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**HOUSE PRICE INDEXES: EIGHT CAPITAL CITIES  
DECEMBER QUARTER 1993**

**MAIN FEATURES**

**ESTABLISHED HOUSE PRICES - AUSTRALIA**  
Percentage change from previous quarter



The price index of established houses in Australia rose 0.9 per cent between the September and December quarters 1993. Falls in Adelaide (-0.6%), and Sydney (-0.3%) partially offset rises in the other capital cities (ranging from 1.1 per cent in Brisbane to 5.2 per cent in Darwin).

In the year to December quarter 1993, the index rose 2.7 per cent with rises recorded in all cities (ranging from 1.3 per cent in Adelaide to 19.5 per cent in Darwin).

**EXPLANATORY NOTES**

**Introduction**

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). 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 house price indexes are compiled by the ABS for use in calculating the Mortgage Interest Charges component of the Australian Consumer Price Index (CPI). These series are being published separately in recognition of the widespread interest in information specifically relating to housing. Users requiring more information about how these series are used in the CPI are referred to an information paper *The Australian Consumer Price Index: Treatment of Mortgage Interest Charges* (6442.0). For detailed information about the CPI itself see *The Australian Consumer Price Index: Concepts, Sources and Methods* (6461.0).

3. To assist in the analysis of housing price movements at the national level, Australian series have also been compiled and are presented in tables 5 and 6 along with series for prices of building materials, wages in the construction industry and the housing investment deflator (from the Australian National Accounts). For information on the derivation of series in these tables see paragraph 14.

**Definitions**

4. *Established houses*: 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.

**INQUIRIES**

- for further information about statistics in this publication and the availability of related unpublished statistics, contact Cheryl Porter on Canberra (06) 252 5754 or any ABS State office.
- for information about other ABS statistics and services please contact Information Services on Canberra (06) 252 5402, 252 6007, 252 6627 or any ABS State office.

5. *Project homes*: dwellings available for construction on a client's block of land. Price changes therefore relate only to the price of the dwelling (excluding land).

#### Price indexes

6. 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.

7. 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 obtained each quarter and the price movements for each model 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.

8. The construction of a price index for established houses, on the other hand, poses a number of problems. First, in addition to the physical characteristics of a dwelling (such as outer-wall construction, total overall size and number of rooms) its geographical location is a significant component of quality. Second, the only price data available relates to sales that have actually taken place during each quarter. Movements in the average price derived from total sales data in each period would not provide a measure of pure price change as the measure would be influenced by compositional changes (i.e. the prices from one period to the next would relate to houses of different quality).

9. In order to minimise the effects of compositional change on these indexes, the raw sales price data is stratified by geographic area and physical characteristics of dwelling. The overall movement in the index is calculated by weighting together the price movements in individual strata. To reduce costs, this procedure is carried out for a sample of Local Government Areas in each city.

10. Price information for project homes is obtained at the end of each quarter from a sample of project home builders in each city. Sale prices of established houses are obtained from real estate organisations and government agencies and relate to actual sales transacted during the quarter.

#### Limitations of house price indexes

11. As these indexes are designed specifically for use in the CPI (see paragraph 2), their scope is restricted to only those houses likely to be purchased by CPI population group households (i.e. metropolitan wage and salary earner households).

12. 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

indexes for established houses as the number of price observations available across the range of dwelling types depends on market activity in each quarter.

13. The series most affected by limited market scope is the Darwin established house price index. Rather than suppress publication, the series is included here because it is believed that the long term trend is reliable. However, because of limitations in the reliability of individual quarter to quarter movements users are advised to exercise due caution when analysing such movements.

#### National house price and other indexes

14. These series are presented to facilitate analysis of price movements at a national level. Although coverage is not, in all cases, strictly national, this is not believed to significantly impair their usefulness. The derivation or source of each series is as follows:

15. *Established houses*: derived by weighting together the indexes for each of the eight capital cities according to the value of secured finance commitments to individuals in each of the States and Territories for the purchase of newly erected and established houses in 1985-86. The source of weighting information is unpublished data from the ABS survey of Housing Finance for Owner Occupation.

