

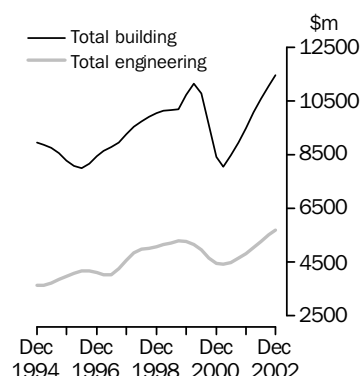
# CONSTRUCTION WORK DONE

AUSTRALIA  
PRELIMINARY

EMBARGO: 11:30AM (CANBERRA TIME) WED 26 FEB 2003

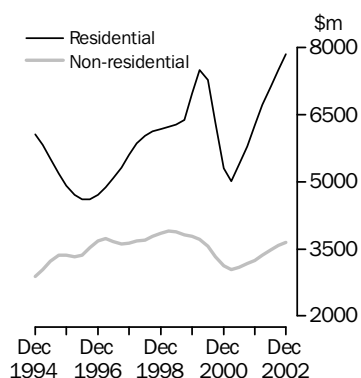
## Value of construction work done

Volume terms  
Trend estimates



## Value of building work done

Volume terms  
Trend estimates



## DECEMBER QTR KEY FIGURES

TREND ESTIMATES (a)	Dec qtr 02 \$m	Sep qtr 02 to Dec qtr 02 % change	Dec qtr 01 to Dec qtr 02 % change
Value of work done			
Building	11 476.5	3.6	20.8
Residential	7 849.6	4.7	25.2
Non-residential	3 644.9	1.8	12.7
Engineering	5 694.4	3.3	17.9
Total construction	17 196.6	3.7	20.0

SEASONALLY ADJUSTED (a)	Dec qtr 02 \$m	Sep qtr 02 to Dec qtr 02 % change	Dec qtr 01 to Dec qtr 02 % change
Value of work done			
Building	11 417.7	1.7	19.1
Residential	7 861.4	5.2	24.1
Non-residential	3 556.3	-5.4	9.4
Engineering	5 876.4	7.4	27.7
Total construction	17 294.2	3.6	21.9

(a) Chain volume measures, reference year 2000-01.

## DECEMBER QTR KEY POINTS

### VALUE OF CONSTRUCTION WORK DONE, VOLUME TERMS

#### TREND ESTIMATES

- The trend estimate of building work done rose 3.6% in the December quarter 2002. For the seventh successive quarter, the overall trend growth has been driven by the residential sector, up 4.7% in the latest quarter.
- Engineering work rose for the seventh successive quarter, up 3.3%. Growth for the last six quarters has been driven by the private sector, up 4.2% in the latest quarter, but this dominance has been lessening over the last three quarters.
- Total construction work done rose 3.7%, the seventh successive quarterly increase.

#### SEASONALLY ADJUSTED ESTIMATES

- The seasonally adjusted estimate of building work done rose for the eighth successive quarter, by 1.7% in the December quarter to \$11,417.7m. Work done on new residential buildings rose 6.8% to \$6,776.5m, a level exceeded only by the June quarter 2000. Alterations and additions remain high at \$1,084.9m, despite a 3.9% fall from the previous quarter's level. Non-residential building work fell 5.4% to \$3,556.3m.
- Engineering work done rose 7.4% to a record \$5,876.4m. Compared with a year earlier, work for the private sector was up 74.5% to a record \$3,027.0m whereas the public sector declined 0.7% to \$2,849.4m.
- Total construction work rose 3.6% to a record \$17,294.2m.

- For further information about these and related statistics, contact Tony Bammann on Adelaide 08 8237 7316, or the National Information and Referral Service on 1300 135 070.

## NOTES

### FORTHCOMING ISSUES

#### ISSUE (Quarter)

#### RELEASE DATE

March 2003

28 May 2003

June 2003

27 August 2003

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### ABOUT THIS ISSUE

This publication provides an early indication of trends in building and engineering construction activity. The data are estimates based on a response rate of approximately 85% of the value of building work done and 80% of the value of engineering work done during the quarter. More comprehensive and updated results will be released in *Building Activity, Australia* (cat. no. 8752.0) on 17 April 2003 and in *Engineering Construction Activity, Australia* (cat. no. 8762.0) on 15 April 2003.

In April 2000, the ABS released an information paper, *ABS Statistics and The New Tax System* (cat. no. 1358.0), which foreshadowed changes in the statistical infrastructure supporting the compilation of ABS economic series. The changes allow better use of data available from the taxation system to improve efficiency, coverage and sample design.

As foreshadowed in the previous issue of this publication, estimates from the Engineering Construction Survey for the December quarter 2002 have been compiled using the new statistical infrastructure. It was also foreshadowed that the historical engineering construction series would be adjusted so that all estimates were presented on the new basis. However, close examination of the estimates found this was not necessary, as the change to the new infrastructure resulted in insignificant changes in the estimates. A temporary effect of the introduction of this new sample design has been an increase in the sample error.

An information paper, *Improvements in ABS Economic Statistics [Arising from The New Tax System]* (cat. no. 1372.0), was released on 6 May 2002. That paper described the changes in more detail and provided information about the treatment of statistical impacts of the changes across ABS economic series. See also paragraphs 5–12 of the Explanatory Notes.

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### CHANGES IN THIS ISSUE

Tables 9 and 10 now include annual data for both Engineering Work Done and Construction Work Done.

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### SIGNIFICANT REVISIONS THIS ISSUE

The seasonally adjusted and trend series have been revised as a result of the annual re-analysis of seasonal factors. For more details, see paragraphs 31–33 of the Explanatory Notes.

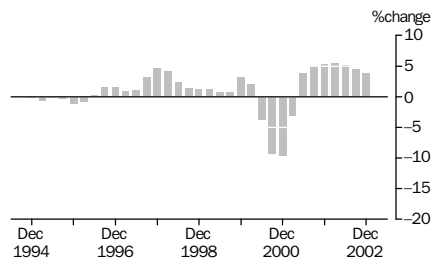
Susan Linacre  
Acting Australian Statistician

# CONSTRUCTION WORK DONE: Chain volume measures(a)

## TREND PERCENTAGE CHANGE

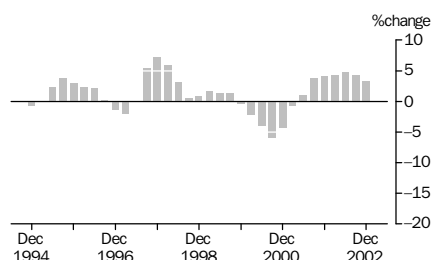
NOTE: Trend estimates are subject to revisions. See Explanatory Notes, paragraph 36.

### TOTAL CONSTRUCTION



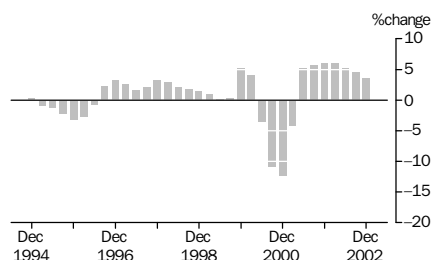
The total value of construction work done rose for the seventh successive quarter, but the rate of growth has slowed over the last three quarters.

### Engineering



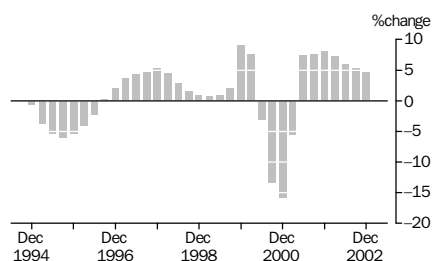
Engineering construction work done has risen for each of the last seven quarters, but the rate of growth has slowed in the last two quarters.

