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# Information and Communication Technologies (ICT)

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## Statistical Review 1990 - 1995

1996/1997 Edition

Spectrum, Information Technologies and Telecommunications Sector

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Industry Canada

**INFORMATION AND COMMUNICATION TECHNOLOGIES  
STATISTICAL REVIEW: 1990 - 1995**

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based on work carried out under the auspices of  
*Industry Canada,*

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and Statistics Canada*

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on the Industry Canada web site at:

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## Note to Readers

### Progress in measuring the ICT Sector

Industry Canada is pleased to provide the 1995 statistics for the ICT manufacturing and services sectors. In an attempt to keep up with these ever changing and dynamic industries, Industry Canada has revised its definition of the Information Technology Industries. Industry Canada now refers to the sector as the **"Information and Communication Technologies Sector"** or, the **ICT Sector**. This term is increasingly used internationally, based on ongoing discussions at the Organization for Economic Co-operation and Development (OECD).

Industry Canada is working closely with Statistics Canada, other federal departments, industry associations, the industry itself, and with international organizations such as the OECD, to develop and improve statistics for the ICT sector and our understanding of the knowledge-based economy and society. Progress has been achieved over the last five years through agreements with Statistics Canada to revise current surveys and data sources associated with ICT and to introduce new surveys. This is also in keeping with the recent recommendation by the Information Highway Advisory Council.

The reader will note a revised format for the summary charts for the ICT sector and data. It is organized into the ICT manufacturing sector which includes consumer electronics, communications and other electronic components, computer equipment, and instrumentation; and the ICT services sector consisting of software and computer services, telecommunications, and broadcasting.

### Change of definition for ICT

The definition of the ICT sector will continue to evolve. For this publication no significant differences have been incorporated for ICT manufacturing. However, the ICT services sector has been changed as follows. It includes the broadcasting industry which comprises private radio and television, pay & speciality TV services, CBC, non-commercial radio and TV, and cable television. The previous version of this publication only contained a subset of the broadcasting industry - the cable television industry.

In contrast to last year's publication, software and computer services in this publication does not include statistics for the "Computer and Related Machinery, Equipment and Packaged Software, Wholesale" industry (SIC 5744) as part of the ICT sector. Although the wholesale industry captures the computer value added resellers (VARs) and other major players in the ICT sector (e.g. those related to telecommunications and broadcasting), it also captures wholesalers in the true sense of the word. Unfortunately, there are currently no reliable data on ICT related wholesale as the last survey was done a number of years ago.

Projections based on that survey no longer provide accurate enough estimates. Therefore, discussions are planned with Statistics Canada to update the past survey to reflect rapid changes and to develop a methodology that provides a share of wholesale activities related to software and computer services, telecommunications and broadcasting from total wholesale.

For telecommunications services, progress has been made on its coverage and adjustments to existing Statistics Canada surveys have been made. Data for the years beyond 1996 will reflect these changes. In the meantime, revenues estimates for the "other telecommunications service providers" are provided in this report as an indication of the magnitude of the adjustments required.

### **Change of data sources for ICT**

All ICT manufacturing financial and employment data for 1995 (excluding trade, GDP and R&D) are Industry Canada estimates. These estimates are based on the monthly data for 1995 from the Monthly Survey of Manufacturing, Statistics Canada, (Cat. no. 31-001). The 1990 to 1994 data are actual figures from the Annual Survey of Manufacturing, Statistics Canada, (Cat. no. 31-203).

The data source used this year for ICT services employment was the Labour Force Survey, Statistics Canada (Cat no. 71-001), which includes full-time, part-time and self-employed. Additional sources were used to provide industry detailed employment data for Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) and Cable Television, Statistics Canada (Cat. no. 56-205).

In terms of financial data for the ICT computer and telecommunications services, this publication relied on the Financial and Taxation Statistics, Statistics Canada (Cat. no. 61-219). 1990 to 1995 data are actual, except for revenue related to "other telecommunications service providers" which are Industry Canada estimates from the annual report to shareholders. New data in these areas will be available from Statistics Canada in the future.

In this year's publication, R&D for ICT telecommunications and broadcasting services, and trade for ICT services have been added. Please see the sources and technical notes for more details on both ICT manufacturing and ICT services.

