PREVIOUS YEAR: **December quarter 2011**



(a) Series are experimental and subject to revision

31 Over the past 5 years the experimental price index for other dwellings for the weighted average of the eight capital cities has risen 23.9%, with all the capital cities having a positive movement. Over the 5 year period, Perth has risen the least (+7.4%). All other cities have rises in their indexes of above 10%, with the largest rise in the index being in Darwin (+47.2%).

EXPERIMENTAL OTHER DWELLINGS PRICE INDEX (a), Weighted average of eight capital cities



(a) Reference base of index: 2003-04 = 100.0

32 A full time series of both indexes is presented in two tables at the end of this Feature Article. Further information on the two experimental indexes, which includes a full time series of quarterly and annual percentage changes of both index series, as well as a time series of unstratified medians and transfers for other dwellings, are available as a datacube from the ABS Website.

FUTURE DEVELOPMENT

33 The ABS believes the experimental benchmark indexes presented in this paper are robust and fit for purpose. In the absence of any compelling arguments to the contrary, it is proposed that the experimental label be lifted and the index continue to be compiled and published in some form in the future. The leading indicator series is still undergoing evaluation and the publication of these indexes will be subject to them being assessed as fit for purpose.

34 Development of indexes covering areas outside the Capital City Statistical Divisions is continuing. The ABS expects to begin to produce experimental indexes this year, which, subject to data quality, will be the subject of a Feature Article in the future.

35 The ABS welcomes any comments on the developments described in this paper and on any aspect of the work undertaken to date. Of particular value would be any suggestions as to how best to publish the results in future. The ABS will be accepting feedback until 9 November 2012.

36 Queries or comments can be addressed to:

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TABLE 1 – EXPERIMENTAL OTHER DWELLINGS PRICE INDEX NUMBERS(a)(b)

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Weighted average of eight capital cities
2003									
September	100.0	100.4	92.0	96.3	95.2	91.1	90.2	98.1	98.9
December	102.1	100.1	100.9	99.3	98.2	98.9	101.7	101.2	101.1
2004									
March	99.6	99.1	102.8	100.3	102.2	106.1	102.5	99.8	100.0
June	98.3	100.4	104.3	104.1	104.5	103.9	105.6	100.9	100.0
September	98.7	99.2	106.3	104.6	105.4	104.5	103.6	96.4	100.1
December	100.0	100.9	106.8	108.1	109.2	110.2	118.2	98.1	101.8
2005									
March	98.8	103.1	107.4	106.0	113.6	115.5	133.6	101.3	102.0
June	99.6	103.2	110.6	108.7	119.8	115.9	136.4	100.6	103.2
September	98.5	102.9	111.9	112.8	124.9	112.6	129.5	101.8	103.2
December	98.4	102.7	113.8	114.7	132.5	115.0	148.8	102.5	103.9
2006									
March	96.7	107.9	114.5	113.8	143.5	120.9	159.0	103.6	105.0
June	98.1	109.4	119.7	116.2	163.9	123.6	167.4	103.9	107.9
September	96.9	109.8	119.9	117.0	172.0	121.9	161.9	104.1	107.8
December	98.6	110.4	122.7	119.2	178.2	124.9	168.9	105.2	109.7
2007									
March	95.9	114.3	125.9	122.6	180.1	128.4	169.6	109.1	109.8
June	100.3	121.7	133.9	130.7	183.0	125.5	183.1	113.4	115.2
September	102.4	125.2	140.9	138.3	186.6	131.3	190.0	120.1	118.5
December	104.0	130.1	147.1	141.1	189.4	134.9	187.9	121.6	121.3
2008									
March	102.8	129.0	148.2	146.2	188.0	131.4	190.5	123.5	120.7
June	101.4	128.4	150.4	142.2	187.6	137.0	188.7	121.4	119.7
September	100.6	126.4	145.2	145.4	181.8	137.0	206.9	121.1	118.3
December	99.7	126.2	143.4	142.4	175.0	135.1	210.1	119.5	117.1
2009									
March	101.0	129.6	143.3	145.2	174.9	136.8	224.7	125.1	118.9
June	104.1	134.6	148.3	149.6	185.6	137.9	226.0	128.8	123.1
September	107.7	142.7	154.1	149.4	187.2	143.5	236.6	131.6	127.7
December	113.2	152.6	156.7	156.6	201.2	148.7	252.9	136.9	134.7
2010									
March	115.9	158.1	156.5	161.2	203.0	147.6	253.5	139.8	137.9
June	118.5	161.6	159.1	163.4	205.6	146.6	257.1	141.2	140.6
September	117.8	159.1	156.1	159.6	200.4	144.5	263.3	140.0	139.0
December	119.1	160.1	154.6	163.0	201.8	145.8	266.4	142.4	140.1
2011									
March	118.8	160.7	150.4	161.6	201.3	144.5	254.6	141.7	139.6
June	120.0	159.4	152.8	157.6	199.2	145.5	248.4	139.2	139.7
September	119.4	155.4	150.7	157.6	192.6	142.7	247.5	137.8	137.8
December	116.6	152.8	152.8	160.2	191.3	143.0	248.6	141.5	135.9

(a) Series are experimental and subject to revision

(b) Reference base of each index: 2003-04 = 100.0

TABLE 2 – EXPERIMENTAL ALL DWELLINGS PRICE INDEX NUMBERS(a)(b)

