

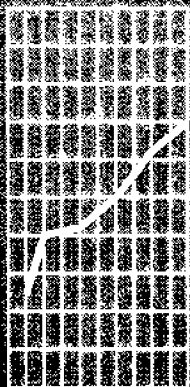


1995-96

EMBARGO: 11:30 AM (CANBERRA TIME) FRI 5 DEC 1997

Information Technology

Australia



Statistics

NOTES

DEFINITIONS

Information Technology & Telecommunication (IT & T) goods and services are defined to include all computer and telecommunication hardware, printed circuit boards, electronic components, other computer and communication components, packaged software, and computer and telecommunication services.

The industries covered in this survey include manufacturers, wholesalers and service providers. For a detailed list see paragraph 2 of the Explanatory Notes.

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COMPARABILITY WITH 1992 - 93 SURVEY

The survey scope and definitions are broadly consistent with those used in the previous survey. The 1995-96 survey specifically included data on sub-assemblies, electronic components and printed circuit boards. These items were not separately identified in the 1992-93 survey.

While there have been no major changes to the scope or definitions, some of the apparent growth in the size of the industry between 1992-93 and 1995-96 is due to improvements in the coding and coverage of businesses recorded as being in the IT & T industry. Although it is difficult to quantify this improvement precisely, investigations suggest that this contributed about 10% to the apparent growth.

Users should therefore exercise caution in interpreting the growth between the two surveys, particularly at the individual ANZSIC class level.

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SYMBOLS AND OTHER USAGES

ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
f.o.b.	free on board
IT & T	information technology and telecommunication
n.e.c.	not elsewhere classified
n.p.	not available for publication but included in totals where applicable
RSE	relative standard error
*	subject to sampling variability too high for most practical purposes
**	subject to sampling variability too high for practical purposes
—	nil or rounded to zero

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

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INQUIRIES

For information about other ABS statistics and services, please refer to the back of this publication.

For further information about these statistics, contact Ashok Kumar on Melbourne (03) 9615 7634.

PREFACE

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This publication contains results from the second survey by the Australian Bureau of Statistics (ABS) of the production and distribution of information technology and telecommunication (IT & T) goods and services in Australia by private enterprises. The previous survey was for the reference period 1992-93.

Information in this publication covers the main industries involved in the production and distribution of IT & T goods and services and has been derived from the Information Technology Survey undertaken in respect of the financial year 1995-96. Also presented in this publication are comparisons between selected IT & T goods and services produced in Australia and exports and imports of those goods and services.

The definition of information technology used in these statistics is a pragmatic one. It is based on a set of goods and services descriptions which have been agreed to by major policy and industry organisations. It essentially covers computers and communication equipment and the services which facilitate the use of this equipment. Excluded from this definition are process control computers and other equipment in which the presence of microprocessors is predominantly for the control or setting of functions. Simple calculating devices are also excluded along with television and radio broadcasting goods and services and TV and radio receivers.

The industry view presented in these statistics draws together a number of standard Australian and New Zealand Standard Industrial Classification (ANZSIC) industries in which the majority of IT & T production and distribution is thought to occur. A complete list of the industries included in this publication is located in the Explanatory Notes. Within these industries it is the subset of businesses which specialise in IT & T which are the prime interest and therefore the main focus of the statistics in this publication. Some information is provided about the balance of businesses in the industries concerned. A more complete description of the survey strategy was published in *Information Technology, Australia, 1992-93* (Cat. no. 8126.0), issued on 25 May 1995.

The survey complements other information produced as part of the ABS IT & T statistics work program. Other publications produced to date include:

- *Information Technology, Australia, Preliminary, 1995-96* (Cat. no. 8143.0);
- *Business Use of Information Technology, 1993-94* (Cat. no. 8129.0);
- *Government Information Technology, Australia, 1993-94* (Cat. no. 8119.0);
- *Household Use of Information Technology, Australia, February 1994 and 1996* (Cat. no. 8128.0);
- *Household Use of Information Technology, Australia, 1996* (Cat. no. 8146.0); and
- *Information Technology, Australia, 1992-93* (Cat. no. 8126.0).

More detailed information than presented in this publication regarding the computer services industry may be found in:

- *Computing Services Industry, Australia, 1995-96* (Cat. no. 8669.0).

PREFACE *continued*

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ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued co-operation 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*.

W. McLennan
Australian Statistician

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MAIN FEATURES

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INTRODUCTION

This publication presents results in respect of the 1995-96 financial year, of a survey of those industries where the production and distribution of information technology and telecommunication (IT & T) goods and services is focused. A detailed list of these industries is contained in paragraph 2 of the Explanatory Notes. Within these industries, those businesses whose predominant activity was the production or distribution of IT & T goods and services are classified in this publication as IT & T specialists.

BUSINESSES

At the end of June 1996 there were 13,535 IT & T specialist businesses in the industries surveyed. This was an increase of 88% since the last survey in 1992-93.

EMPLOYMENT

There were 203,653 persons working in the IT & T specialist businesses at 30 June 1996. Full-time employment (188,924 persons) accounted for 93% while the remainder worked part-time. Approximately two-thirds (68%) of all persons working in the industries were males.

Employment within these industries increased by 49% from 136,542 at 30 June 1993 to 203,653 at 30 June 1996.

EXPENSES

In 1995-96 expenses for IT & T specialists totalled \$44,637.4 million, an increase of 80% since 1992-93. The largest component of these expenses was purchases which accounted for \$18,052.8 million (40%).

TURNOVER

Turnover for the IT & T industries amounted to \$55,136.5 million of which 87% (\$47,815.3 million) was generated by the IT & T specialist businesses within the industries.

INDUSTRY DIMENSION

Of the 13,535 IT & T specialists, 71% (9,673) were in the computer services industry, generating 17% of total turnover and 27% of total employment in the industries surveyed. By contrast, IT & T specialists in the telecommunication services industry accounted for 3% of businesses, 38% of total turnover and 45% of total employment in the industries covered.