### **Caution**

Due to the many changes, it is not advisable to compare data from last year's publication, "**Statistical Review: Information Technology & Content Industries**" to this publication. Reference years 1990 through 1995 have all been recalculated using the definition and source data as described above.

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# Highlights

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## HIGHLIGHTS

CANADA'S INFORMATION AND COMMUNICATION TECHNOLOGIES SECTOR - 1995  
SIGNIFICANT ACHIEVEMENTS

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**Revised Sector Definition**

The Information and Communication Technologies (ICT) Sector comprises the following:

**ICT Manufacturing**

consumer electronics  
communications and other electronic components  
computer equipment  
instrumentation

**ICT Services**

software and computer services  
telecommunications  
broadcasting

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Canada's Information and Communication Technologies sector continued to surge in 1995, showing strong growth in all industries. The highlights between 1994 and 1995 are:

The creation of more than **50,000 new jobs** for Canadians

A **9% increase** in ICT revenues to \$65.2 billion

A 12.5% increase in ICT's contribution to GDP - ICT accounts for **6.9% of total GDP** in 1995

A 9% increase in ICT research and development, bringing the **ICT R&D total to 39% of Canada's entire private sector R&D**

A **22% increase in ICT manufacturing exports**, bringing the total to just below \$20 billion and about 7.5% of total Canadian manufacturing exports



## Highlights

### Revenues

- ICT revenues reached \$65.2 billion in 1995, an increase of 9.3% from 1994.
- Services accounted for 61% of all ICT revenues, with telecommunications services making up 30% of total revenues and software and computer services another 22% in 1995.
- Revenues of the entire ICT sector have grown at a Compound Annual Growth Rate (CAGR) of 9.1% for the 1990-1995 period.
- Revenues for both the electronic parts and components industry and the computer equipment industry had CAGR's of more than 20% over the 1990-1995 period.

### Employment

- Total employment in the ICT sector was 415,217 in 1995, an increase of 13.8% from the previous year.
- ICT services industries employed 317,886 (76.6%) of the total in 1995.
- An estimated 3% of the Canadian labour force worked in the ICT sector in 1995.
- The compound annual growth rate (CAGR) for employment in the ICT sector for the 1990 to 1995 period was 2.8%.
- The largest growth in employment was in the software and computer services industry with a year-over-year increase of 24.5%, representing 24,000 new jobs\*. The telecommunications carriers' employment also grew at 13.3%, representing some 17,000 new jobs\*.

\* Includes full-time, part-time employees and self employed, as per the Labour Force Survey of Statistics Canada.

## Highlights Contribution to GDP

- The ICT sector accounted for 6.9% of Canada's entire GDP for 1995, this is up from 6.3% in 1994 and 5.0% in 1990.
- The contribution to Canadian GDP by the ICT sector was \$37.6 billion (in 1986 constant dollars) in 1995, a 12.5% increase from 1994. The telecommunications carriers industry accounted for 48.3% of the sector's GDP contribution.

## Research and Development

- The ICT sector is one of the largest R&D performers in the Canadian economy. In 1995, total R&D expenditures in the ICT sector were \$2.9 billion (an increase of 9.3% from 1994). This represents almost 39% of total Canadian private sector R&D.
- With total R&D expenditures of more than \$1.3 billion in 1995, the telecommunication equipment industry accounted for 46.9% of total R&D expenditures in the ICT sector and 18% of total Canadian private sector R&D.