16. *Project homes*: derived by weighting together the indexes for each of the eight capital cities according to the value of secured finance commitments to individuals in each of the States and Territories for the construction of houses in 1985-86. The source of weighting information is the same as for established houses.

17. *Materials used in house building*: the series included here have been constructed from the monthly series for the weighted average of the six State capital cities (published in ABS catalogue No. 6408.0). Quarterly series were derived as the arithmetic average of the relevant monthly index numbers and then rebased to 1989-90 = 100.0.

18. *Award rates of pay for the construction industry*: this series has been constructed from published monthly data for Australia in a similar way to that in which the materials used in house building series has been derived for this publication. The original monthly series (6312.0) used to derive the quarterly series are constructed by weighting weekly award rates of pay indexes (full-time adult employees: Australia) for selected classifications in the construction industry.

19. *Housing investment deflator*: this series is the fixed weighted deflator for private capital expenditure (houses), as used (but not separately published) in *Australian National Accounts: National Income, Expenditure and Product* (5206.0), on a base of 1989-90 = 100.0.

#### Analysis of changes in index numbers

20. The indexes presented in this publication are calculated on a quarterly basis with a reference base of 1989-90 = 100.0. In compiling these indexes quarterly, the objective is to measure the change between average price levels during one quarter and average price levels during the next quarter.

21. 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.

22. 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:

Established houses: Darwin

Index numbers:

December quarter 1993:	154.5 (see table 1)
less: September quarter 1993:	146.9 (see table 1)
Change in index points:	+7.6

$$\text{Percentage change} = \frac{+7.6}{146.9} \times 100 = +5.2\%$$

23. In this publication, percentage changes are calculated to illustrate 3 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.

#### Related publications

24. Users may also wish to refer to the following publications which are available on request:

*Consumer Price Index* (6401.0) - issued quarterly

*Information Paper: The Australian Consumer Price Index: Treatment of Mortgage Interest Charges* (6442.0)

*The Australian Consumer Price Index: Concepts, Sources and Methods* (6461.0)

*Housing Finance for Owner Occupation, Australia* (5609.0) - issued monthly

*Price Index of Materials Used in House Building, Six State Capital Cities and Canberra* (6408.0) - issued monthly

*Award Rates of Pay Indexes, Australia* (6312.0) - issued monthly

*Australian National Accounts: National Income, Expenditure and Product* (5206.0) - issued quarterly

25. Current publications issued by the ABS are listed in the *Catalogue of Publications and Products, Australia* (1101.0). The ABS also issues, on Tuesdays and Fridays, a *Publications Advice* (1105.0) which lists publications to be released in the next few days. The Catalogue and Publications advice are available from any ABS office.

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- text and tables for selected Main Economic Indicator publications. Further information is available on (06) 252 5405.

#### Floppy disk service

Selected ABS statistics are available on floppy disk. Further information is available on (06) 252 6684.

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Acting Australian Statistician