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Weighted average of eight capital cities
2003									
September	98.9	99.3	93.1	96.9	94.2	91.3	92.9	97.8	97.7
December	102.3	101.6	100.6	99.5	98.7	99.2	99.2	101.6	101.4
2004									
March	100.9	99.5	102.4	100.9	102.3	102.4	104.3	100.2	100.9
June	97.9	99.6	103.9	102.7	104.8	107.1	103.5	100.4	100.0
September	97.6	99.6	103.2	104.5	106.6	107.9	107.2	98.3	100.0
December	98.3	102.1	104.4	106.8	111.3	111.2	113.9	99.9	101.7
2005									
March	96.5	102.3	105.2	106.8	115.8	113.0	122.9	100.7	101.5
June	95.8	103.4	106.3	108.0	122.0	114.7	125.5	100.1	102.2
September	94.4	103.3	106.6	109.1	127.2	114.4	128.7	100.5	102.1
December	94.9	104.8	108.7	111.5	136.5	117.9	138.1	102.7	104.0
2006									
March	93.7	107.1	109.5	112.5	147.4	120.8	144.9	103.9	105.2
June	95.4	109.9	112.3	114.3	168.6	124.4	153.9	106.4	109.0
September	95.1	111.5	113.8	115.0	185.5	126.2	154.3	108.9	111.0
December	95.9	113.8	116.7	117.9	191.9	128.4	161.6	110.5	113.0
2007									
March	95.0	116.2	121.2	120.3	193.1	132.0	165.6	112.6	114.0
June	98.8	124.3	129.0	127.6	190.5	133.7	169.8	117.5	119.1
September	101.2	130.1	135.3	135.3	193.9	137.6	174.9	123.6	123.3
December	103.4	138.7	142.2	143.2	196.2	143.1	179.5	126.9	128.0
2008									
March	102.6	140.3	145.8	147.8	194.0	140.0	178.1	128.0	128.5
June	101.2	139.9	146.8	146.1	190.3	142.0	179.8	125.7	127.4
September	99.3	135.8	141.3	146.6	185.8	139.2	187.5	122.1	124.5
December	98.0	134.7	138.9	145.8	181.2	140.0	193.3	121.5	122.9
2009									
March	97.2	135.1	139.1	145.1	180.5	139.3	199.9	123.0	122.7
June	101.4	142.3	143.2	149.2	185.5	143.7	203.9	127.0	127.7
September	105.7	151.3	148.0	151.3	190.4	147.1	211.6	132.0	133.1
December	111.4	161.4	152.7	157.5	201.9	155.4	226.3	139.9	140.4
2010									
March	114.7	169.1	154.1	160.0	207.7	158.0	227.7	145.7	144.9
June	117.6	173.8	155.0	163.0	207.9	154.5	231.2	145.5	147.6
September	117.2	170.7	152.6	161.8	202.5	154.4	231.8	145.6	145.9
December	117.4	172.9	152.2	163.3	202.6	159.0	233.6	146.9	146.7
2011									
March	117.1	171.3	149.2	160.9	200.8	157.9	228.0	146.6	145.5
June	117.6	169.5	148.5	157.2	195.4	153.4	221.2	146.0	144.4
September	115.9	165.8	144.7	156.4	193.3	150.0	222.1	141.4	141.9
December	114.1	163.6	145.2	156.9	193.8	151.9	225.1	144.6	140.8

(a) Series are experimental and subject to revision

(b) Reference base of each index: 2003-04 = 100.0

FURTHER READING

House Price Indexes: Concepts, Sources and Methods, Australia (cat. no. 6464.0)

Information Paper: Renovating the Established House Price Index, Nov 2005 (cat. no. 6417.0)

Research Paper: Refining the Stratification for the Established House Price Index (Methodology Advisory Committee), Jun 2008 (cat. no. 1352.0.55.093)

Consumer Price Index: Concepts, Sources and Methods, 2011 (cat. no. 6461.0)

LIST OF TABLES

1 ESTABLISHED HOUSE PRICE INDEX NUMBERS(a)

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Weighted average of eight capital cities
2009–10	111.7	166.7	151.7	158.0	202.5	155.3	216.6	141.6	143.5
2010–11	116.7	174.3	150.2	160.8	200.2	158.5	219.9	147.6	147.5
2011–12	p114.2	p166.0	p143.6	p155.3	p195.0	p151.5	p225.1	p144.3	p142.6
2008									
December	97.2	137.0	138.0	146.6	182.4	141.0	188.5	121.9	124.8
2009									
March	95.6	136.3	138.3	145.1	181.6	140.0	192.6	122.2	123.8
June	100.3	144.3	142.2	149.0	185.3	145.0	197.5	126.4	129.1
September	104.8	153.6	146.7	151.8	191.0	147.9	204.2	131.9	134.8
December	110.6	163.7	151.9	157.6	202.0	156.8	218.5	140.6	142.2
2010									
March	114.2	172.2	153.8	159.7	208.7	160.1	220.2	147.2	147.1
June	117.3	177.2	154.3	162.8	208.3	156.2	223.6	146.6	149.8
September	117.0	174.0	152.0	162.3	202.8	156.4	222.4	147.0	148.1
December	116.7	176.6	151.9	163.3	202.7	161.7	223.8	148.0	148.8
2011									
March	116.4	174.2	149.1	160.6	200.6	160.6	220.2	147.8	147.3
June	116.6	172.2	147.7	157.1	194.5	155.1	213.2	147.7	145.8
September	114.4	168.7	143.5	156.0	193.3	151.5	214.7	142.3	143.1
December	113.0	r166.7	r143.7	r156.0	r194.3	r153.8	r218.3	r145.3	r142.3
2012									
March	p113.9	p164.6	p143.5	p154.2	p195.6	p150.7	p227.8	p145.8	p142.1
June	p115.5	p164.0	p143.7	p155.0	p196.7	p150.1	p239.4	p143.9	p142.8

p preliminary figure or series subject to revision
r revised

(a) Reference base of each index: 2003–04 = 100.0.