## ICT Manufacturing Trade

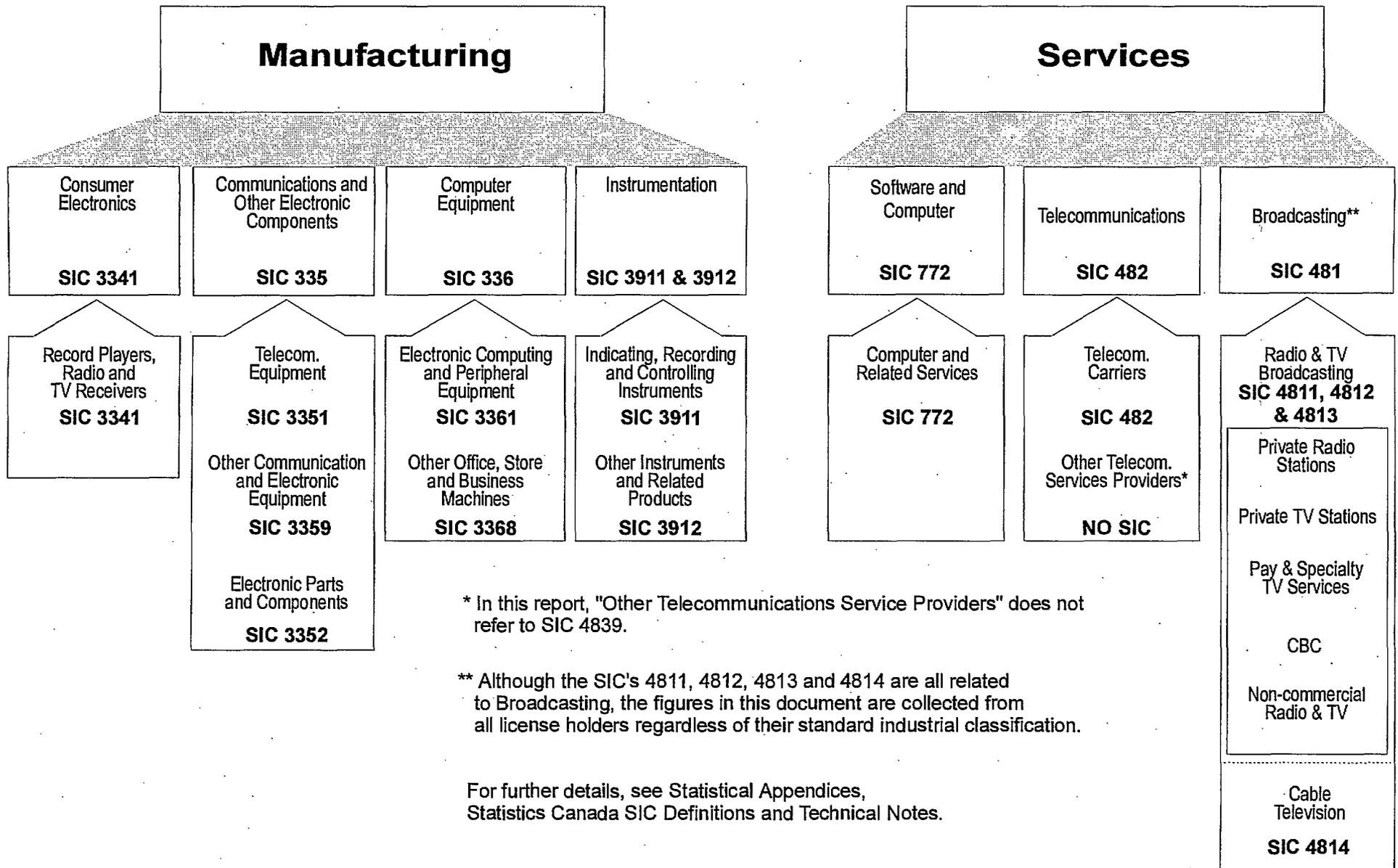
- Total ICT manufacturing exports were up 21.6% in 1995 reaching some \$19.5 billion -- this represents almost 7.5% of total Canadian manufacturing exports.
- Total exports of computer equipment led the way with a year over year increase of 29.7%. Total exports of electronic parts and components as well as telecommunications equipment were both up by more than 20%.
- Canada has consistently been running a trade surplus in telecommunications equipment, and now, for the first time since 1990, Canada was in a surplus position with respect to trade in computer equipment with a modest surplus of \$34,000 in 1995.
- ICT manufacturing imports reached \$35.6 billion in 1995 (an increase of 16.7% from 1994). ICT manufacturing imports represented nearly 16% of total Canadian manufacturing imports in 1995.
- The largest increase in manufacturing imports was in the electronic parts and components industry which increased by 25%, reaching \$13.9 billion in 1995. Semiconductors accounted for nearly 70% (\$9.7 billion) of these imports.