### Building



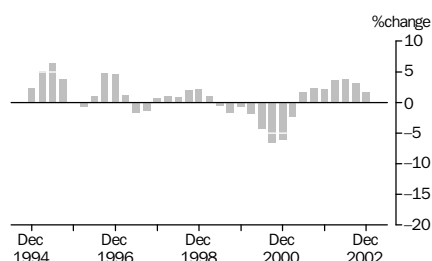
Building work done grew for the seventh successive quarter, but the rate of growth has slowed over the last three quarters.

### Residential



The rate of growth in residential building work continued to be strong, but has eased over the last four quarters.

### Non-residential



Non-residential building work done has increased for seven successive quarters, but the rate of growth has eased in the last two quarters.

(a) Reference year 2000-01.

	BUILDING WORK DONE.....			ENGINEERING WORK DONE.....			CONSTRUCTION WORK DONE.....		
<i>Period</i>	<i>Private</i>	<i>Public</i>	<i>Total</i>	<i>Private</i>	<i>Public</i>	<i>Total</i>	<i>Private</i>	<i>Public</i>	<i>Total</i>
ORIGINAL (\$m)									
<b>1999-00</b>	39 412.0	4 416.6	43 770.4	8 043.1	12 545.8	20 589.8	47 412.3	16 962.2	64 260.9
<b>2000-01</b>	29 547.2	4 106.6	33 653.8	6 682.3	11 462.2	18 144.5	36 229.5	15 568.8	51 798.3
<b>2001-02</b>	34 860.5	4 276.5	39 137.0	8 727.8	10 946.4	19 674.3	43 588.3	15 222.9	58 811.2
<b>2001</b>									
Sep qtr	8 182.9	1 097.0	9 279.9	1 871.4	2 533.2	4 404.6	10 054.3	3 630.2	13 684.5
Dec qtr	8 833.4	1 104.3	9 937.7	1 831.0	2 882.6	4 713.6	10 664.4	3 986.9	14 651.3
<b>2002</b>									
Mar qtr	8 334.4	952.1	9 286.5	2 565.8	2 465.7	5 031.5	10 900.2	3 417.8	14 318.1
Jun qtr	9 509.7	1 123.1	10 632.8	2 459.7	3 064.9	5 524.6	11 969.4	4 188.0	16 157.4
Sep qtr	10 483.9	1 133.2	11 617.2	2 818.7	2 491.0	5 309.7	13 302.6	3 624.2	16 926.9
Dec qtr	10 740.1	1 060.2	11 800.3	3 168.4	2 868.8	6 037.2	13 908.5	3 929.0	17 837.5
SEASONALLY ADJUSTED (\$m)									
<b>2001</b>									
Sep qtr	7 893.3	1 079.2	8 972.6	1 792.9	2 816.3	4 609.2	9 686.2	3 895.5	13 581.8
Dec qtr	8 507.2	1 080.8	9 587.9	1 734.6	2 868.4	4 603.0	10 241.8	3 949.2	14 190.9
<b>2002</b>									
Mar qtr	9 005.4	1 039.8	10 045.4	2 733.6	2 639.8	5 373.4	11 739.0	3 679.6	15 418.7
Jun qtr	9 454.5	1 076.7	10 531.1	2 466.8	2 622.0	5 088.8	11 921.3	3 698.7	15 619.8
Sep qtr	10 115.8	1 113.2	11 229.2	2 718.5	2 752.2	5 470.7	12 834.3	3 865.4	16 699.9
Dec qtr	10 380.1	1 037.4	11 417.7	3 027.0	2 849.4	5 876.4	13 407.1	3 886.9	17 294.2
TREND ESTIMATES (\$m)									
<b>2001</b>									
Sep qtr	7 900.8	1 064.3	8 965.2	1 766.7	2 875.1	4 641.3	9 667.8	3 939.1	13 607.8
Dec qtr	8 439.0	1 063.9	9 502.7	2 034.5	2 795.6	4 830.0	10 473.6	3 859.3	14 333.4
<b>2002</b>									
Mar qtr	9 006.4	1 070.6	10 077.0	2 348.4	2 687.5	5 036.0	11 354.7	3 758.1	15 112.7
Jun qtr	9 519.6	1 075.0	10 598.1	2 602.9	2 674.8	5 282.6	12 120.8	3 749.9	15 876.0
Sep qtr	10 001.3	1 077.9	11 080.9	2 780.3	2 728.8	5 511.1	12 780.8	3 806.6	16 589.8
Dec qtr	10 434.3	1 071.5	11 476.5	2 897.7	2 807.5	5 694.4	13 339.1	3 883.8	17 196.6

(a) Reference year for chain volume measures is 2000-01. See paragraphs 37-40 of the Explanatory Notes.

Period	BUILDING WORK DONE.....			ENGINEERING WORK DONE.....			CONSTRUCTION WORK DONE.....		
	Private	Public	Total	Private	Public	Total	Private	Public	Total
ORIGINAL (% change from preceding period)									
<b>1999-00</b>	10.6	-4.1	8.8	-11.5	10.0	0.5	5.9	6.0	5.9
<b>2000-01</b>	-25.0	-7.0	-23.1	-16.9	-8.6	-11.9	-23.6	-8.2	-19.4
<b>2001-02</b>	18.0	4.1	16.3	30.6	-4.5	8.4	20.3	-2.2	13.5
<b>2001</b>									
Sep qtr	10.8	2.7	9.7	10.6	-25.1	-13.2	10.7	-18.4	1.0
Dec qtr	7.9	0.7	7.1	-2.2	13.8	7.0	6.1	9.8	7.1
<b>2002</b>									
Mar qtr	-5.6	-13.8	-6.6	40.1	-14.5	6.7	2.2	-14.3	-2.3
Jun qtr	14.1	18.0	14.5	-4.1	24.3	9.8	9.8	22.5	12.8
Sep qtr	10.2	0.9	9.3	14.6	-18.7	-3.9	11.1	-13.5	4.8
Dec qtr	2.4	-6.4	1.6	12.4	15.2	13.7	4.6	8.4	5.4
SEASONALLY ADJUSTED (% change from preceding period)									
<b>2001</b>									
Sep qtr	7.2	5.8	7.0	4.7	-4.9	-1.3	6.7	-2.1	4.0
Dec qtr	7.8	0.1	6.9	-3.3	1.9	-0.1	5.7	1.4	4.5
<b>2002</b>									
Mar qtr	5.9	-3.8	4.8	57.6	-8.0	16.7	14.6	-6.8	8.7
Jun qtr	5.0	3.5	4.8	-9.8	-0.7	-5.3	1.6	0.5	1.3
Sep qtr	7.0	3.4	6.6	10.2	5.0	7.5	7.7	4.5	6.9
Dec qtr	2.6	-6.8	1.7	11.3	3.5	7.4	4.5	0.6	3.6
TREND ESTIMATES (% change from preceding period)									
<b>2001</b>									
Sep qtr	6.3	1.6	5.7	6.7	2.1	3.8	6.4	1.9	5.0
Dec qtr	6.8	—	6.0	15.2	-2.8	4.1	8.3	-2.0	5.3
<b>2002</b>									
Mar qtr	6.7	0.6	6.0	15.4	-3.9	4.3	8.4	-2.6	5.4
Jun qtr	5.7	0.4	5.2	10.8	-0.5	4.9	6.7	-0.2	5.1
Sep qtr	5.1	0.3	4.6	6.8	2.0	4.3	5.4	1.5	4.5
Dec qtr	4.3	-0.6	3.6	4.2	2.9	3.3	4.4	2.0	3.7

(a) Reference year for chain volume measures is 2000-01. See paragraphs 37-40 of the Explanatory Notes.