2 ESTABLISHED HOUSE PRICE INDEXES, Percentage Changes

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Weighted average of eight capital cities
PERCENTAGE CHANGE (from previous financial year)									
2009–10	14.0	19.9	8.5	7.6	10.1	9.8	13.9	14.9	13.8
2010–11	4.5	4.6	–1.0	1.8	–1.1	2.1	1.5	4.2	2.8
2011–12	p–2.1	p–4.8	p–4.4	p–3.4	p–2.6	p–4.4	p2.4	p–2.2	p–3.3
PERCENTAGE CHANGE (from corresponding quarter of previous year)									
2008									
December	–5.7	–3.0	–2.3	2.0	–7.7	–2.6	6.3	–4.9	–4.1
2009									
March	–6.7	–5.1	–4.9	–2.1	–7.0	–1.3	10.2	–5.3	–5.5
June	–0.8	0.8	–2.7	1.4	–2.9	1.3	11.1	–0.2	–0.6
September	6.1	10.9	4.4	3.3	2.4	5.9	12.3	7.8	6.6
December	13.8	19.5	10.1	7.5	10.7	11.2	15.9	15.3	13.9
2010									
March	19.5	26.3	11.2	10.1	14.9	14.4	14.3	20.5	18.8
June	16.9	22.8	8.5	9.3	12.4	7.7	13.2	16.0	16.0
September	11.6	13.3	3.6	6.9	6.2	5.7	8.9	11.4	9.9
December	5.5	7.9	0.0	3.6	0.3	3.1	2.4	5.3	4.6
2011									
March	1.9	1.2	–3.1	0.6	–3.9	0.3	0.0	0.4	0.1
June	–0.6	–2.8	–4.3	–3.5	–6.6	–0.7	–4.7	0.8	–2.7
September	–2.2	–3.0	–5.6	–3.9	–4.7	–3.1	–3.5	–3.2	–3.4
December	–3.2	r–5.6	r–5.4	–4.5	r–4.1	r–4.9	–2.5	r–1.8	r–4.4
2012									
March	p–2.1	p–5.5	p–3.8	p–4.0	p–2.5	p–6.2	p3.5	p–1.4	p–3.5
June	p–0.9	p–4.8	p–2.7	p–1.3	p1.1	p–3.2	p12.3	p–2.6	p–2.1
PERCENTAGE CHANGE (from previous quarter)									
2008									
December	–1.6	–1.1	–1.8	–0.2	–2.3	0.9	3.6	–0.3	–1.3
2009									
March	–1.6	–0.5	0.2	–1.0	–0.4	–0.7	2.2	0.2	–0.8
June	4.9	5.9	2.8	2.7	2.0	3.6	2.5	3.4	4.3
September	4.5	6.4	3.2	1.9	3.1	2.0	3.4	4.4	4.4
December	5.5	6.6	3.5	3.8	5.8	6.0	7.0	6.6	5.5
2010									
March	3.3	5.2	1.3	1.3	3.3	2.1	0.8	4.7	3.4
June	2.7	2.9	0.3	1.9	–0.2	–2.4	1.5	–0.4	1.8
September	–0.3	–1.8	–1.5	–0.3	–2.6	0.1	–0.5	0.3	–1.1
December	–0.3	1.5	–0.1	0.6	0.0	3.4	0.6	0.7	0.5
2011									
March	–0.3	–1.4	–1.8	–1.7	–1.0	–0.7	–1.6	–0.1	–1.0
June	0.2	–1.1	–0.9	–2.2	–3.0	–3.4	–3.2	–0.1	–1.0
September	–1.9	–2.0	–2.8	–0.7	–0.6	–2.3	0.7	–3.7	–1.9
December	–1.2	r–1.2	r0.1	r0.0	r0.5	r1.5	r1.7	r2.1	r–0.6
2012									
March	p0.8	p–1.3	p–0.1	p–1.2	p0.7	p–2.0	p4.4	p0.3	p–0.1
June	p1.4	p–0.4	p0.1	p0.5	p0.6	p–0.4	p5.1	p–1.3	p0.5

p preliminary figure or series subject to revision r revised

3 PROJECT HOME PRICE INDEX NUMBERS(a)

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Weighted average of eight capital cities
2009–10	121.4	118.6	129.9	123.3	156.0	135.9	157.2	121.4	127.2
2010–11	124.9	122.3	132.8	125.4	159.9	140.4	162.5	124.6	130.7
2011–12	127.8	123.4	132.1	124.3	163.0	140.4	165.2	124.7	132.1
2008									
December	116.7	112.4	128.9	120.6	154.0	129.7	151.9	118.2	123.1
2009									
March	116.7	111.1	127.9	120.7	153.4	129.7	154.2	118.2	122.5
June	119.1	113.5	129.1	121.3	153.6	130.4	155.9	119.6	124.3
September	119.9	117.2	129.2	122.3	154.1	135.2	156.2	120.8	125.9
December	120.9	118.3	129.2	122.7	154.5	135.4	156.6	120.8	126.6
2010									
March	122.1	118.9	130.3	123.8	156.6	136.3	157.8	121.2	127.7
June	122.6	120.1	130.8	124.3	158.6	136.8	158.3	122.9	128.6
September	122.8	120.7	131.3	124.8	159.2	140.3	160.1	124.1	129.2
December	124.3	121.6	132.5	125.1	159.6	140.3	162.6	124.1	130.2
2011									
March	125.6	123.2	133.2	126.0	160.0	140.5	163.3	125.1	131.3
June	127.0	123.7	134.1	125.7	160.6	140.6	163.9	125.1	132.1
September	126.7	124.2	132.0	124.4	161.7	140.8	163.7	125.1	131.8
December	127.6	123.8	132.0	124.5	162.4	140.8	163.9	125.1	132.1
2012									
March	127.8	123.6	131.7	124.1	163.3	141.1	165.6	124.5	132.1
June	129.2	122.0	132.7	124.2	164.4	138.7	167.5	124.0	132.4

(a) Reference base of each index: 2003–04 = 100.0.