INTERNATIONAL TRADE

Exports of selected IT & T goods and services totalled \$3,591.5 million in 1995-96. Imports of these items were valued at \$10,502.6 million, a trade deficit of \$6,911.1 million. The value of exports was equivalent to 11% of the value of revenue from domestic production (\$31,607.7 million) for the period, while imports were equivalent to 33%.

The trade deficit was almost twice that recorded in 1992-93.

MAIN FEATURES *continued*

1 Summary statistics by industry

Industry class	Businesses at end June no.	Employment at end June no.	Turnover \$m	Wages and salaries \$m	Turnover to employment \$'000	Turnover to wages and salaries \$'000
IT & T SPECIALISTS						
Manufacturing						
Computer and business machines	237	5 755	1 926.1	192.3	334.7	10.0
Telecommunication, broadcasting and transceiving equipment	134	7 335	1 633.2	351.2	222.7	4.7
Electronic equipment n.e.c.	*57	836	98.3	27.8	117.5	3.5
Electric cable and wire	*46	3 389	1 064.4	155.6	315.9	6.8
Total	473	17 295	4 721.9	727.0	273.0	6.5
Wholesale trade						
Computers	2 326	26 599	12 119.4	1 314.4	455.6	9.2
Business machines and electrical and electronic equipment n.e.c.	653	13 030	5 036.2	552.7	386.5	9.1
Total	2 979	39 629	17 155.6	1 867.1	432.9	9.2
Telecommunication services	410	91 701	17 960.8	4 134.6	195.9	4.3
Computer services	9 673	55 028	7 977.0	2 519.1	145.0	3.2
Total	13 535	203 653	47 815.3	9 247.8	234.8	5.2
OTHER BUSINESSES						
Manufacturing						
Computer and business machines	**19	*270	n.p.	n.p.	n.p.	n.p.
Telecommunication, broadcasting and transceiving equipment	5	94	n.p.	n.p.	n.p.	n.p.
Electronic equipment n.e.c.	*132	2 909	546.8	117.3	188.0	4.7
Electric cable and wire	19	2 061	951.4	86.4	461.6	11.0
Total	176	5 334	1 589.8	218.5	298.1	7.3
Wholesale trade						
Computers	—	—	—	—	—	—
Business machines and electrical and electronic equipment n.e.c.	1 578	20 767	5 730.9	713.9	276.0	8.0
Total	1 578	20 767	5 730.9	713.9	276.0	8.0
Telecommunication services	—	—	—	—	—	—
Computer services	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Total	1 760	26 119	7 321.2	932.6	280.3	7.9

MAIN FEATURES *continued*

1 Summary statistics by industry *continued*

<i>Industry class</i>	<i>Businesses at end June no.</i>	<i>Employment at end June no.</i>	<i>Turnover \$m</i>	<i>Wages and salaries \$m</i>	<i>Turnover to employment \$'000</i>	<i>Turnover to wages and salaries \$'000</i>
ALL BUSINESSES						
Manufacturing						
Computer and business machines	256	6 025	n.p.	n.p.	n.p.	n.p.
Telecommunication, broadcasting and transceiving equipment	139	7 429	n.p.	n.p.	n.p.	n.p.
Electronic equipment n.e.c.	190	3 746	645.1	145.1	172.2	4.5
Electric cable and wire	65	5 430	2 015.7	242.1	371.2	8.3
<i>Total</i>	649	22 629	6 311.7	945.4	278.9	6.7
Wholesale trade						
Computers	2 326	26 599	12 119.4	1 314.4	455.6	9.2
Business machines and electrical and electronic equipment n.e.c.	2 231	33 797	10 767.1	1 266.6	318.6	8.5
<i>Total</i>	4 557	60 396	22 886.6	2 581.0	378.9	8.9
Telecommunication services	410	91 701	17 960.8	4 134.6	195.9	4.3
Computer services	9 679	55 046	7 977.4	2 519.3	144.9	3.2
Total	15 295	229 772	55 136.5	10 180.3	240.0	5.4

INCOME AND EXPENSES

In 1995-96 total income of the 13,535 IT & T specialist businesses was \$48,913.1 million, of which 96% (\$46,976.7 million) was IT & T revenue. Comparison between the 1992-93 and 1995-96 data shows an increase of 75% in IT & T revenue (at current prices), from \$26,837.5 million to \$46,976.7 million. The largest source of this increase was the computer wholesaling industry which increased over the three year period by 148%, from \$4,820.2 million to \$11,944.8 million. Some of this apparent growth can be attributed to improvements in the coding and coverage of businesses recorded as being in the IT & T industry.

The telecommunication services industry was the largest in terms of IT & T revenue, accounting for 38% (\$17,937.5 million).

The second largest industry for IT & T revenue for IT & T specialists during 1995-96 was the computer wholesaling industry. It generated \$11,944.8 million and accounted for 25% of all IT & T revenue for IT & T specialist businesses.

In 1995-96 expenses for IT & T specialists totalled \$44,637.4 million. In 1992-93 the same item totalled \$24,830.3 million.

Wages and salaries of \$9,247.8 million was a major component of expenses during 1995-96, and accounted for 21% of total expenses. During 1992-93 wages and salaries constituted 24% (\$5,994.1 million) of the \$24,830.3 million of total expenses.

The telecommunication services industry contributed \$15,933.6 million (36%) to total IT & T specialist expenses in 1995-96. The computer wholesaling industry was the second largest contributor to expenses with \$11,741.5 million (26%).

IT & T specialist businesses generated an operating profit before tax of \$4,546.7 million during 1995-96. Businesses classified to the telecommunication services industry generated the largest share (61%), with the remaining 39% being spread across the manufacturing, wholesale and computer services industries.