	BUILDING WORK DONE(a).....			ENGINEERING WORK DONE.....			CONSTRUCTION WORK DONE(a).....		
<i>Period</i>	<i>Private</i>	<i>Public</i>	<i>Total</i>	<i>Private</i>	<i>Public</i>	<i>Total</i>	<i>Private</i>	<i>Public</i>	<i>Total</i>
ORIGINAL (\$m)									
<b>1999-00</b>	35 958.4	4 283.4	40 241.9	7 786.0	12 121.6	19 907.5	43 744.4	16 405.0	60 149.4
<b>2000-01</b>	29 547.2	4 106.6	33 653.8	6 682.3	11 461.4	18 143.7	36 229.5	15 568.0	51 797.5
<b>2001-02</b>	35 357.7	4 299.1	39 656.9	8 899.0	11 132.3	20 031.3	44 256.7	15 431.4	59 688.2
<b>2001</b>									
Sep qtr	8 206.6	1 094.0	9 300.6	1 897.7	2 562.0	4 459.8	10 104.3	3 656.0	13 760.4
Dec qtr	8 917.2	1 104.6	10 021.8	1 863.2	2 918.6	4 781.8	10 780.4	4 023.2	14 803.6
<b>2002</b>									
Mar qtr	8 474.4	959.0	9 433.5	2 611.4	2 508.8	5 120.2	11 085.8	3 467.8	14 553.7
Jun qtr	9 759.5	1 141.5	10 901.0	2 526.7	3 142.9	5 669.6	12 286.2	4 284.4	16 570.5
Sep qtr	10 861.3	1 165.4	12 026.7	2 934.8	2 568.3	5 503.2	13 796.1	3 733.7	17 529.8
Dec qtr	11 213.5	1 098.5	12 312.1	3 326.4	2 985.8	6 312.2	14 539.9	4 084.3	18 624.3
SEASONALLY ADJUSTED (\$m)									
<b>2001</b>									
Sep qtr	7 923.4	1 077.0	9 000.4	1 828.5	2 849.9	4 678.4	9 751.9	3 927.0	13 678.8
Dec qtr	8 599.8	1 080.8	9 680.6	1 779.5	2 906.4	4 685.9	10 379.3	3 987.2	14 366.5
<b>2002</b>									
Mar qtr	9 173.5	1 046.4	10 219.9	2 810.3	2 688.2	5 498.5	11 983.9	3 734.6	15 718.4
Jun qtr	9 722.6	1 092.6	10 815.3	2 561.9	2 690.8	5 252.7	12 284.5	3 783.5	16 068.0
Sep qtr	10 479.7	1 146.5	11 626.2	2 829.6	2 839.6	5 669.2	13 309.3	3 986.0	17 295.4
Dec qtr	10 837.1	1 076.7	11 913.7	3 176.9	2 967.6	6 144.5	14 014.0	4 044.3	18 058.3
TREND ESTIMATES (\$m)									
<b>2001</b>									
Sep qtr	7 937.5	1 062.7	9 000.2	1 801.0	2 908.1	4 709.1	9 738.5	3 970.7	13 709.3
Dec qtr	8 530.0	1 063.9	9 593.9	2 085.5	2 819.9	4 905.4	10 615.5	3 883.8	14 499.3
<b>2002</b>									
Mar qtr	9 177.6	1 077.6	10 255.2	2 419.8	2 737.6	5 157.4	11 597.4	3 815.1	15 412.5
Jun qtr	9 783.5	1 093.1	10 876.6	2 697.3	2 743.3	5 440.6	12 480.8	3 836.5	16 317.2
Sep qtr	10 362.5	1 107.6	11 470.1	2 898.7	2 819.2	5 717.9	13 261.2	3 926.9	17 188.0
Dec qtr	10 912.9	1 112.4	12 026.4	3 038.1	2 931.5	5 969.6	13 951.0	4 044.0	17 996.0

(a) From the September quarter 2000, data is inclusive of non-deductible GST payable on residential buildings. See paragraphs 17 and 18 of the Explanatory Notes.

Period	BUILDING WORK DONE(a).....			ENGINEERING WORK DONE.....			CONSTRUCTION WORK DONE(a).....		
	Private	Public	Total	Private	Public	Total	Private	Public	Total
ORIGINAL (% change from preceding period)									
<b>1999-00</b>	16.1	-0.6	14.0	-7.6	12.7	3.8	11.0	8.9	10.4
<b>2000-01</b>	-17.8	-4.1	-16.4	-14.2	-5.4	-8.9	-17.2	-5.1	-13.9
<b>2001-02</b>	19.7	4.7	17.8	33.2	-2.9	10.4	22.2	-0.9	15.2
<b>2001</b>									
Sep qtr	11.0	2.6	9.9	11.1	-24.8	-12.8	11.0	-18.3	1.3
Dec qtr	8.7	1.0	7.8	-1.8	13.9	7.2	6.7	10.0	7.6
<b>2002</b>									
Mar qtr	-5.0	-13.2	-5.9	40.2	-14.0	7.1	2.8	-13.8	-1.7
Jun qtr	15.2	19.0	15.6	-3.2	25.3	10.7	10.8	23.5	13.9
Sep qtr	11.3	2.1	10.3	16.2	-18.3	-2.9	12.3	-12.9	5.8
Dec qtr	3.2	-5.7	2.4	13.3	16.3	14.7	5.4	9.4	6.2
SEASONALLY ADJUSTED (% change from preceding period)									
<b>2001</b>									
Sep qtr	7.5	5.7	7.2	5.5	-4.6	-0.8	7.1	-1.9	4.3
Dec qtr	8.5	0.4	7.6	-2.7	2.0	0.2	6.4	1.5	5.0
<b>2002</b>									
Mar qtr	6.7	-3.2	5.6	57.9	-7.5	17.3	15.5	-6.3	9.4
Jun qtr	6.0	4.4	5.8	-8.8	0.1	-4.5	2.5	1.3	2.2
Sep qtr	7.8	4.9	7.5	10.5	5.5	7.9	8.3	5.4	7.6
Dec qtr	3.4	-6.1	2.5	12.3	4.5	8.4	5.3	1.5	4.4
TREND ESTIMATES (% change from preceding period)									
<b>2001</b>									
Sep qtr	6.8	1.4	6.1	7.4	-0.8	2.2	6.9	-0.2	4.7
Dec qtr	7.5	0.1	6.6	15.8	-3.0	4.2	9.0	-2.2	5.8
<b>2002</b>									
Mar qtr	7.6	1.3	6.9	16.0	-2.9	5.1	9.2	-1.8	6.3
Jun qtr	6.6	1.4	6.1	11.5	0.2	5.5	7.6	0.6	5.9
Sep qtr	5.9	1.3	5.5	7.5	2.8	5.1	6.3	2.4	5.3
Dec qtr	5.3	0.4	4.9	4.8	4.0	4.4	5.2	3.0	4.7

(a) From the September quarter 2000, data is inclusive of non-deductible GST payable on residential buildings. See paragraphs 17 and 18 of the Explanatory Notes.