4 PROJECT HOME PRICE INDEXES, Percentage Changes

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra	Weighted average of eight capital cities
PERCENTAGE CHANGE (from previous financial year)									
2009–10	3.7	5.1	1.2	2.4	1.7	4.6	2.9	2.4	3.2
2010–11	2.9	3.1	2.2	1.7	2.5	3.3	3.4	2.6	2.8
2011–12	2.3	0.9	–0.5	–0.9	1.9	0.0	1.7	0.1	1.1
PERCENTAGE CHANGE (from corresponding quarter of previous year)									
2008									
December	5.2	1.8	6.9	7.6	3.8	2.5	5.4	5.4	4.5
2009									
March	3.1	–1.6	4.2	5.0	3.1	2.4	6.1	5.1	2.2
June	3.7	0.2	3.6	4.0	2.4	1.6	6.3	5.0	2.6
September	3.5	2.8	1.3	2.8	1.0	4.2	4.7	2.1	2.5
December	3.6	5.2	0.2	1.7	0.3	4.4	3.1	2.2	2.8
2010									
March	4.6	7.0	1.9	2.6	2.1	5.1	2.3	2.5	4.2
June	2.9	5.8	1.3	2.5	3.3	4.9	1.5	2.8	3.5
September	2.4	3.0	1.6	2.0	3.3	3.8	2.5	2.7	2.6
December	2.8	2.8	2.6	2.0	3.3	3.6	3.8	2.7	2.8
2011									
March	2.9	3.6	2.2	1.8	2.2	3.1	3.5	3.2	2.8
June	3.6	3.0	2.5	1.1	1.3	2.8	3.5	1.8	2.7
September	3.2	2.9	0.5	–0.3	1.6	0.4	2.2	0.8	2.0
December	2.7	1.8	–0.4	–0.5	1.8	0.4	0.8	0.8	1.5
2012									
March	1.8	0.3	–1.1	–1.5	2.1	0.4	1.4	–0.5	0.6
June	1.7	–1.4	–1.0	–1.2	2.4	–1.4	2.2	–0.9	0.2
PERCENTAGE CHANGE (from previous quarter)									
2008									
December	0.7	–1.4	1.1	1.3	1.0	0.0	1.8	–0.1	0.2
2009									
March	0.0	–1.2	–0.8	0.1	–0.4	0.0	1.5	0.0	–0.5
June	2.1	2.2	0.9	0.5	0.1	0.5	1.1	1.2	1.5
September	0.7	3.3	0.1	0.8	0.3	3.7	0.2	1.0	1.3
December	0.8	0.9	0.0	0.3	0.3	0.1	0.3	0.0	0.6
2010									
March	1.0	0.5	0.9	0.9	1.4	0.7	0.8	0.3	0.9
June	0.4	1.0	0.4	0.4	1.3	0.4	0.3	1.4	0.7
September	0.2	0.5	0.4	0.4	0.4	2.6	1.1	1.0	0.5
December	1.2	0.7	0.9	0.2	0.3	0.0	1.6	0.0	0.8
2011									
March	1.0	1.3	0.5	0.7	0.3	0.1	0.4	0.8	0.8
June	1.1	0.4	0.7	–0.2	0.4	0.1	0.4	0.0	0.6
September	–0.2	0.4	–1.6	–1.0	0.7	0.1	–0.1	0.0	–0.2
December	0.7	–0.3	0.0	0.1	0.4	0.0	0.1	0.0	0.2
2012									
March	0.2	–0.2	–0.2	–0.3	0.6	0.2	1.0	–0.5	0.0
June	1.1	–1.3	0.8	0.1	0.7	–1.7	1.1	–0.4	0.2

5 SELECTED HOUSING PRICE INDEX NUMBERS(a), Australia

Period	*Established houses*(b)	*Project homes*(b)	*Materials used in house building*(c)	*Construction industry total hourly rates of pay*	*National accounts private housing investment*(b)
2009–10	143.5	127.2	121.9	130.8	128.9
2010–11	147.5	130.7	124.5	135.9	132.5
2011–12	p142.6	132.1	126.2	nya	nya
2008					
December	124.8	123.1	120.1	125.9	125.4
2009					
March	123.8	122.5	121.7	127.2	125.4
June	129.1	124.3	122.2	128.7	125.9
September	134.8	125.9	121.3	129.4	127.3
December	142.2	126.6	121.3	130.2	128.4
2010					
March	147.1	127.7	121.7	131.0	129.4
June	149.8	128.6	123.1	132.4	130.4
September	148.1	129.2	123.5	134.1	131.2
December	148.8	130.2	124.2	135.4	132.0
2011					
March	147.3	131.3	124.3	136.5	133.0
June	145.8	132.1	125.8	137.6	133.9
September	143.1	131.8	126.0	139.3	134.2
December	r142.3	132.1	126.1	140.8	134.2
2012					
March	p142.1	132.1	126.0	142.2	134.3
June	p142.8	132.4	126.5	nya	nya

nya not yet available
p preliminary figure or series subject to revision
r revised
(a) Reference base of each index: 2003–04 = 100.0.
(b) Weighted average of eight capital cities.
(c) Weighted average of six capital cities.