INCOME AND EXPENSES *continued*

2 Income and expenses, IT & T specialists, 1992-93 and 1995-96

Industry class	IT & T revenue	Total income.....		Wages and salaries	Total expenses	Operating profit before tax
	\$m	\$m	%	\$m	\$m	\$m
1992-93						
Manufacturing						
Computer and business machines	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Telecommunication, broadcasting and transceiving equipment	1 752.4	1 802.7	6.6	323.2	1 730.1	93.8
Electronic equipment n.e.c.	229.8	290.4	1.1	55.0	270.1	n.p.
Electric cable and wire	404.6	412.3	1.5	43.7	316.4	124.3
Total	n.p.	n.p.	n.p.	n.p.	n.p.	228.1
Wholesale trade						
Computers	4 820.2	4 931.5	18.0	581.6	4 828.5	167.1
Business machines and electrical and electronic equipment n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Total	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Telecommunication services	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Computer services	4 030.3	4 100.2	14.9	1 207.4	3 749.0	364.9
Total	26 837.5	27 448.5	100.0	5 994.1	24 830.3	2 665.1
1995-96						
Manufacturing						
Computer and business machines	1 874.7	1 934.5	4.0	192.3	1 910.0	90.5
Telecommunication, broadcasting and transceiving equipment	1 564.7	1 659.7	3.4	351.2	1 347.0	284.5
Electronic equipment n.e.c.	91.1	99.1	0.2	27.8	97.5	*8.6
Electric cable and wire	1 035.6	1 072.5	2.2	155.6	1 040.0	53.7
Total	4 566.1	4 765.8	9.7	727.0	4 394.5	437.3
Wholesale trade						
Computers	11 944.8	12 254.9	25.1	1 314.4	11 741.5	581.2
Business machines and electrical and electronic equipment n.e.c.	4 733.3	5 070.9	10.4	552.7	4 926.9	291.4
Total	16 678.1	17 325.8	35.4	1 867.1	16 668.4	872.6
Telecommunication services	17 937.5	18 733.7	38.3	4 134.6	15 933.6	2 781.5
Computer services	7 795.0	8 087.8	16.5	2 519.1	7 640.9	455.3
Total	46 976.7	48 913.1	100.0	9 247.8	44 637.4	4 546.7

INDUSTRY AND EMPLOYMENT SIZE

In terms of the number of businesses, the IT & T specialist industries were dominated by small businesses employing up to 9 persons. However, in terms of employment these industries were dominated by large businesses employing 100 or more persons.

Of the 13,535 IT & T specialist businesses, 89% (12,014) had employment of less than 10 persons and employed 14% of persons. In contrast, the 1% of businesses (146) which had employment of 100 or more persons accounted for 70% of employment (142,820).

3 Industry and employment size, IT & T specialists

EMPLOYMENT SIZE GROUP.....

Industry class	0-9	10-19	20-49	50-99	100 or more	All businesses
Employment						
Manufacturing	981	*1 260	2 394	1 649	11 011	17 295
Wholesale trade	7 966	4 456	4 603	2 932	19 672	39 629
Telecommunication services	900	*488	*748	*532	89 032	91 701
Computer services	18 534	3 818	5 641	3 930	23 105	55 028
Total	28 381	10 022	13 386	9 043	142 820	203 653
Number of businesses						
Manufacturing	246	*92	82	23	31	473
Wholesale trade	2 374	352	158	46	48	2 979
Telecommunication services	320	*43	22	*9	15	410
Computer services	9 074	297	199	53	51	9 673
Total	12 014	785	461	130	146	13 535

CHARACTERISTICS OF EMPLOYMENT

At the end of June 1996 there were 203,653 persons employed in the IT & T specialist businesses. The majority (93%) were employed on a full-time basis, with the computer services industry having the largest proportion (13%) of part-time employees.

Males accounted for 68% (138,499) of the persons employed in IT & T specialist businesses, almost all of whom (97%) worked full-time. Females constituted 32% (65,153) of total employment, the majority (84%) employed on a full-time basis. Of the 14,729 persons who worked on a part-time basis, 70% (10,249) were females.

4 Characteristics of employment, IT & T specialists

Industry class	FULL-TIME.....			PART-TIME.....			TOTAL.....		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
	no.	no.	no.	no.	no.	no.	no.	no.	no.
Manufacturing									
Working proprietors and partners and working directors of incorporated companies and trusts	594	199	793	16	*56	72	610	255	866
Other employees									
Computer and technical staff	2 583	576	3 159	*112	22	*134	2 694	598	3 293
Other	8 148	3 977	12 125	471	541	1 012	8 620	4 518	13 137
Total	11 325	4 752	16 077	599	619	1 219	11 924	5 371	17 295
Wholesale trade									
Working proprietors and partners and working directors of incorporated companies and trusts	3 092	823	3 916	115	294	409	3 207	1 118	4 325
Other employees									
Computer and technical staff	9 690	2 046	11 736	454	135	589	10 144	2 181	12 325
Other	12 596	8 258	20 854	633	1 493	2 126	13 229	9 751	22 980
Total	25 378	11 127	36 505	1 202	1 922	3 124	26 580	13 049	39 629
Telecommunication services									
Working proprietors and partners and working directors of incorporated companies and trusts	374	*109	482	*64	*102	*167	438	211	649
Other employees									
Computer and technical staff	3 412	937	4 349	*49	35	84	3 461	972	4 433
Other	59 380	24 025	83 405	362	2 852	3 214	59 742	26 877	86 619
Total	63 165	25 071	88 237	476	2 988	3 464	63 641	28 060	91 701
Computer services									
Working proprietors and partners and working directors of incorporated companies and trusts	8 481	3 002	11 484	591	2 056	2 647	9 072	5 059	14 130
Other employees									
Computer and technical staff	19 979	6 260	26 240	931	617	1 548	20 911	6 877	27 788
Other	5 690	4 692	10 382	682	2 046	2 728	6 372	6 738	13 110
Total	34 151	13 955	48 105	2 204	4 719	6 922	36 354	18 673	55 028
Total IT & T industries									
Working proprietors and partners and working directors of incorporated companies and trusts	12 541	4 134	16 675	786	2 509	3 295	13 327	6 642	19 969
Other employees									
Computer and technical staff	35 664	9 819	45 483	1 546	808	2 355	37 210	10 628	47 838
Other	85 814	40 952	126 765	2 148	6 932	9 080	87 962	47 884	135 845
Total	134 019	54 905	188 924	4 480	10 249	14 729	138 499	65 153	203 653

SELECTED INCOME

In 1995-96, total income for IT & T specialist businesses classified to the computer services industry was \$8,087.8 million. The majority of this income was from the provision of computer services which accounted for 78% (\$6,323.8 million) of total income.