Period	NEW RESIDENTIAL.....		ALTERATIONS AND ADDITIONS TO RESIDENTIAL BUILDING.....		TOTAL RESIDENTIAL.....		NON-RESIDENTIAL.....		TOTAL BUILDING(a).....	
	Private	Total	Private	Total	Private	Total	Private	Total	Private	Total
ORIGINAL (\$m)										
<b>1999-00</b>	23 980.5	24 471.7	4 300.9	4 430.3	28 282.4	28 903.4	11 201.7	14 995.9	39 412.0	43 770.4
<b>2000-01</b>	17 389.7	17 811.6	3 255.3	3 395.0	20 645.0	21 206.6	8 902.2	12 447.2	29 547.2	33 653.8
<b>2001-02</b>	21 481.8	21 941.8	3 894.7	4 060.3	25 376.6	26 002.1	9 483.9	13 134.9	34 860.5	39 137.0
<b>2001</b>										
Sep qtr	4 930.9	5 046.6	935.3	978.7	5 866.2	6 025.3	2 316.7	3 254.6	8 182.9	9 279.9
Dec qtr	5 342.0	5 477.4	1 031.6	1 065.8	6 373.6	6 543.2	2 459.8	3 394.5	8 833.4	9 937.7
<b>2002</b>										
Mar qtr	5 177.2	5 283.3	873.9	911.7	6 051.1	6 195.0	2 283.3	3 091.5	8 334.4	9 286.5
Jun qtr	6 031.6	6 134.5	1 054.0	1 104.1	7 085.6	7 238.6	2 424.1	3 394.3	9 509.7	10 632.8
Sep qtr	6 480.6	6 583.8	1 118.7	1 151.8	7 599.3	7 735.6	2 884.7	3 881.6	10 483.9	11 617.2
Dec qtr	6 835.0	6 958.4	1 097.3	1 134.7	7 932.4	8 093.1	2 807.8	3 707.2	10 740.1	11 800.3
SEASONALLY ADJUSTED (\$m)										
<b>2001</b>										
Sep qtr	4 755.7	4 859.8	917.1	959.7	5 672.8	5 819.5	2 220.5	3 153.2	7 893.3	8 972.6
Dec qtr	5 188.2	5 317.5	976.0	1 018.2	6 164.3	6 335.8	2 343.0	3 252.1	8 507.2	9 587.9
<b>2002</b>										
Mar qtr	5 556.3	5 676.9	944.1	985.7	6 500.5	6 662.6	2 505.0	3 382.7	9 005.4	10 045.4
Jun qtr	5 981.6	6 087.6	1 057.5	1 096.6	7 039.1	7 184.2	2 415.4	3 346.9	9 454.5	10 531.1
Sep qtr	6 248.3	6 343.1	1 095.3	1 128.5	7 343.6	7 471.7	2 772.2	3 757.6	10 115.8	11 229.2
Dec qtr	6 659.7	6 776.5	1 037.8	1 084.9	7 697.5	7 861.4	2 682.6	3 556.3	10 380.1	11 417.7
TREND ESTIMATES (\$m)										
<b>2001</b>										
Sep qtr	4 723.2	4 835.1	920.6	963.2	5 643.8	5 798.3	2 257.2	3 167.1	7 900.8	8 965.2
Dec qtr	5 156.3	5 276.2	949.9	992.4	6 106.3	6 268.6	2 332.9	3 234.5	8 439.0	9 502.7
<b>2002</b>										
Mar qtr	5 576.5	5 694.2	992.2	1 032.5	6 568.7	6 726.7	2 437.7	3 350.2	9 006.4	10 077.0
Jun qtr	5 940.0	6 049.1	1 035.4	1 073.5	6 974.6	7 122.1	2 545.7	3 474.1	9 519.6	10 598.1
Sep qtr	6 292.1	6 396.4	1 064.2	1 103.1	7 356.0	7 499.3	2 645.6	3 580.7	10 001.3	11 080.9
Dec qtr	6 622.4	6 728.4	1 073.3	1 116.9	7 702.1	7 849.6	2 726.6	3 644.9	10 434.3	11 476.5

(a) Reference year for chain volume measures is 2000-01. See paragraphs 37-40 of the Explanatory Notes.



Period	NEW RESIDENTIAL....		ALTERATIONS AND ADDITIONS TO RESIDENTIAL BUILDING.....		TOTAL RESIDENTIAL....		NON-RESIDENTIAL		TOTAL BUILDING.....	
	Private	Total	Private	Total	Private	Total	Private	Total	Private	Total
ORIGINAL (% change from preceding period)										
<b>1999-00</b>	18.3	17.3	13.2	13.2	17.5	16.7	-2.3	-2.4	10.6	8.8
<b>2000-01</b>	-27.5	-27.2	-24.3	-23.4	-27.0	-26.6	-20.5	-17.0	-25.0	-23.1
<b>2001-02</b>	23.5	23.2	19.6	19.6	22.9	22.6	6.5	5.5	18.0	16.3
<b>2001</b>										
Sep qtr	14.4	14.4	6.2	5.1	13.0	12.8	5.4	4.5	10.8	9.7
Dec qtr	8.3	8.5	10.3	8.9	8.6	8.6	6.2	4.3	7.9	7.1
<b>2002</b>										
Mar qtr	-3.1	-3.5	-15.3	-14.5	-5.1	-5.3	-7.2	-8.9	-5.6	-6.6
Jun qtr	16.5	16.1	20.6	21.1	17.1	16.8	6.2	9.8	14.1	14.5
Sep qtr	7.4	7.3	6.1	4.3	7.2	6.9	19.0	14.4	10.2	9.3
Dec qtr	5.5	5.7	-1.9	-1.5	4.4	4.6	-2.7	-4.5	2.4	1.6
SEASONALLY ADJUSTED (% change from preceding quarter)										
<b>2001</b>										
Sep qtr	11.0	10.7	3.8	3.9	9.7	9.6	1.0	2.5	7.2	7.0
Dec qtr	9.1	9.4	6.4	6.1	8.7	8.9	5.5	3.1	7.8	6.9
<b>2002</b>										
Mar qtr	7.1	6.8	-3.3	-3.2	5.5	5.2	6.9	4.0	5.9	4.8
Jun qtr	7.7	7.2	12.0	11.2	8.3	7.8	-3.6	-1.1	5.0	4.8
Sep qtr	4.5	4.2	3.6	2.9	4.3	4.0	14.8	12.3	7.0	6.6
Dec qtr	6.6	6.8	-5.3	-3.9	4.8	5.2	-3.2	-5.4	2.6	1.7
TREND ESTIMATES (% change from preceding quarter)										
<b>2001</b>										
Sep qtr	8.3	8.3	4.2	4.2	7.6	7.6	3.1	2.4	6.3	5.7
Dec qtr	9.2	9.1	3.2	3.0	8.2	8.1	3.4	2.1	6.8	6.0
<b>2002</b>										
Mar qtr	8.1	7.9	4.4	4.0	7.6	7.3	4.5	3.6	6.7	6.0
Jun qtr	6.5	6.2	4.4	4.0	6.2	5.9	4.4	3.7	5.7	5.2
Sep qtr	5.9	5.7	2.8	2.8	5.5	5.3	3.9	3.1	5.1	4.6
Dec qtr	5.2	5.2	0.9	1.3	4.7	4.7	3.1	1.8	4.3	3.6

(a) Reference year for chain volume measures is 2000-01. See paragraphs 37-40 of the Explanatory Notes.