6 SELECTED HOUSING PRICE INDEX NUMBERS, Australia—Percentage Changes

Period	*Established houses*(a)	*Project homes*(a)	*Materials used in house building*(b)	*Construction industry total hourly rates of pay*	*National accounts private housing investment*(a)
	PERCENTAGE CHANGE (from previous financial year)				
2009–10	13.8	3.2	1.0	3.2	2.9
2010–11	2.8	2.8	2.1	3.9	2.8
2011–12	p–3.3	1.1	1.4	nya	nya
	PERCENTAGE CHANGE (from corresponding quarter of previous year)				
2008					
December	–4.1	4.5	6.9	4.5	5.4
2009					
March	–5.5	2.2	6.9	4.9	3.6
June	–0.6	2.6	5.8	4.5	2.7
September	6.6	2.5	2.3	3.6	2.4
December	13.9	2.8	1.0	3.4	2.4
2010					
March	18.8	4.2	0.0	3.0	3.2
June	16.0	3.5	0.7	2.9	3.6
September	9.9	2.6	1.8	3.6	3.1
December	4.6	2.8	2.4	4.0	2.8
2011					
March	0.1	2.8	2.1	4.2	2.8
June	–2.7	2.7	2.2	3.9	2.7
September	–3.4	2.0	2.0	3.9	2.3
December	r–4.4	1.5	1.5	4.0	1.7
2012					
March	p–3.5	0.6	1.4	4.2	1.0
June	p–2.1	0.2	0.6	nya	nya
	PERCENTAGE CHANGE (from previous quarter)				
2008					
December	–1.3	0.2	1.3	0.8	0.9
2009					
March	–0.8	–0.5	1.3	1.0	0.0
June	4.3	1.5	0.4	1.2	0.4
September	4.4	1.3	–0.7	0.5	1.1
December	5.5	0.6	0.0	0.6	0.9
2010					
March	3.4	0.9	0.3	0.6	0.8
June	1.8	0.7	1.2	1.1	0.8
September	–1.1	0.5	0.3	1.3	0.6
December	0.5	0.8	0.6	1.0	0.6
2011					
March	–1.0	0.8	0.1	0.8	0.8
June	–1.0	0.6	1.2	0.8	0.7
September	–1.9	–0.2	0.2	1.2	0.2
December	r–0.6	0.2	0.1	1.1	0.0
2012					
March	p–0.1	0.0	–0.1	1.0	0.1
June	p0.5	0.2	0.4	nya	nya

nya not yet available
p preliminary figure or series subject to revision
r revised
(a) Weighted average of eight capital cities.
(b) Weighted average of six capital cities.

7 MEDIAN PRICE OF ESTABLISHED HOUSE TRANSFERS (UNSTRATIFIED)(a)

Period	Sydney $'000	Melbourne $'000	Brisbane $'000	Adelaide $'000	Perth $'000	Hobart $'000	Darwin $'000	Canberra $'000
2008								
December	468.0	385.0	399.0	355.0	425.0	300.0	445.0	450.0
2009								
March	448.0	375.0	400.0	353.5	439.0	296.5	455.0	459.5
June	490.0	400.0	420.0	363.0	455.0	310.0	465.0	455.0
September	500.0	422.0	430.0	370.0	473.0	310.1	490.0	456.0
December	595.0	477.5	455.0	398.8	505.0	350.0	520.0	509.0
2010								
March	r583.0	468.0	460.0	r402.0	518.0	350.5	529.0	530.0
June	612.0	500.0	465.0	410.0	510.0	344.4	530.0	r523.0
September	r597.8	r488.0	460.0	400.0	500.0	340.0	535.0	r533.5
December	620.0	520.0	460.0	410.0	500.0	345.0	545.0	r535.0
2011								
March	575.0	485.0	450.0	400.0	500.0	340.0	510.0	530.0
June	595.0	r502.5	442.0	395.0	r485.0	330.0	500.0	540.0
September	r565.0	480.0	r435.0	387.0	470.0	335.0	507.8	535.0
December	527.0	485.0	432.5	385.5	481.0	340.0	505.0	530.0
2012								
March	nya	nya	nya	nya	nya	nya	nya	nya
June	nya	nya	nya	nya	nya	nya	nya	nya

nya not yet available

r revised

(a) See paragraphs 32 to 35 of the Explanatory Notes.

8 NUMBER OF ESTABLISHED HOUSE TRANSFERS(a)

Period	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra
	no.	no.	no.	no.	no.	no.	no.	no.
2009–10	51 296	62 642	31 414	16 897	25 800	3 770	1 448	4 836
2010–11	43 946	49 185	25 081	15 482	20 883	3 217	1 140	4 464
2011–12	nya	nya	nya	nya	nya	nya	nya	nya
2008								
December	11 240	13 092	6 938	4 225	4 254	860	459	988
2009								
March	12 259	13 091	9 329	4 585	5 916	1 100	425	1 122
June	14 318	15 315	8 806	4 877	7 148	1 001	469	1 319
September	14 816	16 313	9 068	4 473	7 701	1 033	436	1 381
December	12 786	16 586	7 844	4 234	6 635	921	363	1 297
2010								
March	r11 091	r14 148	r7 640	r3 993	6 401	976	339	971
June	r12 603	r15 595	r6 862	r4 197	5 063	840	310	r1 187
September	r11 316	r13 540	6 926	r4 120	r5 129	r837	278	r1 032
December	r11 683	r12 903	r6 373	r4 003	r4 958	r836	277	r1 305
2011								
March	r9 883	r10 489	r5 865	r3 707	r5 658	r846	270	r988
June	r11 064	r12 253	r5 917	r3 652	r5 138	r698	315	r1 139
September	r10 795	r11 090	r6 341	r3 550	r5 429	r666	326	r962
December	13 186	11 730	6 024	3 580	5 731	734	397	977
2012								
March	nya	nya	nya	nya	nya	nya	nya	nya
June	nya	nya	nya	nya	nya	nya	nya	nya

nya not yet available

r revised

(a) See paragraphs 32 to 35 of the Explanatory Notes.