Software consultancy services was the major source of this income at 26% (\$2,098.5 million) of total income.

5 Selected income items, Computer services IT & T specialists

	Value
Income	\$m
Income from the provision of computer services	
Hardware consultancy services	734.9
Software consultancy services	2 098.5
Software maintenance services	521.1
Computer facilities management and other computer consultancy services	765.8
Computer processing services	761.0
Commercial database services	161.6
Computer hardware servicing, repairs and maintenance	573.9
Installation and cabling services	132.4
Income from packaged software developed in Australia	
Communication/telecommunication software	*101.3
Other software	442.1
Total	543.4
Other computer services	31.2
Total	6 323.8
Income from the sale of computer and communication hardware	1 057.7
Total	7 381.5
Residual income	706.3
Total	8 087.8

SELECTED INCOME *continued*

Total income for IT & T specialist manufacturers amounted to \$4,765.8 million. The two major sources of this income were from the sales of communication hardware, which accounted for \$2,593.1 million (54%), and sales of computer hardware, which accounted for \$1,651.5 million (35%).

The largest component of manufacturing income was from the sale of laptop, portable, desktop, mid-range and large scale computers which generated 27% (\$1,268.0 million) of total income.

6 Selected income items, Manufacturing IT & T specialists

		Value
Income		\$m
.....		
Income from the sales of computer hardware		
Laptop, portable and desktop, mid-range and large scale computers		1 268.0
Laser and other printer systems and other input/output devices		*32.8
Printed Circuit Boards, populated and unpopulated		260.5
Other computer hardware		90.2
<i>Total</i>		1 651.5
Income from the sales of communication hardware		
Switching and transmission equipment, telephone sets, radio reception apparatus		925.3
Mobile phones, CB radio and other mobile radio equipment		124.9
Modems, facsimiles, multiplexors, teleprinters and other line equipment		37.2
Other communication hardware		388.4
Fibre-optic, coaxial and other communication cables		952.7
Printed Circuit Boards, populated and unpopulated		*32.6
Computer and communication components and consumables		132.1
<i>Total</i>		2 593.1
Residual income		521.2
Total		4 765.8
.....		

SELECTED INCOME *continued*

During 1995-96 total income for IT & T specialist wholesalers amounted to \$17,325.8 million. The major sources of this income were from the resale of computer hardware (43%), communication hardware (20%) and from the resale of packaged software (8%).

7 Selected income items, Wholesale IT & T specialists

Income	Value \$m
Income from the sale of computer and communication hardware purchased for resale	
Computer hardware	7 454.8
Communication hardware	3 402.1
Computer and communication components and consumables	862.1
Commission income	
Computer hardware	*45.0
Communication hardware	13.5
Computer and communication components and consumables	34.5
Income from packaged software purchased for resale	
Entertainment and games software	127.9
Communication/telecommunication software	134.8
Other software including commission income from the sale of packaged software	*1 206.6
Income from communication services	236.2
Income from communication hardware manufactured in Australia by businesses classified as wholesalers	665.6
Total	14 183.1
Residual income	3 142.7
Total	17 325.8

SELECTED EXPENSES

Total expenses for IT & T specialist businesses in 1995-96 were \$44,637.4 million.

Total purchases were the largest component of expenses and accounted for \$18,052.8 million (40%). Purchases in wholesale industries accounted for 65% (\$11,720.6 million) of total purchases.

The second most significant item of expenditure was wages and salaries, which accounted for 21% (\$9,247.8 million) of total expenses. Payments to subcontractors and consultants accounted for a further 3% (\$1,131.7 million) of total expenses.

8 Selected expense items, IT & T specialists

INDUSTRY.....						
	Manufacturing	Wholesale trade	Tele-communication services	Computer Services	Total.....	
Expense	\$m	\$m	\$m	\$m	\$m	%

Labour costs						
Wages and salaries						
Working directors of incorporated companies	46.0	174.2	24.4	534.3	778.9	1.7
Computer and technical staff	161.0	625.2	434.7	1 449.0	2 669.9	6.0
Other employees	520.0	1 067.7	3 675.5	535.7	5 798.9	13.0
Total	727.0	1 867.1	4 134.6	2 519.1	9 247.8	20.7
Employer contribution to superannuation funds	49.0	133.3	371.9	193.2	747.4	1.7
Workers' compensation costs	9.5	16.3	22.1	14.3	62.1	0.1
Total	785.4	2 016.7	4 528.6	2 726.6	10 057.3	22.4
Selected expenses						
Payments to contractors and consultants	n.a.	195.2	44.5	892.0	1 131.7	2.5
Rent, leasing and hiring payments	56.7	240.7	338.4	311.8	947.5	2.1
Payments for staff training services	15.7	32.6	62.7	40.5	151.4	0.3
Royalties expenses	22.0	312.3	77.5	147.6	559.5	1.3
Other selected expenses	536.5	1 782.9	5 166.9	1 738.7	9 225.0	20.8
Total	630.9	2 563.7	5 690.0	3 130.5	12 015.1	27.0
Other costs						
Purchases	2 794.6	11 720.6	2 226.0	1 311.8	18 052.8	40.4
Depreciation and amortisation	112.3	193.5	2 665.8	364.3	3 335.9	7.5
Insurance premiums	11.1	28.0	9.9	26.2	75.2	0.2
Interest expenses	42.2	107.1	688.6	64.6	902.6	2.0
Bad debts	18.0	38.8	124.8	16.8	198.4	0.4
Total	2 978.1	12 087.9	5 715.1	1 783.8	22 564.9	50.5
Total	4 394.5	16 668.4	15 933.6	7 640.9	44 637.4	100.0