Period	NEW RESIDENTIAL(a)...		ALTERATIONS AND ADDITIONS TO RESIDENTIAL BUILDING(a).....		TOTAL RESIDENTIAL(a)...		NON-RESIDENTIAL.....		TOTAL BUILDING(a).....	
	Private	Total	Private	Total	Private	Total	Private	Total	Private	Total
ORIGINAL (\$m)										
<b>1999-00</b>	21 217.0	21 658.8	3 779.4	3 892.9	24 996.4	25 551.7	10 962.0	14 690.1	35 958.4	40 241.9
<b>2000-01</b>	17 389.7	17 811.5	3 255.3	3 395.0	20 645.0	21 206.6	8 902.2	12 447.2	29 547.2	33 653.8
<b>2001-02</b>	21 834.4	22 299.3	3 982.9	4 152.1	25 817.2	26 451.4	9 540.5	13 205.5	35 357.7	39 656.9
<b>2001</b>										
Sep qtr	4 949.0	5 064.2	943.8	987.6	5 892.7	6 051.8	2 313.9	3 248.8	8 206.6	9 300.6
Dec qtr	5 402.9	5 539.2	1 051.4	1 086.1	6 454.3	6 625.3	2 462.9	3 396.5	8 917.2	10 021.8
<b>2002</b>										
Mar qtr	5 277.5	5 385.2	897.5	936.4	6 175.0	6 321.6	2 299.5	3 111.9	8 474.4	9 433.5
Jun qtr	6 205.0	6 310.6	1 090.3	1 142.1	7 295.3	7 452.7	2 464.2	3 448.3	9 759.5	10 901.0
Sep qtr	6 733.8	6 840.9	1 167.3	1 201.8	7 901.0	8 042.7	2 960.2	3 984.0	10 861.3	12 026.7
Dec qtr	7 159.1	7 288.6	1 154.4	1 193.6	8 313.5	8 482.3	2 900.1	3 829.8	11 213.5	12 312.1
SEASONALLY ADJUSTED (\$m)										
<b>2001</b>										
Sep qtr	4 777.2	4 881.0	925.7	968.5	5 702.9	5 849.5	2 220.4	3 150.9	7 923.4	9 000.4
Dec qtr	5 255.4	5 385.3	994.5	1 037.5	6 249.8	6 422.8	2 349.9	3 257.8	8 599.8	9 680.6
<b>2002</b>										
Mar qtr	5 676.7	5 798.8	969.0	1 012.1	6 645.7	6 810.8	2 527.8	3 409.1	9 173.5	10 219.9
Jun qtr	6 168.8	6 277.1	1 093.0	1 133.8	7 261.7	7 410.9	2 460.9	3 404.4	9 722.6	10 815.3
Sep qtr	6 491.3	6 590.0	1 144.5	1 178.4	7 635.9	7 768.3	2 843.8	3 857.8	10 479.7	11 626.2
Dec qtr	6 973.9	7 096.6	1 093.3	1 142.1	8 067.2	8 238.7	2 769.9	3 675.1	10 837.1	11 913.7
TREND ESTIMATES (\$m)										
<b>2001</b>										
Sep qtr	4 749.2	4 860.9	930.5	973.4	5 679.7	5 834.3	2 257.8	3 165.9	7 937.5	9 000.2
Dec qtr	5 222.5	5 342.8	966.7	1 010.1	6 189.2	6 352.9	2 340.8	3 241.0	8 530.0	9 593.9
<b>2002</b>										
Mar qtr	5 697.8	5 816.9	1 018.1	1 059.8	6 716.0	6 876.7	2 461.6	3 378.5	9 177.6	10 255.2
Jun qtr	6 122.1	6 233.8	1 071.1	1 111.0	7 193.0	7 344.5	2 591.0	3 532.7	9 783.5	10 876.6
Sep qtr	6 538.4	6 646.7	1 110.8	1 151.1	7 649.1	7 797.7	2 713.6	3 672.7	10 362.5	11 470.1
Dec qtr	6 948.9	7 060.4	1 135.0	1 177.8	8 087.2	8 241.5	2 820.7	3 778.9	10 912.9	12 026.4

(a) From the September quarter 2000, data is inclusive of non-deductible GST payable on residential buildings. See paragraphs 17 and 18 of the Explanatory Notes.

Period	NEW RESIDENTIAL(a)		ALTERATIONS AND ADDITIONS TO RESIDENTIAL BUILDING(a).....		TOTAL RESIDENTIAL(a)		NON-RESIDENTIAL		TOTAL BUILDING(a)...	
	Private	Total	Private	Total	Private	Total	Private	Total	Private	Total
ORIGINAL (% change from preceding period)										
<b>1999-00</b>	24.8	23.7	19.8	19.8	24.0	23.1	1.3	1.1	16.1	14.0
<b>2000-01</b>	-18.0	-17.8	-13.9	-12.8	-17.4	-17.0	-18.8	-15.3	-17.8	-16.4
<b>2001-02</b>	25.6	25.2	22.3	22.3	25.1	24.7	7.2	6.1	19.7	17.8
<b>2001</b>										
Sep qtr	14.7	14.7	6.8	5.6	13.3	13.1	5.3	4.4	11.0	9.9
Dec qtr	9.2	9.4	11.4	10.0	9.5	9.5	6.4	4.5	8.7	7.8
<b>2002</b>										
Mar qtr	-2.3	-2.8	-14.6	-13.8	-4.3	-4.6	-6.6	-8.4	-5.0	-5.9
Jun qtr	17.6	17.2	21.5	22.0	18.1	17.9	7.2	10.8	15.2	15.6
Sep qtr	8.5	8.4	7.1	5.2	8.3	7.9	20.1	15.5	11.3	10.3
Dec qtr	6.3	6.5	-1.1	-0.7	5.2	5.5	-2.0	-3.9	3.2	2.4
SEASONALLY ADJUSTED (% change from preceding quarter)										
<b>2001</b>										
Sep qtr	11.4	11.2	4.3	4.4	10.2	10.0	1.0	2.5	7.5	7.2
Dec qtr	10.0	10.3	7.4	7.1	9.6	9.8	5.8	3.4	8.5	7.6
<b>2002</b>										
Mar qtr	8.0	7.7	-2.6	-2.5	6.3	6.0	7.6	4.6	6.7	5.6
Jun qtr	8.7	8.2	12.8	12.0	9.3	8.8	-2.6	-0.1	6.0	5.8
Sep qtr	5.2	5.0	4.7	3.9	5.2	4.8	15.6	13.3	7.8	7.5
Dec qtr	7.4	7.7	-4.5	-3.1	5.6	6.1	-2.6	-4.7	3.4	2.5
TREND ESTIMATES (% change from preceding quarter)										
<b>2001</b>										
Sep qtr	8.8	8.8	5.6	5.5	8.3	8.3	3.1	2.3	6.8	6.1
Dec qtr	10.0	9.9	3.9	3.8	9.0	8.9	3.7	2.4	7.5	6.6
<b>2002</b>										
Mar qtr	9.1	8.9	5.3	4.9	8.5	8.2	5.2	4.2	7.6	6.9
Jun qtr	7.4	7.2	5.2	4.8	7.1	6.8	5.3	4.6	6.6	6.1
Sep qtr	6.8	6.6	3.7	3.6	6.3	6.2	4.7	4.0	5.9	5.5
Dec qtr	6.3	6.2	2.2	2.3	5.7	5.7	3.9	2.9	5.3	4.9

(a) From the September quarter 2000, data is inclusive of non-deductible GST payable on residential buildings. See paragraphs 17 and 18 of the Explanatory Notes.

