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Reference No. 11.6

RETAIL SALES OF GOODS : AUSTRALIA
APRIL 1976 (Provisional)

MAIN FEATURES

Note : For various reasons, including those discussed below under **Reliability** and **Seasonal adjustment**, care should be taken not to overemphasize the significance of changes in provisional estimates of retail sales between single months.

- . The provisional estimate of the value of retail sales (excl. motor vehicles, parts, petrol, etc.) for April 1976 is \$1,577.0m.
- . Seasonally adjusted, the April 1976 estimate is 12.4% greater than April 1975.
- . Seasonally adjusted, the April 1976 estimate is 0.5% less than March 1976 which had shown an increase of 3.6% over February 1976.

EXPLANATORY NOTES

Introduction

The table overleaf gives a provisional estimate of the total value of retail sales in Australia (excluding motor vehicles, parts, petrol, etc.) for the month of April 1976. Figures for a number of earlier months are also shown for purposes of comparison. All figures in this bulletin are on a basis comparable with the 1968-69 Census of Retail Establishments.

The monthly sub-sample

2. The provisional monthly estimates of retail sales are obtained from a *sub-sample* of those establishments included in the quarterly sample of retail establishments. *The monthly sub-sample is comparatively small since it is designed to provide prompt estimates of the total value of retail sales (excluding motor vehicles, parts, petrol, etc.) without placing an undue burden on either the resources of the Bureau or upon retail establishments.*

Reliability of estimates

3. As the provisional monthly estimates are derived from returns received from a sample of retail establishments they may differ somewhat from the results which would have been obtained from a comparable complete collection. A measure of the likely difference is given by the *standard error* of the estimate. There are about 2 chances in 3 that a sample estimate will differ from results which would be obtained from a comparable complete collection by less than 1 standard error and 19 chances in 20 that the difference would be less than 2 standard errors. If, for example a sample gives an estimate of \$1,000 million and the standard error of this estimate is 1 per cent, i.e. \$10 million, then there are 2 chances in 3 that a comparable complete collection would give a figure within the range of \$990 million to

\$1,010 million and 19 chances in 20 that the figure would be within the range of \$980 million to \$1,020 million.

4. The standard error of the provisional estimates of the total value of monthly retail sales (excluding motor vehicles, parts, petrol, etc.) is about 1.0 per cent. The standard error of the *month-to-month* movement of the provisional estimates of the value of retail sales is generally about 0.3 per cent of the current monthly estimate. For example, the movement in the value of retail sales between the months of March 1976 and April 1976 is shown by the original series in the table overleaf as an increase of \$25.0 million. The standard error of this movement is about 0.3 per cent of the April 1976 estimate, i.e. approximately \$4.7 million. Therefore there are 2 chances in 3 that the movement in the value of retail sales between March 1976 and April 1976 was between \$20.3 million and \$29.7 million, and 19 chances in 20 that it was between \$15.6 million and \$34.4 million. Expressed in another way the estimates show a *proportionate* movement in the value of retail sales between March 1976 and April 1976 of 1.6 per cent and this has a standard error of about 0.3 percentage points, i.e. there are 2 chances in 3 that the proportionate movement was between 1.3 per cent and 1.9 per cent and 19 chances in 20 that it was between 1.0 per cent and 2.2 per cent.

5. The provisional monthly estimates may also differ from those which would be obtained from a sample as large as that used to provide quarterly estimates. Hence, the sum of the provisional estimates for the three months comprising a quarter may differ from the estimate obtained for that quarter from the full quarterly sample. The standard error of this difference is approximately 0.8 per cent of the quarterly estimate. The monthly estimates are subsequently adjusted in accordance with the quarterly estimates as they become available.

Seasonal adjustment

6. Seasonally adjusted statistics are also shown in the table overleaf. In the seasonal adjustment, account has been taken of both normal seasonal factors and "trading-day" effects (arising from the varying numbers of Sundays, Mondays, Tuesdays, etc. in the month). While the normal seasonal factors should change only gradually from year to year the trading-day adjustment for any month will vary from year to year in accordance with the combination of days which occur in the month. Adjustment has also been made for the effects of movement in the date of Easter and Australia Day. The series shown in this issue has been revised following the annual re-analysis of data. It should be noted that the seasonally adjusted figures reflect the sampling errors to which the original figures are subject. Details of the methods used in seasonally adjusting this and other series are given in *Seasonally Adjusted Indicators 1976*

(Reference No. 1.10) and the appendix to *Retail Sales of Goods* (Reference No. 11.4) December quarter 1975 of 3 May 1976.

compilation of retail sales statistics see the quarterly bulletin *Retail Sales of Goods* (Reference No. 11.4) December quarter 1975 of 3 May 1976.

Further information

7. For further information relating to the basis of

**TOTAL VALUE OF RETAIL SALES OF GOODS
(EXCLUDING MOTOR VEHICLES, PARTS, PETROL, ETC.)
MONTHLY ESTIMATES : AUSTRALIA (a)(b)
(\$ million)**

S/T 1980

Month	1971-72	1972-73	1973-74	1974-75	1975-76
ORIGINAL					
July	852.4	883.1	1,017.8	1,248.0	1,419.4
August	834.1	924.1	1,100.7	1,297.1	1,426.5
September	852.5	931.6	1,055.6	1,239.3	1,443.9
October	891.9	967.8	1,161.7	1,346.7	1,574.6
November	925.5	1,028.0	1,231.1	1,388.2	1,568.2
December	1,180.2	1,274.3	1,462.3	1,674.7	2,017.0
January	816.4	937.6	1,135.5	1,302.0	(c)1,487.0
February	836.0	892.5	1,072.5	1,218.5	(c)1,407.0
March	888.9	989.2	1,157.4	1,300.0	(c)1,552.0
April	853.6	972.3	1,192.9	1,386.7	(c)1,577.0
May	945.7	1,075.3	1,306.6	1,479.0	
June	895.2	1,029.0	1,186.9	1,347.6	
Total for year	10,772.4	11,904.8	14,081.0	16,227.8	
SEASONALLY ADJUSTED (d)r					
July	871.0	935.7	1,077.7	1,293.3	1,465.5
August	872.5	942.0	1,104.0	1,303.7	1,468.5
September	879.5	954.9	1,118.3	1,307.1	1,494.7
October	880.6	966.8	1,136.4	1,313.2	1,512.9
November	884.3	976.3	1,156.0	1,313.6	1,536.0
December	887.8	986.6	1,146.5	1,313.8	1,549.7
January	880.5	991.8	1,198.5	1,354.4	(c)1,552.0
February	906.9	1,002.5	1,206.1	1,370.9	(c)1,560.9
March	910.4	1,013.3	1,216.2	1,393.8	(c)1,617.0
April	908.2	1,032.8	1,242.1	1,432.1	(c)1,609.0
May	922.2	1,045.2	1,251.9	1,421.9	
June	923.6	1,068.0	1,273.0	1,438.9	

(a) Excludes Northern Territory and Australian Capital Territory. (b) Figures from April 1973 are subject to revision when more precise information is available relating to trading by new businesses. (c) Provisional estimate (see paragraph 5, page 1). (d) See paragraph 6, page 1. r - revised.

Notes on sampling aspects and on seasonal adjustment are shown overleaf.

R. W. COLE
Australian Statistician

Australian Bureau of Statistics
Belconnen. A.C.T. 2616

NOTE. *Inquiries concerning these statistics may be made in Canberra by telephoning Mr Jack Brzozowski on 52 5649 or, in each State capital, by telephoning the office of the Australian Bureau of Statistics.*