PROFITABILITY MEASURES

For the 1995-96 financial year, IT & T specialist businesses generated earnings before interest and tax of \$5,449.3 million, and an operating profit before tax of \$4,546.7 million. In both cases, the telecommunication services industry contributed the major proportion, generating 64% (\$3,470.1 million) of total earnings before interest and tax, and 61% (\$2,781.5 million) of total operating profit before tax.

The overall operating profit margin for IT & T specialist businesses was 9.5%. Most businesses (58%) achieved an operating profit margin between 0-24%, with 26% (3,518) of businesses incurring an operating loss.

9 Profitability measures by industry, IT & T specialists

<i>Industry class</i>	<i>Earnings before interest and tax</i> \$m	<i>Operating profit before tax</i> \$m	<i>Operating profit margin</i> %
Manufacturing	479.5	437.3	9.3
Wholesale trade	979.8	872.6	5.1
Telecommunication services	3 470.1	2 781.5	15.5
Computer services	519.9	455.3	5.7
Total	5 449.3	4 546.7	9.5

10 Number of businesses by industry and profitability, IT & T specialists

OPERATING PROFIT MARGIN.....

<i>Industry class</i>	<i>Loss</i> no.	<i>0%-24%</i> no.	<i>25%-49%</i> no.	<i>50%-99%</i> no.	<i>100% or more</i> no.
Manufacturing	145	249	*68	*9	2
Wholesale trade	885	1 833	195	n.p.	—
Telecommunication services	140	189	*79	2	—
Computer services	2 348	5 527	1 297	468	n.p.
Total	3 518	7 799	1 639	544	*34

SELECTED IT & T GOODS AND SERVICES

In 1995-96 revenue from domestic production of IT & T goods and services totalled \$31,607.7 million, which is 67% of total IT & T revenue (\$46,976.7 million). The balance of IT & T revenue is attributed to the on-selling of IT & T goods including those imported, and the provision of services including those exported. The major components of domestic production were telecommunication services (\$17,773.0 million) and computer services (\$7,688.0 million).

11 Selected goods and services produced in Australia

<i>Item description</i>	<i>Revenue from domestic production</i>
	<i>\$m</i>
Computer hardware(a)	
Laptop, portable and desktop, mid-range and large scale computers	1 268.0
Laser and other printer systems and other input/output devices	*39.9
Other computer hardware	95.2
Unspecified	208.9
<i>Total</i>	<i>1 612.0</i>
Communication/telecommunication hardware(a)	
Telephonic or telegraphic switching equipment	813.7
Coaxial and optical fibre communication cables	433.4
Other communication cables	525.6
Radio reception apparatus and other fixed premises radio transceiving equipment	125.0
Mobile phones, CB radio and other mobile radio equipment	126.1
Other communication hardware	388.4
Modems, facsimiles, multiplexors, teleprinters and other line equipment	38.3
Unspecified	765.8
<i>Total</i>	<i>3 216.3</i>
Other hardware	
Printed circuit boards	
Unpopulated	*41.7
Populated	272.8
Electronic components (integrated circuits, transistors, semi conductors)	55.5
Storage media	0.1
Other computer and communication components and consumables	84.9
Unspecified	42.0
<i>Total</i>	<i>497.0</i>
Packaged software(b)	
Communication/telecommunication software	188.6
Other software	632.8
<i>Total</i>	<i>821.4</i>
Computer services	
Computer consultancy services	3 397.4
Hardware consultancy services	911.1
Outsourcing and processing services	1 403.0
Commercial database services	162.3
Computer hardware servicing, repairs and maintenance	1 466.5
Installation and cabling services	180.1
Training and education	120.0
Other computer services	47.6
<i>Total</i>	<i>7 688.0</i>
Telecommunication services	17 773.0
Total	31 607.7

(a) Includes sub-assemblies and kits.

(b) Includes income from software licence fees.

PRODUCTION, IMPORTS AND EXPORTS

Exports of selected IT & T goods and services totalled \$3,591.5 million in 1995-96. Imports of these items were valued at \$10,502.6 million, creating a trade deficit for these IT & T goods and services of \$6,911.1 million. The value of exports was equivalent to 11% of the value of revenue from domestic production (\$31,607.7 million) for the period, while the value of imports was equivalent to 33%.

12 Production, imports and exports of selected goods and services

	Revenue from domestic production	Imports(a) (customs value)	Exports(a) (f.o.b.)
	\$m	\$m	\$m
Computer hardware			
Digital computers	1 268.0	1 575.0	299.6
Laser and other printer systems and other input/output devices	*39.9	1 825.6	82.5
Other computer hardware	95.2	2 052.1	1 322.5
Unspecified	208.9	—	—
Total	1 612.0	5 452.7	1 704.5
Communication/telecommunication hardware			
Telephonic or telegraphic switching equipment	813.7	41.4	71.5
Coaxial communication cable, other coaxial electrical conductors and optical fibre cables	433.4	88.4	51.0
Other communication cables	525.6	22.3	6.9
Other communication equipment	677.8	1 769.2	477.5
Unspecified	765.8	—	—
Total	3 216.3	1 921.3	606.9
Other hardware			
Printed circuit boards	314.5	68.7	8.0
Electronic components, storage media and other computer and communication components and consumables	140.5	1 448.6	121.9
Unspecified	42.0	—	—
Total	497.0	1 517.3	129.9
Packaged software	821.4	431.4	99.6
Computer services			
Selected computer services	6 429.2	137.1	184.3
Computer training and education	120.0	2.5	5.6
Residual computer services	1 138.8	—	—
Total	7 688.0	139.6	189.9
Telecommunication services	17 773.0	1 040.3(b)	860.6(b)
Total	31 607.7	10 502.6	3 591.5

(a) Import and export data are compiled by the ABS from information submitted by exporters, importers or their agents to the Australian Customs Service. Exports include both exports of Australian produce and re-exports of goods of foreign origin. Because of the sheer volume of transactions involved, it is inevitable that there will be some errors, misclassifications and approximations in the statistics.