Period	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
BUILDING WORK DONE(a) (\$m)									
<b>1999-00</b>	15 488.9	10 520.1	6 956.8	1 824.8	3 998.6	398.9	393.8	660.0	40 241.9
<b>2000-01</b>	11 222.2	10 210.0	5 962.2	1 630.9	3 395.8	340.6	313.8	578.4	33 653.8
<b>2001-02</b>	12 851.7	12 130.1	7 463.6	2 037.4	3 698.1	430.9	361.5	683.6	39 656.9
<b>2001</b>									
Sep qtr	2 888.6	2 927.6	1 779.6	450.5	920.3	90.3	84.6	159.0	9 300.6
Dec qtr	3 333.3	2 966.9	1 791.6	527.7	993.1	113.1	101.7	194.4	10 021.8
<b>2002</b>									
Mar qtr	3 093.1	2 806.3	1 833.2	500.4	869.0	93.9	93.3	144.3	9 433.5
Jun qtr	3 536.6	3 429.3	2 059.2	558.7	915.7	133.6	82.0	185.9	10 901.0
Sep qtr	3 826.8	3 828.2	2 276.7	613.3	1 067.9	126.6	96.7	190.5	12 026.7
Dec qtr	4 218.2	3 596.4	2 315.9	612.5	1 109.3	130.4	104.7	224.9	12 312.1
ENGINEERING WORK DONE (\$m)									
<b>1999-00</b>	6 231.0	3 451.0	5 221.4	1 424.8	2 775.4	254.0	276.8	273.0	19 907.5
<b>2000-01</b>	6 156.5	3 216.4	4 744.4	1 129.5	2 256.6	264.2	168.3	207.9	18 143.7
<b>2001-02</b>	5 597.6	3 389.0	4 627.5	1 417.4	3 119.3	453.8	1 226.7	199.9	20 031.3
<b>2001</b>									
Sep qtr	1 341.2	710.9	1 149.1	306.4	800.4	42.4	69.6	39.8	4 459.8
Dec qtr	1 526.9	849.4	1 145.4	355.7	710.4	65.6	73.3	55.1	4 781.8
<b>2002</b>									
Mar qtr	1 163.4	852.5	1 027.7	369.8	701.2	157.3	800.7	47.5	5 120.2
Jun qtr	1 566.1	976.2	1 305.3	385.5	907.3	188.5	283.1	57.4	5 669.6
Sep qtr	1 375.7	977.1	1 348.4	316.5	937.1	109.9	389.1	49.3	5 503.2
Dec qtr	1 608.1	1 028.1	1 462.5	534.3	1 176.2	92.7	368.9	41.5	6 312.2
CONSTRUCTION WORK DONE(a) (\$m)									
<b>1999-00</b>	21 719.9	13 971.0	12 178.2	3 249.6	6 774.0	652.9	670.6	933.1	60 149.4
<b>2000-01</b>	17 378.6	13 426.4	10 706.6	2 760.3	5 652.3	604.8	482.1	786.3	51 797.5
<b>2001-02</b>	18 449.3	15 519.2	12 091.2	3 454.8	6 817.4	884.7	1 588.2	883.5	59 688.2
<b>2001</b>									
Sep qtr	4 229.9	3 638.6	2 928.6	757.0	1 720.7	132.7	154.1	198.9	13 760.4
Dec qtr	4 860.2	3 816.3	2 937.1	883.4	1 703.4	178.7	175.0	249.4	14 803.6
<b>2002</b>									
Mar qtr	4 256.5	3 658.8	2 860.9	870.2	1 570.2	251.2	894.0	191.9	14 553.7
Jun qtr	5 102.7	4 405.5	3 364.6	944.2	1 823.1	322.1	365.1	243.3	16 570.5
Sep qtr	5 202.5	4 805.3	3 625.0	929.9	2 005.0	236.6	485.8	239.8	17 529.8
Dec qtr	5 826.2	4 624.4	3 778.3	1 146.8	2 285.5	223.0	473.5	266.4	18 624.3

(a) From the September quarter 2000, data is inclusive of non-deductible GST payable on residential buildings. See paragraphs 17 and 18 of the Explanatory Notes

Period	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
BUILDING WORK DONE(a) (% change from preceding period)									
<b>1999-00</b>	10.7	18.4	11.8	25.2	26.4	11.2	-29.7	1.8	14.0
<b>2000-01</b>	-27.5	-2.9	-14.3	-10.6	-15.1	-14.6	-20.3	-12.4	-16.4
<b>2001-02</b>	14.5	18.8	25.2	24.9	8.9	26.5	15.2	18.2	17.8
<b>2001</b>									
Sep qtr	8.2	9.2	13.9	9.2	12.1	5.6	-4.7	13.0	9.9
Dec qtr	15.4	1.3	0.7	17.1	7.9	25.2	20.2	22.2	7.8
<b>2002</b>									
Mar qtr	-7.2	-5.4	2.3	-5.2	-12.5	-17.0	-8.2	-25.8	-5.9
Jun qtr	14.3	22.2	12.3	11.7	5.4	42.2	-12.1	28.8	15.6
Sep qtr	8.2	11.6	10.6	9.8	16.6	-5.2	17.9	2.5	10.3
Dec qtr	10.2	-6.1	1.7	-0.1	3.9	2.9	8.3	18.1	2.4
ENGINEERING WORK DONE (% change from preceding period)									
<b>1999-00</b>	11.3	-11.2	14.1	37.2	-16.0	-3.0	-20.7	59.4	3.8
<b>2000-01</b>	-1.2	-6.8	-9.1	-20.7	-18.7	4.0	-39.2	-23.8	-8.9
<b>2001-02</b>	-9.1	5.4	-2.5	25.5	38.2	71.7	629.1	-3.9	10.4
<b>2001</b>									
Sep qtr	-23.2	-16.4	-11.1	-16.5	21.3	-55.7	46.2	-29.5	-12.8
Dec qtr	13.8	19.5	-0.3	16.1	-11.2	54.8	5.4	38.2	7.2
<b>2002</b>									
Mar qtr	-23.8	0.4	-10.3	3.9	-1.3	139.9	992.2	-13.6	7.1
Jun qtr	34.6	14.5	27.0	4.3	29.4	19.8	-64.6	20.8	10.7
Sep qtr	-12.2	0.1	3.3	-17.9	3.3	-41.7	37.5	-14.2	-2.9
Dec qtr	16.9	5.2	8.5	68.8	25.5	-15.7	-5.2	-15.7	14.7
CONSTRUCTION WORK DONE(a) (% change from preceding period)									
<b>1999-00</b>	10.9	9.4	12.8	30.2	4.7	5.2	-26.3	13.8	10.4
<b>2000-01</b>	-20.0	-3.9	-12.1	-15.1	-16.6	-7.4	-28.1	-15.7	-13.9
<b>2001-02</b>	6.2	15.6	12.9	25.2	20.6	46.3	229.5	12.4	15.2
<b>2001</b>									
Sep qtr	-4.2	3.0	2.6	-2.9	16.2	-26.8	13.1	0.8	1.3
Dec qtr	14.9	4.9	0.3	16.7	-1.0	34.6	13.5	25.4	7.6
<b>2002</b>									
Mar qtr	-12.4	-4.1	-2.6	-1.5	-7.8	40.6	411.0	-23.1	-1.7
Jun qtr	19.9	20.4	17.6	8.5	16.1	28.2	-59.2	26.8	13.9
Sep qtr	2.0	9.1	7.7	-1.5	10.0	-26.6	33.1	-1.5	5.8
Dec qtr	12.0	-3.8	4.2	23.3	14.0	-5.7	-2.5	11.1	6.2

(a) From the September quarter 2000, data is inclusive of non-deductible GST payable on residential buildings. See paragraphs 17 and 18 of the Explanatory Notes.

## EXPLANATORY NOTES

### INTRODUCTION

**1** This publication contains preliminary estimates of building and engineering construction work done during the quarter. The estimates of building work done are from the quarterly Building Activity Survey and are based upon a response of approximately 85% of the value of work done during the quarter. The estimates of engineering work done are from the quarterly Engineering Construction Survey and are based upon a response of approximately 80% of the value of work done during the quarter. More comprehensive and updated results will be available shortly in *Building Activity, Australia* (cat. no. 8752.0) and *Engineering Construction Activity, Australia* (cat. no. 8762.0).