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# Section 1 Legend

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# Information and Communication Technologies Legend



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## **Section 2**

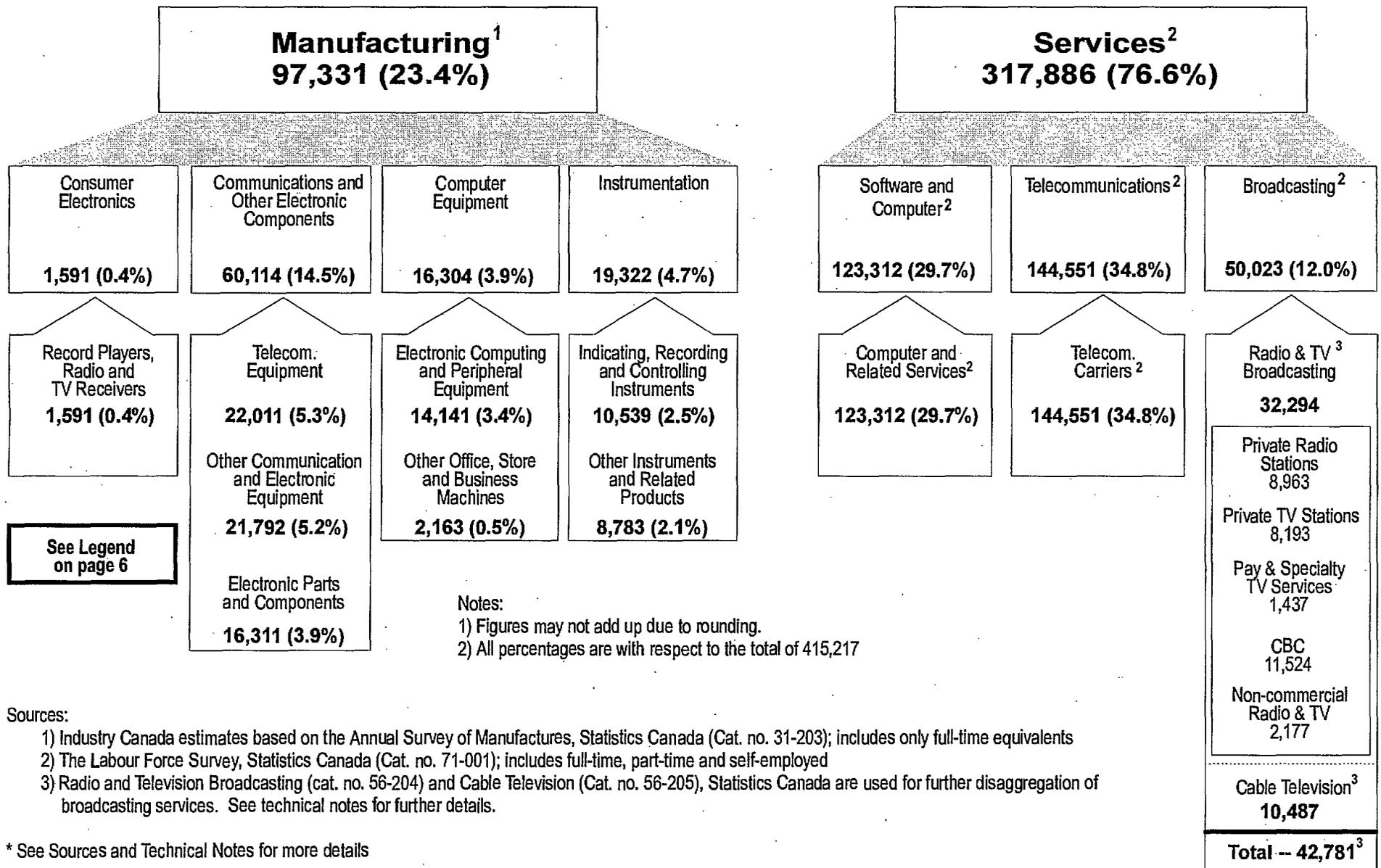
# **ICT Sector: 1995 at a Glance**

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# Information and Communication Technologies