9 REVISIONS TO ESTABLISHED HOUSE PRICE INDEX SERIES, Weighted average of eight capital cities(a)(b)(c)

				DIFFERENCE BETWEEN FINAL ESTIMATE AND:	
Period	*1st estimate*	*2nd estimate*	*Final estimate*	*1st estimate*	*2nd estimate*
	INDEX NUMBER(a)			INDEX POINTS	
2010					
June	152.8	150.1	149.8	–3.0	–0.3
September	150.3	149.4	148.1	–2.2	–1.3
December	150.5	149.3	148.8	–1.7	–0.5
2011					
March	146.8	147.1	147.3	0.5	0.2
June	147.0	146.5	145.8	–1.2	–0.7
September	144.8	143.1	143.1	–1.7	0.0
December	141.6	142.1	142.3	0.7	0.2
2012					
March	140.6	142.1	nya	nya	nya
June	142.8	nya	nya	nya	nya
	ANNUAL PERCENTAGE CHANGE(b)			PERCENTAGE POINTS	
2010					
June	18.4	16.3	16.0	–2.4	–0.3
September	11.5	10.8	9.9	–1.6	–0.9
December	5.8	5.0	4.6	–1.2	–0.4
2011					
March	–0.2	0.0	0.1	0.3	0.1
June	–1.9	–2.2	–2.7	–0.8	–0.5
September	–2.2	–3.4	–3.4	–1.2	0.0
December	–4.8	–4.5	–4.4	0.4	0.1
2012					
March	–4.5	–3.5	nya	nya	nya
June	–2.1	nya	nya	nya	nya
	QUARTERLY PERCENTAGE CHANGE(c)			PERCENTAGE POINTS	
2010					
June	3.1	2.0	1.8	–1.3	–0.2
September	0.1	–0.3	–1.1	–1.2	–0.8
December	0.7	0.8	0.5	–0.2	–0.3
2011					
March	–1.7	–1.1	–1.0	0.7	0.1
June	–0.1	–0.5	–1.0	–0.9	–0.5
September	–1.2	–1.9	–1.9	–0.7	0.0
December	–1.0	–0.7	–0.6	0.4	0.1
2012					
March	–1.1	–0.1	nya	nya	nya
June	0.5	nya	nya	nya	nya

nya not yet available

(a) Reference base of each index: 2003–04 = 100.0.

(b) Percentage change from corresponding quarter of previous year.

(c) Percentage change from previous quarter.

EXPLANATORY NOTES

INTRODUCTION

1 This publication provides estimates of changes in house prices for each of the eight capital cities of Australia. The information is presented in the form of price indexes constructed separately for Established Houses and for Project Homes (see below for definitions). It is calculated on the reference base 2003–04 = 100.0 for each of the eight capital cities as well as a weighted average of them. The capital city indexes measure price movements over time in each city individually. They do not measure differences in price levels between cities.

2 The index for Project Homes is compiled for use in calculating the New dwelling purchase by owner-occupiers expenditure class of the Consumer Price Index (CPI). The index for Established Houses (referred to from now on as the HPI), while not contributing to the CPI, is compiled and published along with the Project Homes index in recognition of the widespread interest in information specifically relating to housing prices.

3 To assist in the analysis of housing price movements at the national level, aggregated series have also been compiled and are presented in tables 5 and 6 along with series for prices of materials used in house building, construction industry hourly rates of pay and private housing investment. For information on the derivation of series in these tables see paragraphs 25–31.

4 Table 7 presents a city-wide median price (unstratified) of house sales data available from the State/Territory Land Titles Office or Valuers-General (VGs) Office in each capital city. These median prices are 'raw' medians from the available data set and quarterly changes in them will not concord with the published HPIs for each city which are compiled in strata and weighted by the value of housing stock. Numbers of established house transfers recorded each quarter by the VGs are presented in Table 8.

5 For more detailed information on house price indexes than is provided in these explanatory notes refer to *Information Paper, House Price Indexes: Concepts, Sources and Methods, Australia, 2009* (cat. no. 6464.0).

DEFINITIONS

Capital City

6 Capital City Statistical Divisions (SDs) are predominantly urban in character and represent the State/Territory capital cities in the wider sense. A Capital City SD is defined to contain the anticipated urban development of a capital city and it delimits an area which is stable for general statistical purposes.

7 Currently, HPI capital city SDs are based on the *2006 Australian Standard Geographical Classification (ASGC)* (cat. no. 1216.0). The ASGC will be replaced by the *Australian Statistical Geography Standard (ASGS)* (Vol 1, cat. no. 1270.0.55.001) from July 2011. HPI geographic coverage will be defined by the ASGS Greater Capital City Statistical Areas (GCCSA) during the next index review in 2012. The December quarter 2013 HPI publication is expected to be the first release of the HPI series based on the ASGS.