(b) Includes both postal and telecommunication services trade. Telecommunication services are not separately available for this publication.

PRODUCTION, IMPORTS AND EXPORTS *continued*

With \$2,541.0 million in exports and \$9,319.5 million in imports, Australia exports considerably less IT & T merchandise than it imports.

The United States of America was the major source of imports, accounting for 32% (\$2,951.6 million) of all IT & T merchandise, followed by Japan at 12% and Singapore at 12%.

Australia exported more IT & T merchandise to New Zealand (\$473.3 million or 19% of all IT & T merchandise) than to any other country. Other principal export destinations were the United States of America (14%) and Singapore (13%).

13 Imports and exports of selected merchandise by major country of origin/destination(a)

Country of origin/destination	Digital computers	Laser and other printer systems	Other computer hardware	Communication/tele-communication hardware	Other hardware	Packaged software	Total(b)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m
IMPORTS							
Canada	5.5	6.8	112.4	47.3	116.6	12.5	302.7
Finland	5.7	2.1	5.5	85.5	2.4	1.8	103.4
France	12.7	8.4	10.8	53.9	15.6	2.2	105.6
Germany	9.0	9.7	11.2	210.6	48.2	5.6	296.0
Hong Kong	79.2	49.0	96.0	21.1	120.0	1.4	367.0
Japan	255.8	306.4	151.5	178.4	177.9	15.4	1 087.0
Korea, Republic of	7.5	113.0	31.4	80.3	136.0	0.6	369.7
Malaysia	62.9	87.1	31.9	22.3	79.9	1.5	285.7
Singapore	356.3	358.8	184.5	26.5	132.4	21.8	1 080.7
Sweden	11.0	1.5	21.9	299.0	17.7	1.0	353.3
Taiwan	182.9	222.9	307.8	31.4	83.7	4.2	834.3
Thailand	0.2	78.7	3.0	33.4	7.7	0.1	123.7
United Kingdom	60.3	31.6	64.6	218.5	39.4	31.6	446.9
United States of America	471.1	437.3	914.2	422.6	422.2	284.2	2 951.6
Total(c)	1 575.0	1 825.6	2 052.1	1 921.3	1 517.3	431.4	9 322.7
EXPORTS							
Canada	1.1	0.2	29.0	1.7	1.1	1.2	35.5
Hong Kong	53.0	5.3	87.4	124.7	5.5	7.2	283.2
Japan	42.2	35.5	72.9	1.6	2.4	5.2	161.7
Korea, Republic of	37.3	9.8	13.0	1.8	1.1	1.7	67.6
Malaysia	1.6	1.8	30.7	15.3	7.1	1.5	62.4
New Zealand	37.9	5.8	320.7	36.8	25.7	46.4	478.5
Philippines	1.0	0.8	4.6	28.0	0.8	0.4	36.4
Singapore	64.4	5.6	223.7	21.9	9.1	3.0	331.6
Sweden	0.1	0.1	1.3	42.0	0.3	0.5	44.3
Taiwan	15.6	3.6	29.2	1.4	1.5	1.0	54.0
United Kingdom	8.7	0.5	61.4	14.4	5.5	6.1	100.2
United States of America	19.8	3.1	286.3	12.8	24.9	8.7	361.6
Total(c)	299.6	82.5	1 322.5	606.9	129.9	99.6	2 541.0

(a) Data in this table relate to merchandise trade and not to trade in services. Where imports for an individual country exceed \$50 million or exports exceed \$20 million for any one category, data have been included against that country for all categories.

(b) Imports and exports for individual countries may not sum to the total due to rounding.

(c) Relates to all countries, not just those listed above.

STATE AND TERRITORY COMPARISONS

For the IT & T industries, the only data items collected by State and Territory were employment, wages and salaries and income.

Businesses operating in New South Wales had the largest share of each of the IT & T industries. IT & T specialist businesses in New South Wales contributed 42% of all employment, 44% of wages and salaries, and 43% of all income within the IT & T industries. Victoria made the second largest contribution to employment, wages and salaries and income and, together with New South Wales, accounted for 73% of employment, 74% of wages and salaries, and 75% of income.

14 State and Territory comparisons, IT & T specialists

Industry	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	Australia
EMPLOYMENT									
	no.	no.	no.	no.	no.	no.	no.	no.	no.
Manufacturing	9 979	4 450	898	858	842	*23	—	246	17 295
Wholesale trade	17 597	13 151	3 686	1 604	1 944	300	168	179	39 629
Telecommunication services	33 180	27 184	14 777	6 108	6 660	1 569	697	1 525	91 701
Computer services	25 509	16 724	4 682	2 437	3 054	271	122	2 228	55 028
Total	86 265	61 508	24 042	11 007	12 501	2 164	987	5 179	203 653
WAGES AND SALARIES									
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Manufacturing	436.3	182.3	32.7	31.7	32.9	**0.5	—	10.6	727.0
Wholesale trade	883.9	620.2	130.7	66.2	78.5	8.3	7.5	71.7	1 867.1
Telecommunication services	1 498.7	1 226.8	657.0	276.8	302.4	71.5	31.9	69.5	4 134.6
Computer services	1 222.1	778.6	184.6	96.6	117.4	7.8	5.2	106.8	2 519.1
Total	4 041.1	2 807.9	1 005.0	471.3	531.2	88.1	44.6	258.6	9 247.8
INCOME									
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Manufacturing	2 430.7	1 658.3	241.6	144.3	221.6	**2.9	—	66.3	4 765.8
Wholesale trade	8 263.5	5 610.9	1 279.9	586.7	744.8	91.9	84.6	663.7	17 325.8
Telecommunication services	6 536.8	5 521.8	3 040.4	1 317.7	1 469.9	362.1	154.5	330.6	18 733.7
Computer services	4 030.3	2 497.5	523.5	305.5	372.2	30.0	14.1	314.7	8 087.8
Total	21 261.2	15 288.5	5 085.5	2 354.2	2 808.5	486.8	253.2	1 375.4	48 913.1