**TABLE 1: ESTABLISHED HOUSE PRICE INDEX NUMBERS**  
(Base of each index: 1989-90 = 100.0)

<i>Period</i>	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	<i>Darwin</i>	<i>Canberra</i>
1989-90	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1990-91	100.5	95.2	114.3	106.2	94.8	106.3	109.3	107.3
1991-92	104.9	94.8	128.2	106.5	94.1	112.0	115.6	124.4
1992-93	105.3	93.1	134.9	110.1	98.4	116.6	133.6	134.2
<i>Quarter -</i>								
<i>1990-91-</i>								
December	99.4	97.4	112.6	104.8	94.8	107.2	108.2	107.1
March	100.6	93.0	116.1	110.7	93.9	106.2	110.1	108.6
June	101.9	94.4	119.5	105.9	93.3	110.4	111.0	110.9
<i>1991-92-</i>								
September	104.5	98.7	124.0	104.5	94.0	110.9	111.8	120.4
December	104.7	96.9	126.8	105.8	93.3	112.5	113.9	123.7
March	104.8	92.5	130.2	108.7	93.8	112.9	116.3	125.3
June	105.8	91.1	131.6	107.1	95.1	111.5	120.2	128.2
<i>1992-93-</i>								
September	103.7	91.9	134.4	107.6	96.9	114.0	126.5	132.9
December	104.6	94.1	133.5	106.2	98.4	115.9	129.3	133.1
March	106.6	92.7	135.4	110.3	99.1	117.9	133.6	136.8
June	106.3	93.8	136.2	116.4	99.3	118.7	144.9	133.8
<i>1993-94-</i>								
September	107.4	93.9	136.0	108.2	101.0	119.7	146.9	133.4
December	107.1	95.9	137.5	107.6	103.7	121.4	154.5	135.3

**TABLE 2: ESTABLISHED HOUSE PRICE INDEXES: PERCENTAGE CHANGES**

<i>Period</i>	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	<i>Darwin</i>	<i>Canberra</i>
Change from previous year								
1990-91	0.5	-4.8	14.3	6.2	-5.2	6.3	9.3	7.3
1991-92	4.4	-0.4	12.2	0.3	-0.7	5.4	5.8	15.9
1992-93	0.4	-1.8	5.1	3.4	4.6	4.1	15.6	7.9
Change from corresponding quarter of previous year								
<i>1991-92-</i>								
December	5.3	-0.5	12.6	1.0	-1.6	4.9	5.3	15.5
March	4.2	-0.5	12.1	-1.8	-0.1	6.3	5.6	15.4
June	3.8	-3.5	10.1	1.1	1.9	1.0	8.3	15.6
<i>1992-93-</i>								
September	-0.8	-6.9	8.4	3.0	3.1	2.8	13.1	10.4
December	-0.1	-2.9	5.3	0.4	5.5	3.0	13.5	7.6
March	1.7	0.2	4.0	1.5	5.7	4.4	14.9	9.2
June	0.5	3.0	3.5	8.7	4.4	6.5	20.5	4.4
<i>1993-94-</i>								
September	3.6	2.2	1.2	0.6	4.2	5.0	16.1	0.4
December	2.4	1.9	3.0	1.3	5.4	4.7	19.5	1.7
Change from previous quarter								
<i>1990-91-</i>								
December	-0.7	1.5	3.3	1.4	-2.5	5.8	0.5	4.4
March	1.2	-4.5	3.1	5.6	-0.9	-0.9	1.8	1.4
June	1.3	1.5	2.9	-4.3	-0.6	4.0	0.8	2.1
<i>1991-92-</i>								
September	2.6	4.6	3.8	-1.3	0.8	0.5	0.7	8.6
December	0.2	-1.8	2.3	1.2	-0.7	1.4	1.9	2.7
March	0.1	-4.5	2.7	2.7	0.5	0.4	2.1	1.3
June	1.0	-1.5	1.1	-1.5	1.4	-1.2	3.4	2.3
<i>1992-93-</i>								
September	-2.0	0.9	2.1	0.5	1.9	2.2	5.2	3.7
December	0.9	2.4	-0.7	-1.3	1.5	1.7	2.2	0.2
March	1.9	-1.5	1.4	3.9	0.7	1.7	3.3	2.8
June	-0.3	1.2	0.6	5.5	0.2	0.7	8.5	-2.2
<i>1993-94-</i>								
September	1.0	0.1	-0.1	-7.0	1.7	0.8	1.4	-0.3
December	-0.3	2.1	1.1	-0.6	2.7	1.4	5.2	1.4

TABLE 3: PROJECT HOME PRICE INDEX NUMBERS  
(Base of each index: 1989-90 = 100.0)