### SCOPE AND COVERAGE

**2** The scope of the Building Activity Survey is building activity which includes construction of new building, and alterations and additions to existing buildings. Value of building activity includes the costs of materials fixed in place, labour, and architects fees. It excludes the value of land and landscaping and non-building components such as fencing, paving, roadworks, tennis courts, outdoor pools and car parks.

**3** The building statistics were compiled on the basis of returns collected from builders and other individuals and organisations engaged in building activity. From the March quarter 2002, the quarterly survey consists of a sample survey of private sector building jobs involving residential building jobs valued at \$10,000 or more and non-residential building jobs valued at \$50,000 or more and a complete enumeration of all such public sector buildings jobs.

**4** The scope of the Engineering Construction Survey is the value of all engineering construction work undertaken in Australia. The cost of land and the value of building construction is excluded from the scope of the Engineering Construction Survey. Where projects include elements of both building and engineering construction every effort is taken to exclude the building component from the engineering construction statistics. Repair and maintenance activity is also excluded as are the value of any transfers of existing assets, the value of installed machinery and equipment not integral to the structure and the expenses for relocation of utility services. A contract for the installation of machinery and equipment which is an integral part of a construction project is included.

#### Statistical units defined on the ABS Business Register

**5** The ABS uses an economic statistical units model on the ABS Business Register to describe the characteristics of businesses, and the structural relationships between related businesses. The units model is also used to break groups of related businesses into relatively homogeneous components that can provide data to the ABS.

**6** In mid 2002, to better use the information available as a result of The New Tax System (TNTS), the ABS changed its economic statistical units model. The new units model allocates businesses to one of two sub-populations. The vast majority of businesses are in what is called the Australian Taxation Office (ATO) maintained population, while the remaining businesses are in the ABS maintained population. Together, these two sub-populations make up the ABS Business Register population.

## SCOPE AND COVERAGE *continued*

### ATO MAINTAINED POPULATION

**7** Most businesses and organisations in Australia need to obtain an Australian Business Number (ABN). These businesses are then included on the Australian Business Register which is maintained by the ATO. Most of these businesses have simple structures. For these businesses the unit registered for an ABN will satisfy ABS statistical requirements, so the ABS has aligned its statistical units structure with the ABN unit. Businesses with simple structures constitute the ATO maintained population because all information about these businesses on the ABS Business Register is maintained by the ATO. The ABN unit is used as the economic statistical unit for all economic collections.

### ABS MAINTAINED POPULATION

**8** For the population of businesses where the ABN unit is not suitable for ABS statistical requirements, the ABS will maintain its own units structure through direct contact with business. These businesses constitute the ABS maintained population. This population consists typically of large, complex and diverse groups of businesses. A statistical units model has been introduced to describe such businesses.

**9** *Enterprise Group*: This is defined as a unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. It covers all the operations in Australia of legal entities that are related in terms of the current corporations law (as amended by the *Corporations Legislation Amendment Act 1991*), including legal entities such as companies, trusts and partnerships. Majority ownership is not required for control to be exercised.

**10** *Enterprise*: This is defined as an institutional unit comprising (i) a single legal entity or business entity, or (ii) more than one legal entity or business entity within the same enterprise group and in the same institutional sub-sector (i.e. they are all classified to a single Standard Institutional Sector Classification of Australia subsector).

**11** *Type of Activity Unit (TAU)*: This is comprised of one or more business entities, sub-entities or branches of a business entity within an enterprise group that can report production and employment data for similar economic activities. When a minimum set of data items is available, a TAU will be created which covers all the operations within an industry subdivision (and the TAU will be classified to the relevant subdivision of the Australian and New Zealand Standard Industrial Classification). Where a business cannot supply adequate data for each industry, a TAU will be formed which contains activity in more than one industry subdivision.

### Change in statistical unit

**12** Prior to the December 2002 quarter, the Engineering Construction Survey used the management unit as the statistical unit. For issues of this publication relating to the December 2002 quarter onwards, the statistical unit in the Engineering Construction Survey is the ABN unit for businesses with simple structures, and the TAU for businesses with complex structures. In most cases, ABN/TAU units will concord with the management units used prior to the December 2002 quarter.

**13** For more information on the impacts of the introduction of the new economic statistics units model, refer to *Information Paper: Improvements in ABS Economic Statistics (Arising from the New Tax System)* (cat. no. 1372.0).

### RELATIONSHIP WITH NATIONAL ACCOUNTS

**14** Data on the value of work done on the construction of new residential buildings, alterations and additions to residential buildings, private sector non-residential buildings and the value of total and new engineering construction activity are the major sources of data which are used to compile the national accounts estimates for private gross fixed capital formation on dwellings, and other buildings and structures. However, there are some adjustments to the survey data which are made in the process of compiling these national accounts series. Allowances are made for the value of building activity which is out of scope of the Building Activity Survey and the Engineering Construction Survey. Such activity includes work done on projects which fall below the size cut-offs used for the surveys and also the value of work done which is undertaken without obtaining a building permit, either because such a permit is not required or because the requisite permit is not obtained. The national accounts estimates also make allowances for purchases (less sales) of buildings and other structures from (to) the public sector.

### TREATMENT OF THE GST

**15** Statistics on value of work (current prices) show residential building work done on a GST inclusive basis and non-residential work and engineering construction work done on a GST exclusive basis. This approach is consistent with that adopted in the Australian National Accounts which is based on the conceptual framework described in the 1993 edition of the international statistical standard System of National Accounts (SNA93).

**16** SNA93 requires value added taxes (VAT), such as the GST, to be recorded on a net basis where:

- (a) both outputs of goods and services and imports are valued excluding invoiced VAT
- (b) purchases of goods and services are recorded including non-deductible VAT.

Under the net system, VAT is recorded as being payable by purchasers, not sellers, and then only by those purchasers who are not able to deduct it. Almost all VAT is therefore recorded in the SNA93 as being paid on final uses—mainly on household consumption. Small amounts of VAT, may however, be paid by businesses in respect of certain kinds of purchases on which VAT may not be deductible.

**17** The ABS records value of work done inclusive of GST in respect of residential construction and exclusive of GST in respect of non-residential construction and engineering construction. Purchasers of residential structures are unable to deduct GST from the purchase price. For non-residential structures and engineering construction, the reverse is true in most circumstances.

**18** Total construction work is derived by adding total building work and total engineering construction work. To derive total building activity it is appropriate to add the residential and non-residential components. Valuation of the components of the total is consistent, since, for both components, the value of work done is recorded inclusive of non-deductible GST paid by the purchaser. As such, total building activity and total construction includes the non-deductible GST payable on residential building.

**19** As estimates for engineering work are provided on a GST exclusive basis, and the majority of construction materials used were exempt from Wholesale Sales Tax, the introduction of the GST had little direct effect on the estimates of engineering construction.



## EXPLANATORY NOTES *continued*

### DEFINITIONS

**20** A *building* is defined as a rigid, fixed and permanent structure which has a roof. Its intended purpose is primarily to house people, plant, machinery, vehicles, goods or livestock. An integral feature of a building's design, to satisfy its intended use, is the provision for regular access by persons.

**21** A *dwelling unit* is defined as a self-contained suite of rooms, including cooking and bathing facilities and intended for long-term residential use. Units (whether self-contained or not) within buildings offering institutional care, such as hospitals, or temporary accommodation such as motels, hostels and holiday apartments, are not defined as dwelling units. The value of units of this type is included in non-residential building.

**22** A *residential building* is defined as a building predominantly consisting of one or more dwelling units. Residential buildings can be either *houses* or *other residential buildings*:

- A *house* is defined as a detached building predominantly used for long-term residential purposes and consisting of only one dwelling unit. Thus, detached 'granny flats' and detached dwelling units (such as caretakers' residences) associated with non-residential buildings are defined as houses for the purpose of these statistics.
- An *other residential building* is defined as a building which is predominantly used for long-term residential purposes and which contains (or has attached to it) more than one dwelling unit (e.g. includes townhouses, duplexes, blocks of flats, apartment buildings, etc.).