RESEARCH AND DEVELOPMENT

During the 1995-96 financial year, IT & T specialist businesses undertook or contracted out research and development work valued at \$782.2 million. Businesses classified to the computer services industry accounted for 36% of this expense (\$281.4 million), while the majority of expenditure (52%) was spent on research and development of computer and telecommunication goods and services.

15 Research and development, IT & T specialists

Industry class	Software	Computer and telecommunication goods and services	Other	Total
	\$m	\$m	\$m	\$m
Manufacturing	*19.2	138.6	*13.1	170.9
Wholesale trade	37.3	157.2	1.1	195.7
Telecommunication services	21.4	106.1	6.7	134.2
Computer services	269.3	8.5	3.6	281.4
Total	347.2	410.5	24.5	782.2

EXPLANATORY NOTES

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1 This publication contains results from a survey of IT & T related industries for the reference year 1995-96. This is the second IT & T survey of these industries. Previous statistics were released for 1992-93.

SURVEY SCOPE AND METHODOLOGY

2 The survey results are based on a stratified random sample of the businesses recorded on the ABS Business Register and classified to one of the following classes of the Australian and New Zealand Standard Industrial Classification (ANZSIC):

- Class 2841, computer and business machine manufacturing;
- Class 2842, telecommunication, broadcasting and transceiving equipment manufacturing;
- Class 2849, electronic equipment manufacturing n.e.c.;
- Class 2852, electric cable and wire manufacturing;
- Class 4613, computer wholesaling;
- Class 4614, business machine wholesaling n.e.c.;
- Class 4615, electrical and electronic equipment wholesaling n.e.c.;
- Class 7120, telecommunication services;
- Class 7831, data processing services;
- Class 7832, information storage and retrieval services;
- Class 7833, computer maintenance services; and
- Class 7834, computer consultancy services.

3 The ABS Business Register in general excludes businesses which do not have any employees. There is likely to be a significant number of non-employing businesses, particularly in the computer and telecommunication services industries.

COMPARABILITY WITH 1992-93 SURVEY

4 The 1995-96 results include figures relating to sub-assemblies, electronic components and printed circuit boards which were not separately collected in 1992-93. While some businesses may have reported these items for 1992-93 it is likely that reporting was not consistent. The 1995-96 questionnaire contained specific instructions about the reporting of these goods.

5 The 1992-93 survey also included a small number of businesses coded to the plant hiring or leasing industry (ANZSIC Class 7743). They have been excluded from the 1995-96 survey.

STATISTICAL UNIT

6 The unit for which statistics were reported in the survey was the management unit. The management unit is the highest-level accounting unit within a business or organisation, having regard for industry homogeneity, for which accounts are maintained. In nearly all cases it coincides with the legal entity owning the business (i.e. company, partnership, trust, sole operator, etc.). In the case of large diversified businesses, however, there may be more than one management unit, each coinciding with a 'division' or 'line of business'. A division or line of business is recognised where separate and comprehensive accounts are compiled for it.

EXPLANATORY NOTES *continued*

RELIABILITY OF ESTIMATES

7 The estimates presented in this publication are subject to sampling and non-sampling error.

SAMPLING ERRORS

8 Since the estimates in this publication are based on information obtained from a sample drawn from units in the surveyed population, the estimates are subject to sampling variability, that is, they may differ from figures that would have been obtained if all units had been included in the survey. One measure of the likely difference is given by the standard error, which indicates the extent to which an estimate might have varied by chance because only a sample of units was included.

9 There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if a census had been conducted, and approximately 19 chances in 20 that the difference will be less than two standard errors.

10 Sampling variability can be measured by the relative standard error (RSE) which is obtained by expressing the standard error as a percentage of the estimate to which it refers. The RSE is a useful measure in that it provides an immediate indication of the percentage errors likely to have occurred due to sampling, and this avoids the need to refer also to the size of the estimate.

11 The table below contains estimates of RSEs for a selection of statistics presented in this publication.

Selected RSEs, IT & T specialists

Industry	Businesses at end June %	Employment at end June %	Turnover %	Wages and salaries %
Manufacturing				
Computer and business machines	12	9	10	10
Telecommunication, broadcasting and transceiving equipment	20	6	5	5
Electronic equipment n.e.c.	35	20	20	18
Electric cable and wire	29	5	2	4
<i>Total manufacturing</i>	9	4	4	4
Wholesale trade				
Computers	5	4	6	6
Business machines and electrical and electronic equipment n.e.c.	9	5	7	4
<i>Total wholesale trade</i>	5	3	4	4
Telecommunication services	13	0	1	0
Computer services	2	2	4	3
Total	2	1	2	1

EXPLANATORY NOTES *continued*

12 As an example of the above, an estimate of total turnover for IT & T specialists for the manufacturing industry is \$4,721.9 million and the RSE is 4%, giving a standard error of \$188.9 million. Therefore, there would be two chances in three that, if all units had been included in the survey, a figure within the range of \$4,533.0 million to \$4,910.8 million would have been obtained, and 19 chances in 20 that the figure would have been within the range of \$4,344.1 million to \$5,099.7 million (a confidence interval of 95%).