## Figure 1 - Total Employment: 1995

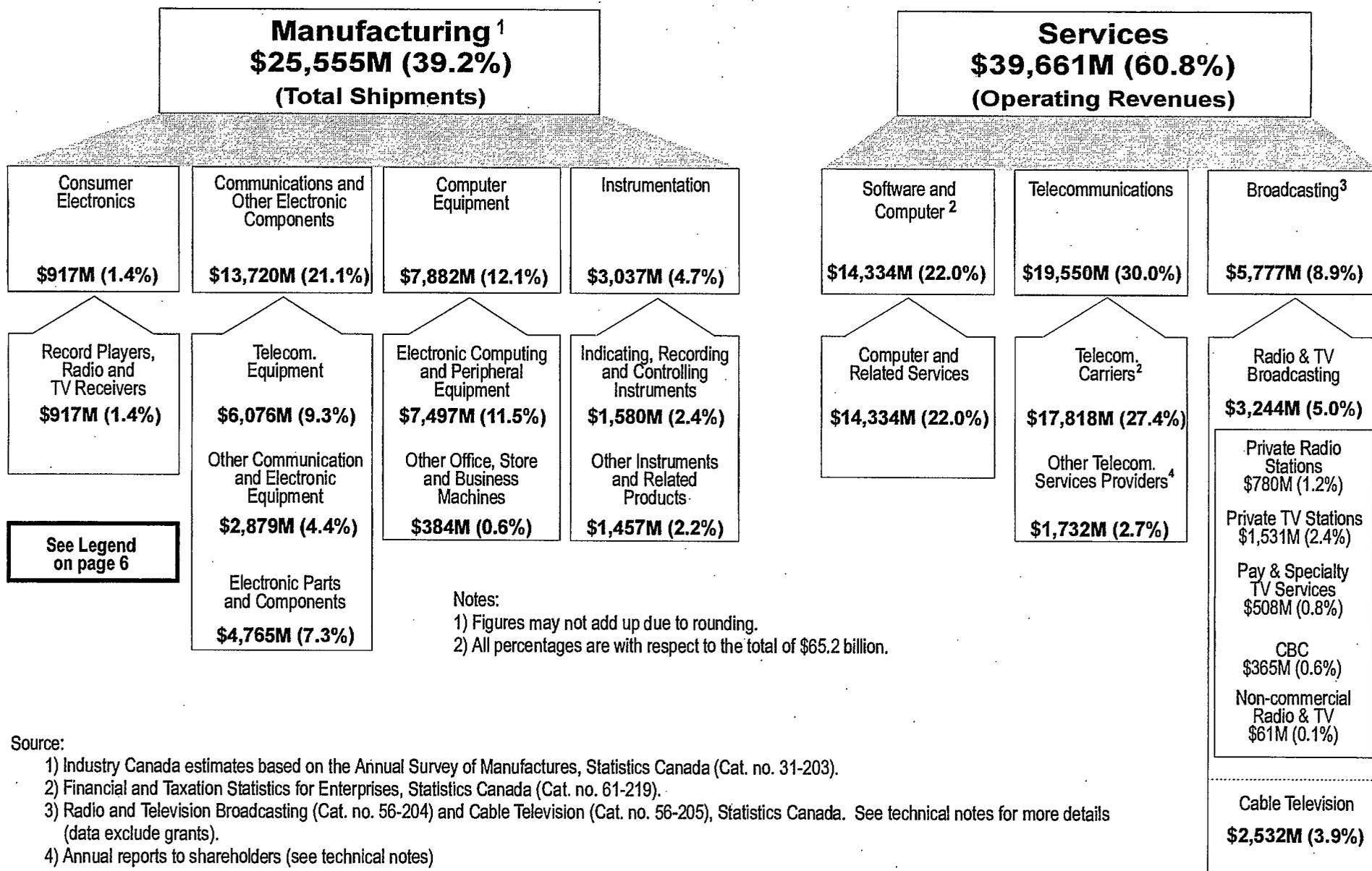
### 415,217\*



# Information and Communication Technologies

## Figure 2 - Total Revenues: 1995

### \$65.2 billion



See Legend on page 6

Notes:

- 1) Figures may not add up due to rounding.
- 2) All percentages are with respect to the total of \$65.2 billion.