Established houses

8 The HPI covers transactions in detached residential dwellings on their own block of land regardless of age (i.e. including new houses sold as a house/land package as well as second-hand houses). Price changes therefore relate to changes in the total price of dwelling and land.

Project homes

9 Project homes are dwellings available for construction on an existing block of land. Price changes therefore relate only to the price of the dwelling (i.e. excluding land).

PRICE INDEXES

10 A price index is concerned with measuring pure price change – that is, it is concerned with isolating and measuring that element of price change which is not brought about by any change to either the quantity or the quality of the goods or services for which the index is required.

PRICE INDEXES *continued*

11 The techniques used to construct a price index for project homes are similar to those used for most other goods. A representative sample of project home models is selected in each city, prices are obtained each quarter and the price movements for each model are weighted together. Constant quality is preserved by calculating price movements on a matched sample basis (i.e. the price movements between adjacent quarters are based on the same models in each quarter). If the specification of an individual model changes substantially or a price is unable to be obtained then that model is excluded from the calculation of price movement. Adjustments are made to raw prices to compensate for any minor changes in specifications.

12 This standard procedure for constructing price indexes is not viable in the case of established houses as the observable prices in each period relate to a different set of dwellings for each period. The challenge is how to utilise prices for a heterogeneous set of dwellings to construct measures of price change for characteristic or homogeneous dwellings.

Controlling for the compositional change effect

13 The ABS uses stratification to control for this 'compositional' effect by grouping (or 'clustering') houses according to a set of characteristics. The finer the level of stratification available, the more similar or homogenous the cluster of houses will be. However, the finer the level of stratification, the fewer the property sales in the period. Therefore, the clusters defined have to balance the homogeneity of housing characteristics and the number of observations required to produce a reliable median price. The lowest level geographical classification that is commonly available across data sets is the suburb. Therefore, suburbs are the building blocks on which the clusters are based.

14 Analysis by the ABS has found that the most effective stratification approach uses two characteristics: the long term level of prices for the suburb in which the house is located, and neighbourhood characteristics of the suburb, as represented by the ABS produced Socio-Economic Indexes for Areas (SEIFA). A new set of clusters produced with this stratification method was introduced in the December quarter 2008 issue of 6416.0, together with updated housing stock weights derived using quantity data from the 2006 Census of Population and Housing. The link period for these changes was the March quarter 2008. Therefore, only the index numbers from the June quarter 2008 onwards reflect the new weights and stratification. The new approach is a refinement of the previous stratification method, which was based on structural attributes of dwellings within suburbs, the physical location of the dwelling, and neighbourhood characteristics of suburbs.

Benchmark and Leading Indicator series

15 Though more comprehensive coverage of property sales data is eventually obtained from the State/Territory Land Titles Office or Valuers-General (VGs) Office in each capital city, this data is not available on a timely basis for the most recent quarters. As a result, the ABS has adopted a two-stage approach to produce the HPI to allow the compilation and publication of a more timely estimate of price change. The first stage is to compile the benchmark series based on the complete, or near complete, VGs dataset for each quarter. This will be the third most recent quarter in any publication. The second stage, referred to as the leading indicator series, involves compiling price indexes for the two most recent quarters based on a combination of mortgage lenders' data and the VGs data available at that point in time. It should be noted that for Darwin, mortgage lenders' data is combined with VGs data for the most recent quarter only.

16 The index numbers for the leading indicator series are preliminary estimates and are revised as more data are progressively received from VGs. These index numbers are labelled with a "p" indicating a preliminary estimate. The benchmark series (labelled with an "r" if it has been revised since the previous quarter's leading indicator estimate) are final estimates and will not be subject to further revision once published.

Benchmark and Leading Indicator series continued

17 The revisions to price indexes and percentage changes are reported in Table 9, Revisions to Established House Price Index Series, Australia. This table displays, for each time period, the preliminary and final estimates, and the corresponding annual and quarterly percentage changes. The table also displays the size of the revisions made to preliminary estimates of house price index movements.

18 The columns titled 'Difference between final estimate and first and second estimate' are calculated by subtracting the initial estimates from the final estimate. Consequently, no revisions information will be available until a final estimate has been published. As the HPI series was first published with respect to the September quarter 2005, the first period for which preliminary data can be compared with final data is the June quarter 2005. No preliminary estimates exist prior to this period.

19 Revisions to the weighted average of the eight capital cities are included in this publication. Revisions made to each of the individual capital cities are available on the ABS website <http://www.abs.gov.au> (refer to the time series spreadsheets under the 'Downloads' tab for *House Price Indexes: Eight Capital Cities* (cat. no. 6416.0)).

Available data

20 Price information for project homes is obtained each month from a sample of project home builders in each capital city. Sales prices of established houses are obtained from VGs and home mortgage lenders, and are based on the exchange date of the sales. The exchange date most closely approximates the time at which the market price is determined. Exchange date information is available for all cities except Adelaide and Darwin. For these cities, a modelled exchange date is used.

21 The delivery of VGs data relating to exchange date is delayed by the normal contract settlement and reporting processes. It is only possible to publish reliable house price movements based solely on VGs data after approximately six months.

LIMITATIONS OF HOUSE PRICE INDEXES

22 The reliability of each index is largely dependent upon the availability of sufficient pricing information each quarter. While not a problem for project homes, difficulties are sometimes encountered when compiling the HPI. Although the HPI clusters have been defined to balance the homogeneity of housing characteristics and the number of observations required to produce a reliable median price, the number of price observations available depends on market activity in each quarter and there may be occasions when clusters have low numbers of price observations. This is most apparent in the established house price indexes for the smaller capital cities (Hobart, Darwin and Canberra).