13 Where the RSE of an estimate included in this publication exceeds 25%, it has been annotated with an asterisk (*) as a warning to users. Where the RSE of an estimate exceeds 50% it has been annotated with a double asterisk (**).

NON-SAMPLING ERROR

14 Errors other than those due to sampling may occur because of deficiencies in the register of units from which the sample was selected, non-response, and imperfections in reporting by respondents. Inaccuracies of this kind are referred to as non-sampling error and they may occur in any collection, whether it be a census or a sample. Every effort has been made to reduce non-sampling error to a minimum by careful design and testing of questionnaires, efficient operating procedures and systems used to compile the statistics.

REFERENCE PERIOD

15 Data contained in the tables of this publication relate to all businesses which operated in Australia at any time during the year ended 30 June 1996. Counts of businesses include only those businesses that were operating at 30 June 1996.

GLOSSARY

Businesses at end June	This is a count of management units operating at the end of June.
Depreciation and amortisation	These are the financial charges made to the accounts to reflect that part of the value of the asset which may be regarded as having been used up in producing revenue in a particular accounting period.
Earnings before interest and tax (EBIT)	A measure of profit prior to the deduction of interest expenses and income tax.
Employer contributions to superannuation funds	These are the contributions by the employer to superannuation funds, including the employer productivity contribution.
Employment at end June	This item includes full-time and part-time employees, employees absent on paid or prepaid leave, managerial and executive employees, permanent, temporary and casual employees, consultants who are employees and working proprietors and partners. The item excludes non-salaried directors, sub-contractors, and persons paid solely by commission without a retainer.
Exports (f.o.b.)	The value of exports is the free on board (f.o.b.) transactions value of the goods expressed in Australian dollars. The f.o.b. value includes the value of packaging (other than containerisation) and excludes freight and insurance costs for the overseas route.
Full-time employees	Full-time employees are those working 35 hours or more per week.
Imports (customs value)	The value of imports is the Australian Customs valuation. Goods are valued at the point of containerisation, or the port of shipment or the customs frontier of the exporting country, whichever comes first. The customs value is generally the same as the transaction value unless Australian Customs considers the value reported to be an unfair estimate of market value. This can occur when the transaction is between related companies.
Interest expenses	These expenses include interest on bank loans, interest in respect of finance leases, interest paid on loans from partners, hedging costs and expenses associated with discounted bills.
IT & T revenue	This item includes income from computer services, income from communication services, income from packaged software and income from the sale of computer and communication hardware. Wholesale sales including commission, rent, leasing and hiring income from computer and communication hardware and other royalties are also included.
IT & T specialists	This item refers to those businesses whose IT & T revenue (as defined above) is 50% or more of the total turnover of the business.
Labour costs	These include wages and salaries, provision expenses for employee entitlements, employer contributions to superannuation and workers' compensation costs.

GLOSSARY *continued*

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Operating profit before tax (OPBT)	This is a measure of profit before extraordinary items are brought to account prior to the deduction of income tax and appropriations to owners, e.g. dividends paid.
Operating profit margin	This is the percentage of sales of goods and services available as operating profit, i.e. OPBT times 100 divided by sales of goods and services.
Other selected expenses	This item includes waste management and environmental protection expenses, repair and maintenance expenses, office supplies and printing costs, audit, accounting and legal expenses, electricity, gas and water charges, freight and cartage expenses, payments for cleaning services, government taxes, management fees, telephone and postal charges, advertising costs, travelling, accommodation and entertainment expenses, motor vehicle running expenses and payments for secretarial, word processing and copying services.
Part-time employees	Part-time employees are those who work less than 35 hours per week.
Payments to subcontractors and consultants	This comprises payments for computer and telecommunication services and related work. It excludes payments to contractors for non-computing related work.
Purchases	This item includes purchases of goods for resale and purchases of materials, components, containers and packaging materials. It excludes capitalised purchases of materials.
Rent, leasing and hiring expenses	This includes those expenses incurred from the rental of land, buildings and other structures, motor vehicles and equipment used by the business.
Residual income	<p>This includes royalties income, rent, leasing and hiring income, government funding and subsidies, interest income and other non-operating income.</p> <p>For the Computer services IT & T specialists, this item also includes income from communication services, income from packaged software purchased for resale and income from the provision of training and education.</p> <p>For the Manufacturing IT & T specialists, this item includes income from communication services, income from the sale of computer and communication hardware, components and consumables purchased for resale (including commission income), income from the sale of packaged software (including commission income), income from the replication of packaged software on a fee or contract basis and income from the provision of computer services.</p> <p>For the Wholesale IT & T specialists industry this item includes income from the sale of computer hardware manufactured by the business, income from packaged software developed in Australia by the business, income from the replication of packaged software on a fee or contract basis and income from the provision of computer services.</p>
Revenue from domestic production	This is income from the sale of computer and communication hardware manufactured in Australia, from packaged software developed in Australia, and from the provision of computer and communication services.
Total expenses	The sum of all expense items.

GLOSSARY *continued*

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Total income	The sum of all income items. This includes IT & T revenue, rent, leasing and hiring income, funding from government, interest income and other operating and non-operating income.
Turnover	This includes IT & T revenue, funding from Federal Government, State, Territory and local governments, other rent, leasing and hiring income and other operating income.
Unspecified	This represents uncategorised revenue which can be attributed to any of the components under the relevant heading in the table.
Wages and salaries	This includes severance, termination and redundancy payments and provision expenses for employee entitlements. It excludes payments to contractors and consultants and persons paid solely by commission without a retainer, and drawings of working proprietors and partners of unincorporated businesses.
Workers' compensation costs	These include insurance premiums/levies and non-payroll costs incurred by a business and not reimbursed by an insurance company.

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