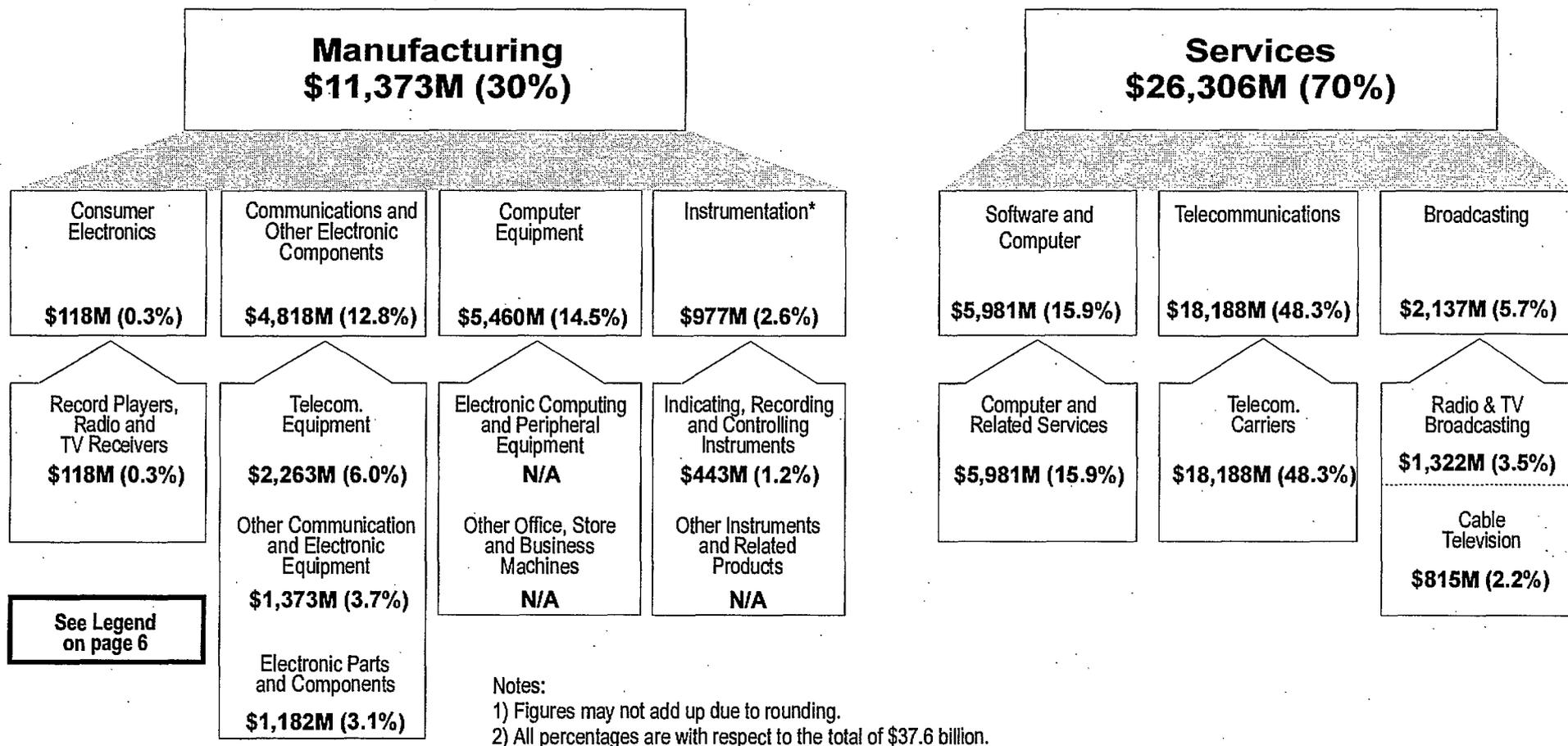
Source:

- 1) Industry Canada estimates based on the Annual Survey of Manufactures, Statistics Canada (Cat. no. 31-203).
- 2) Financial and Taxation Statistics for Enterprises, Statistics Canada (Cat. no. 61-219).
- 3) Radio and Television Broadcasting (Cat. no. 56-204) and Cable Television (Cat. no. 56-205), Statistics Canada. See technical notes for more details (data exclude grants).
- 4) Annual reports to shareholders (see technical notes)