23 The series most affected by limited market scope is the Darwin established house price index. As can be seen from the data in Table 8, the series for Darwin is affected by a relatively low number of transactions in any quarter. Rather than suppress publication, the series are included here because it is believed that the long term trends are reliable. However, because of the limitations in the reliability of individual quarter-to-quarter movements, users are advised to exercise due care when analysing such movements.

24 It should be noted that when the number of price observations available for a cluster is nil or extremely low in a quarter, a price movement for the cluster is derived using imputation methods based on price movements of other clusters.

NATIONAL HOUSE PRICE AND OTHER INDEXES

25 These series are presented to facilitate analysis of price movements at a national level. Although coverage is not strictly national in all cases, this does not significantly impair their usefulness. The derivation or source of each series is set out below.

Established houses

26 The series for established houses is derived by weighting together the indexes for each of the eight capital cities according to the relative value of housing stock in each capital city. From the June quarter 2008 onwards, the values were obtained by combining 2006 Population Census house counts with March quarter 2008 mean prices. Prior to

Established houses continued

this, the values were obtained by combining 2001 Population Census house counts with March quarter 2002 mean prices. It is important to understand that in the compilation of this index (and other fixed weighted indexes) it is not the housing stock values that are held constant from period to period. What is held constant is the quantity (e.g. number of houses) underpinning these values.

Project homes

27 The series for project homes is derived by weighting together the indexes for each of the eight capital cities. The city weights are derived from the value of net additions to the number of owner-occupier households, calculated by applying the average value of private dwelling completions from Building Activity statistics to quantity data calculated from Census 2006 counts of owner-occupied houses moved forward using data from *Household and Family Projections, Australia* (cat. no. 3236.0). As extensions and renovations are conceptually part of the CPI expenditure class, their value is included in the calculation of the weights. No prices specifically relating to these activities are collected as their prices are assumed to move similarly to those of new houses.

28 Although the capital city price indexes for project homes are compiled for use in calculating the House purchase expenditure class of the CPI, price movements exhibited in the published CPI series are not comparable to those published with the established house price index because the CPI for house purchase is a broader aggregate which also covers fixed appliances and an adjustment for government subsidies directly related to house purchase.

Materials used in house building

29 The index for materials used in house building is that published for the weighted average of the six state capital cities in *Producer Price Indexes, Australia* (cat. no. 6427.0), re-referenced to 2003–04 = 100.0. For more information on this index refer to *Producer and International Trade Price Indexes: Concepts, Sources and Methods, 2006* (cat. no. 6429.0).

Construction industry total hourly rates of pay

30 The index for the construction industry total hourly rates of pay excluding bonuses, private and public, is that published in *Labour Price Indexes, Australia* (cat. no. 6345.0), re-referenced to 2003–04 = 100.0 for ease of comparison with other series. For more information on this index refer to *Labour Price Index: Concepts, Sources and Methods, 2004* (cat. no. 6351.0.55.001).

Private Housing Investment

31 The index for private housing investment is the annually-reweighted chain Laspeyres price index for private capital expenditure on new and used dwellings, as used (but not separately published) in *Australian National Accounts: National Income, Expenditure and Product* (cat. no. 5206.0), referenced to 2003–04 = 100.0. For more information on this index refer to *Australian National Accounts: Concepts Sources and Methods, 2000* (cat. no. 5216.0).

Established house transfer prices and counts

32 As well as the price indexes based on stratified weights for each city, the ABS publishes the median price of all established house transfers, and the number of established house transfers. Both these series are based on the house sales data from the State/Territory Land Titles Office or Valuers-General (VGs) Office in each capital city, and are only available for those quarters for which final index estimates are available.

33 The median prices presented in Table 7 are calculated using all available VGs records for each city each quarter, with no stratification or weighting applied. These 'raw' medians will not correspond to the published index numbers and will not produce price movements that are consistent with those numbers.

34 The number of transfers of established houses recorded each quarter by the VG in each capital city is presented in Table 8 to provide an indication of the level of sales activity for the capital city each quarter.

Established house transfer prices and counts continued

35 As the ABS receives more VGs data, the median prices and numbers of house transfers are revised as necessary. The usual practice is to update the most recent eight quarters of published figures. This practice is distinct from the HPI which is not revised once published as a final benchmark estimate, even if additional data are available. Therefore, the HPI, the medians and the numbers of house transfers are calculated from the same set of price information only in the most recent quarter of HPI final benchmark estimates.

ANALYSIS OF CHANGES IN INDEX NUMBERS

36 Each of the indexes presented in this publication is calculated on a quarterly basis with a reference base of 2003–04 = 100.0. In compiling these indexes quarterly, the objective is to measure the change in price levels between quarters.

37 Index numbers are also presented for financial years where the index numbers for financial years are simple (arithmetic) averages of the quarterly index numbers. Index numbers for calendar years may be derived in the same way.

38 Movements in indexes from one period to another can be expressed either as changes in index points or as percentage changes. The following example illustrates the method of calculating index points changes and percentage changes between any two periods:

Project Homes: Perth index numbers —

June Quarter 2012	164.4 (see table 3)
less March Quarter 2012	163.3 (see table 3)
equals change in index points	1.1
Percentage change	1.1/163.3 X 100 = 0.7%

39 In this publication, percentage changes are calculated to illustrate three different kinds of movements in index numbers:

- movements between consecutive financial years (change between average price levels during one financial year and average price levels during the next financial year)
- movements between corresponding quarters of consecutive years
- movements between consecutive quarters.

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