<i>Period</i>	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	<i>Darwin</i>	<i>Canberra</i>
1989-90	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1990-91	102.9	103.2	104.3	104.5	91.9	106.4	105.3	110.6
1991-92	103.1	101.8	105.2	105.4	90.6	110.1	107.8	123.7
1992-93	103.6	100.4	108.8	105.4	92.8	114.1	111.4	131.8
<i>Quarter - 1990-91-</i>								
December	103.1	103.6	104.4	104.5	92.7	106.2	105.3	109.5
March	103.3	103.9	104.7	105.3	91.3	107.5	105.3	111.5
June	103.3	102.2	104.7	105.0	90.3	108.1	105.3	112.9
<i>1991-92-</i>								
September	103.7	102.1	104.8	105.6	90.6	108.8	107.4	118.1
December	103.0	102.3	105.0	105.9	89.9	109.3	107.4	123.4
March	103.1	101.8	105.2	105.6	90.6	110.5	107.4	125.2
June	102.8	100.9	105.6	104.6	91.2	111.8	108.9	128.1
<i>1992-93-</i>								
September	103.1	100.2	108.1	105.4	91.7	112.2	109.8	130.1
December	103.7	100.4	108.6	105.1	92.7	112.9	111.8	131.6
March	103.4	100.6	109.0	105.0	93.1	115.0	111.8	132.5
June	104.1	100.4	109.4	106.0	93.8	116.3	112.0	132.8
<i>1993-94-</i>								
September	105.5	103.8	110.0	109.6	94.5	116.8	113.8	133.5
December	105.2	103.7	109.5	110.9	95.2	116.9	117.6	133.0

TABLE 4: PROJECT HOME PRICE INDEXES: PERCENTAGE CHANGES

<i>Period</i>	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	<i>Darwin</i>	<i>Canberra</i>
Change from previous year								
1990-91	2.9	3.3	4.3	4.5	-8.1	6.4	5.3	10.6
1991-92	0.2	-1.4	0.9	0.9	-1.4	3.5	2.4	11.8
1992-93	0.5	-1.4	3.4	0.0	2.4	3.6	3.3	6.5
Change from corresponding quarter of previous year								
<i>1991-92-</i>								
December	-0.1	-1.3	0.6	1.3	-3.0	2.9	2.0	12.7
March	-0.2	-2.0	0.5	0.3	-0.8	2.8	2.0	12.3
June	-0.5	-1.3	0.9	-0.4	1.0	3.4	3.4	13.5
<i>1992-93-</i>								
September	-0.6	-1.9	3.1	-0.2	1.2	3.1	2.2	10.2
December	0.7	-1.9	3.4	-0.8	3.1	3.3	4.1	6.6
March	0.3	-1.2	3.6	-0.6	2.8	4.1	4.1	5.8
June	1.3	-0.5	3.6	1.3	2.9	4.0	2.8	3.7
<i>1993-94-</i>								
September	2.3	3.6	1.8	4.0	3.1	4.1	3.6	2.6
December	1.4	3.3	0.8	5.5	2.7	3.5	5.2	1.1
Change from previous quarter								
<i>1990-91-</i>								
December	1.1	0.4	1.0	1.5	-0.7	2.4	0.0	0.9
March	0.2	0.3	0.3	0.8	-1.5	1.2	0.0	1.8
June	0.0	-1.6	0.0	0.3	-1.1	0.6	0.0	1.3
<i>1991-92-</i>								
September	0.4	-0.1	0.1	0.6	0.3	0.6	2.0	4.6
December	-0.7	0.2	0.2	0.3	-0.8	0.5	0.0	4.5
March	0.1	-0.5	0.2	-0.3	0.8	1.1	0.0	1.5
June	-0.3	-0.9	0.4	-0.9	0.7	1.2	1.4	2.3
<i>1992-93-</i>								
September	0.3	-0.7	2.4	0.8	0.5	0.4	0.8	1.6
December	0.6	0.2	0.5	-0.3	1.1	0.6	1.8	1.2
March	-0.3	0.2	0.4	-0.1	0.4	1.9	0.0	0.7
June	0.7	-0.2	0.4	1.0	0.8	1.1	0.2	0.2
<i>1993-94-</i>								
September	1.3	3.4	0.5	3.4	0.7	0.4	1.6	0.5
December	-0.3	-0.1	-0.5	1.2	0.7	0.1	3.3	-0.4