# Information and Communication Technologies

## Figure 3 - Total GDP: 1995

### \$37.6 billion (in 1986 dollars)



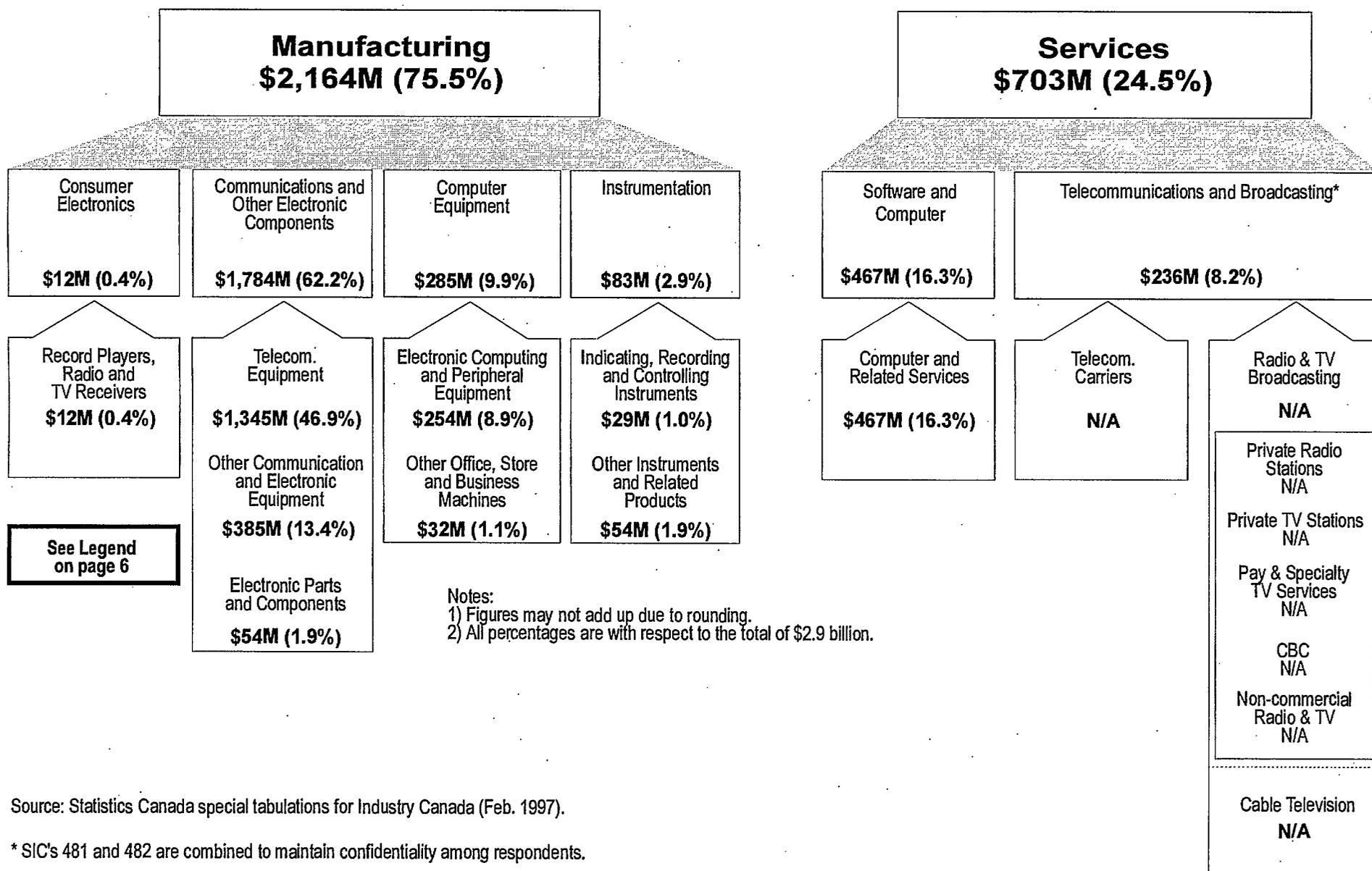
Source: Gross Domestic Product by Industry, Statistics Canada (Cat. no. 15-001).

\* Somewhat overstated due to the inclusion of SIC 3913 and 3914 (see Sources and Technical notes for more details).