**23** A *non-residential building* is primarily intended for purposes other than long term residential purposes.

**24** *Alterations and additions* refer to building activity carried out on existing building. It includes adding to or diminishing floor area, altering the structural design of a building and affixing rigid components which are integral to the functioning of the building.

**25** The *value of engineering work done for the private sector* consists of the value of work done on prime contracts, plus speculative contracts, plus work done on own account.

**26** The *value of building and engineering work done during the period* represents the estimated value of work actually carried out during the quarter on jobs which have commenced.

### CLASSIFICATION: OWNERSHIP

**27** The ownership of a building is classified as either *private sector* or *public sector*, according to the sector of the intended owner of the completed building or project as evident at the time of approval.

**28** Engineering projects are classified as either *private sector* or *public sector* according to the expected ownership of the project at the time of completion.

### RELIABILITY OF THE ESTIMATES

**29** The estimates of engineering activity in this publication are based on a sample survey as are the estimates of private sector building activity. A complete enumeration of public sector building activity is done. Because data are not collected for all engineering jobs nor for all building jobs, the published estimates are subject to sampling variability. Relative standard errors give a measure of this variability and therefore indicate the degree of confidence that can be attached to the data.

## EXPLANATORY NOTES *continued*

### RELIABILITY OF THE ESTIMATES *continued*

**30** Relative standard errors for the value of work done in the December quarter 2002 are given below. There is 67% confidence that the actual value would be within one standard error of the sample estimate, and 95% confidence that it lies within two standard errors.

.....  
Australia %

.....

New private residential building	0.9
Total private residential building	0.8
Private non-residential building	1.5
Total private building	0.7
Total residential building	0.8
Total non-residential building	1.1
<b>Total building</b>	<b>0.7</b>

Engineering for the private sector	3.2
<b>Total engineering</b>	<b>1.9</b>

.....

.....

	<i>Total building</i>	<i>Total engineering</i>
States	%	%

.....

NSW	1.3	3.9
Vic.	1.3	5.0
Qld	1.6	5.2
SA	1.2	3.2
WA	1.3	3.1
Tas.	1.5	12.1
NT	—	1.1
ACT	1.0	10.9

.....

### SEASONAL ADJUSTMENT

**31** In the seasonally adjusted series, account has been taken of normal seasonal factors and the effect of movement in the date of Easter which may, in successive years, affect figures for different quarters.

**32** Since seasonally adjusted statistics reflect both irregular and trend movements, an upward or downward movement in a seasonally adjusted series does not necessarily indicate a change of trend. Particular care should therefore be taken in interpreting individual quarter-to-quarter movements. In most instances, the seasonally adjusted components of a series add to the seasonally adjusted total. However, for Building Work Done, the 'Public' series shown in tables 1 and 3 has been seasonally adjusted independently. As a consequence, while the unadjusted components in the original series shown add to the totals, the adjusted 'Private' and 'Public' components of both 'Building Work Done' and 'Construction Work Done' may not add to the respective totals.

**33** The seasonal factors are reviewed annually to take account of each additional year's data. The results of the latest review for Construction Work Done are reflected in the December quarter issue each year.

### TREND ESTIMATES

**34** Seasonally adjusted series can be smoothed to reduce the impact of the irregular component in the adjusted series. This smoothed seasonally adjusted series is called a trend estimate.

**35** The trend estimates are derived by applying a 7-term Henderson moving average to the seasonally adjusted series. The 7-term Henderson average (like all Henderson averages) is symmetric but, as the end of a time series is approached, asymmetric forms of the average are applied. Unlike weights of the standard 7-term Henderson moving average, the weights employed here have been tailored to suit the particular characteristics of individual series.

**36** While the smoothing technique described in paragraphs 34 and 35 enables trend estimates to be produced for recent quarters, it does result in revisions to the estimates for the most recent three quarters as additional observations become available. There may also be revisions because of changes in the original data and as a result of the re-estimation of the seasonal factors. For further information, see *Information Paper: A Guide to Interpreting Time Series — Monitoring Trends: an Overview* (cat. no. 1348.0) or contact the Assistant Director, Time Series Analysis on Canberra 02 6252 6076.

### CHAIN VOLUME MEASURES

**37** Chain volume estimates of the value of work done are presented in original, seasonally adjusted and trend terms.

**38** While current price estimates of value of work done reflect both price and volume changes, chain volume estimates measure changes in value after the direct effects of price changes have been eliminated and therefore only reflect volume changes. The direct impact of the GST is a price change, and hence is removed from chain volume estimates. The deflators used to revalue the current price estimates in this publication are derived from the same price data underlying the deflators compiled for the dwellings and new other building components, and the new engineering construction component, of the national accounts aggregate 'Gross fixed capital formation'.

**39** The chain volume measures of work done appearing in this publication are annually reweighted chain Laspeyres indexes referenced to current price values in a chosen reference year (currently 2000–2001). The reference year is updated annually in the June quarter publication. Each year's data in the value of work done series are based on the prices of the previous year, except for the quarters of the latest incomplete year which are based upon the current reference year (i.e. 2000–2001). Comparability with previous years is achieved by linking (or chaining) the series together to form a continuous time series. Further information on the nature and concepts of chain volume measures is contained in the ABS *Information Paper: Introduction of Chain Volume Measures in the Australian National Accounts* (cat. no. 5248.0).

**40** The factors used to seasonally adjust the chain volume series are identical to those used to adjust the corresponding current price series.

### ACKNOWLEDGMENT

**41** ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act 1905*.

## EXPLANATORY NOTES *continued*

### RELATED PRODUCTS

**42** Users may also wish to refer to the following publications which are available from ABS Bookshops:

*Building Activity, Australia: Dwelling Unit Commencements, Preliminary*  
(cat. no. 8750.0) Quarterly

*Building Activity, Australia* (cat. no. 8752.0) Quarterly

*Building Approvals, Australia* (cat. no. 8731.0) Monthly

*Private Sector Construction Industry, Australia, 1996–97* (cat. no. 8772.0)

*Engineering Construction Activity, Australia* (cat. no. 8762.0) Quarterly

*House Price Indexes: Eight Capital Cities* (cat. no. 6416.0) Quarterly

*Housing Finance for Owner Occupation, Australia* (cat. no. 5609.0) Monthly

*Producer Price Indexes, Australia* (cat. no. 6427.0) Quarterly.

**43** Current publications and other products released by the ABS are listed in the *Catalogue of Publications and Products* (cat. no. 1101.0). The Catalogue is available from any ABS office or the ABS web site <<http://www.abs.gov.au>>. The ABS also issues a daily Release Advice on the web site which details products to be released in the week ahead.

### ABS DATA AVAILABLE ON REQUEST

**44** As well as the statistics included in this and related publications, the ABS may have other relevant data available on request. Inquiries should be made to the National Information and Referral Service on 1300 135 070.

### SYMBOLS AND OTHER USAGES

ABS	Australian Bureau of Statistics
ABN	Australian Business Number
ATO	Australian Taxation Office
GST	Goods and Services Tax
TAU	Type of activity unit
TNTS	The New Tax System
VAT	Value added tax
n.a.	not available
..	not applicable
—	nil or rounded to zero

Where figures have been rounded, discrepancies may occur between sums of the component items and totals.







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- INTERNET** [www.abs.gov.au](http://www.abs.gov.au) the ABS web site is the best place to start for access to summary data from our latest publications, information about the ABS, advice about upcoming releases, our catalogue, and Australia Now—a statistical profile.
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