TABLE 5: SELECTED HOUSING PRICE INDEX NUMBER SERIES, AUSTRALIA (a)  
(Base of each Index: 1989-90 = 100.0)

Period	Established houses	Project homes	Materials used in house building	Award rates of pay construction industry	National accounts housing investment deflator
1989-90	100.0	100.0	100.0	100.0	100.0
1990-91	100.8	102.1	104.6	104.6	104.3
1991-92	104.6	102.1	104.9	107.4	105.1
1992-93	106.0	103.0	107.0	108.1	105.5
<i>Quarter-1990-91-</i>					
December	100.7	102.4	104.3	104.6	104.0
March	100.6	102.5	105.3	104.9	104.7
June	101.8	101.9	105.6	105.0	105.2
<i>1991-92-</i>					
September	104.9	102.2	105.2	106.6	105.1
December	104.9	102.1	104.7	107.4	105.1
March	104.2	102.1	104.6	107.7	105.1
June	104.5	102.0	105.1	107.8	105.1
<i>1992-93-</i>					
September	104.6	102.5	105.6	107.8	105.0
December	105.6	103.0	105.9	107.9	105.2
March	106.6	103.1	107.1	108.3	105.7
June	107.3	103.5	109.2	108.3	105.9
<i>1993-94-</i>					
September	107.4	105.4	110.7	108.6	106.2
December	108.4	105.3	111.7	108.9	107.2

a) For the derivation of each of these series see Explanatory Notes paragraphs 14-19

TABLE 6: SELECTED HOUSING PRICE INDEX NUMBER SERIES, AUSTRALIA: PERCENTAGE CHANGES

Period	Established houses	Project homes	Materials used in house building	Award rates of pay construction industry	National accounts housing investment deflator
Change from previous year					
1990-91	0.8	2.1	4.6	4.6	4.3
1991-92	3.8	0.0	0.3	2.7	0.8
1992-93	1.3	0.9	2.0	0.7	0.4
Change from corresponding quarter of previous year					
<i>1991-92-</i>					
December	4.2	-0.3	0.4	2.7	1.1
March	3.6	-0.4	-0.7	2.7	0.4
June	2.7	0.1	-0.5	2.7	-0.1
<i>1992-93-</i>					
September	-0.3	0.3	0.4	1.1	-0.1
December	0.7	0.9	1.1	0.5	0.1
March	2.3	1.0	2.4	0.6	0.6
June	2.7	1.5	3.9	0.5	0.8
<i>1993-94-</i>					
September	2.7	2.8	4.8	0.7	1.1
December	2.7	2.2	5.5	0.9	1.9
Change from previous quarter					
<i>1990-91-</i>					
September	-0.9	0.6	0.9	1.2	0.9
December	0.6	0.7	1.0	0.6	0.9
March	-0.1	0.1	1.0	0.3	0.7
June	1.2	-0.6	0.3	0.1	0.5
<i>1991-92-</i>					
September	3.0	0.3	-0.4	1.5	-0.1
December	0.0	-0.1	-0.5	0.8	0.0
March	-0.7	0.0	-0.1	0.3	0.0
June	0.3	-0.1	0.5	0.1	0.0
<i>1992-93-</i>					
September	0.1	0.5	0.5	0.0	-0.1
December	1.0	0.5	0.3	0.1	0.2
March	0.9	0.1	1.1	0.4	0.5
June	0.7	0.4	2.0	0.0	0.2
<i>1993-94-</i>					
September	0.1	1.8	1.4	0.3	0.3
December	0.9	-0.1	0.9	0.3	0.9