# Information and Communication Technologies

## Figure 4 - Total R&D Expenditures: 1995

### \$2.9 billion



Source: Statistics Canada special tabulations for Industry Canada (Feb. 1997).

\* SIC's 481 and 482 are combined to maintain confidentiality among respondents.



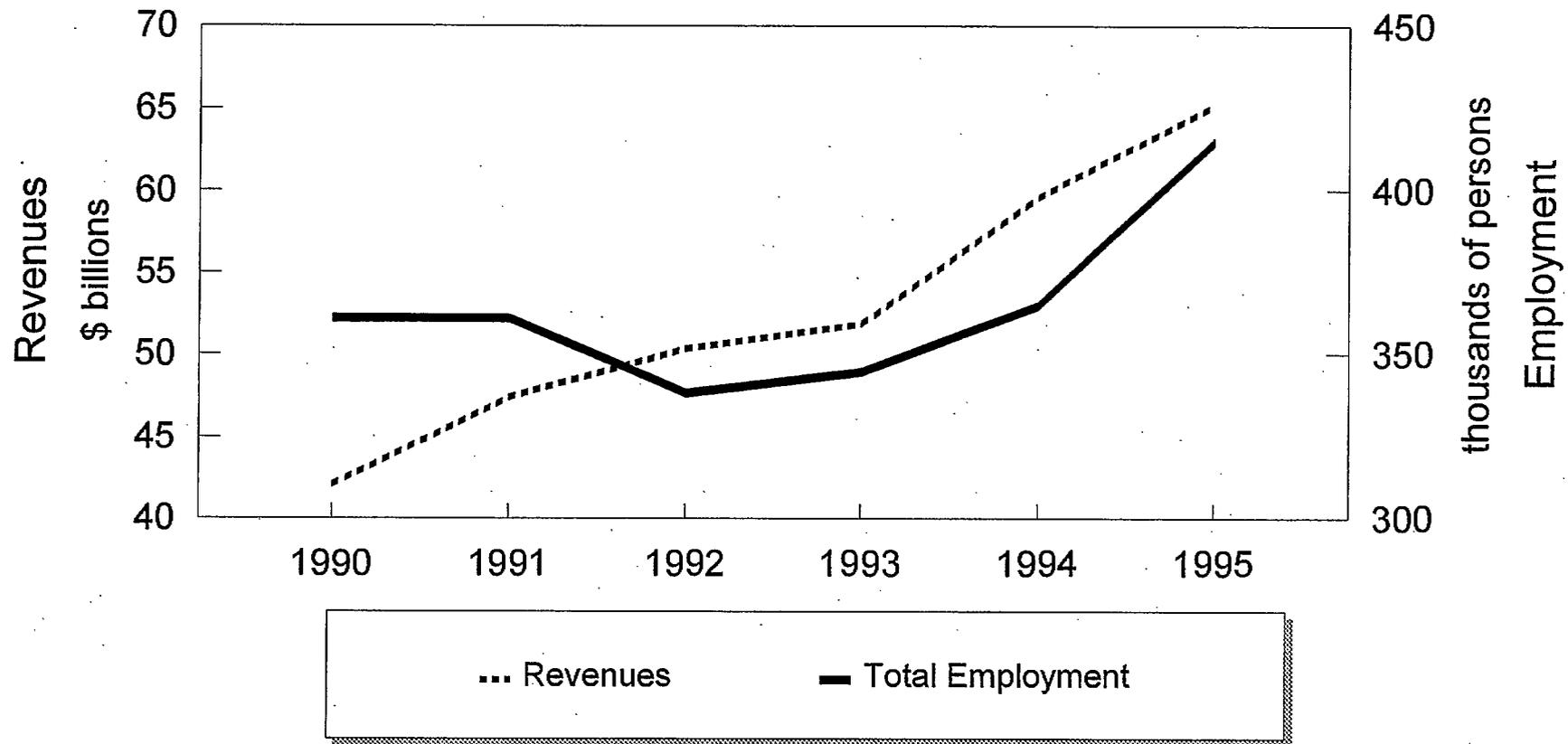
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**Section 3**  
**Trends in the ICT Sector:**  
**1990 - 1995**

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Figure 5

## Total ICT Sector: 1990 - 1995 (Manufacturing and Services) Revenues and Employment

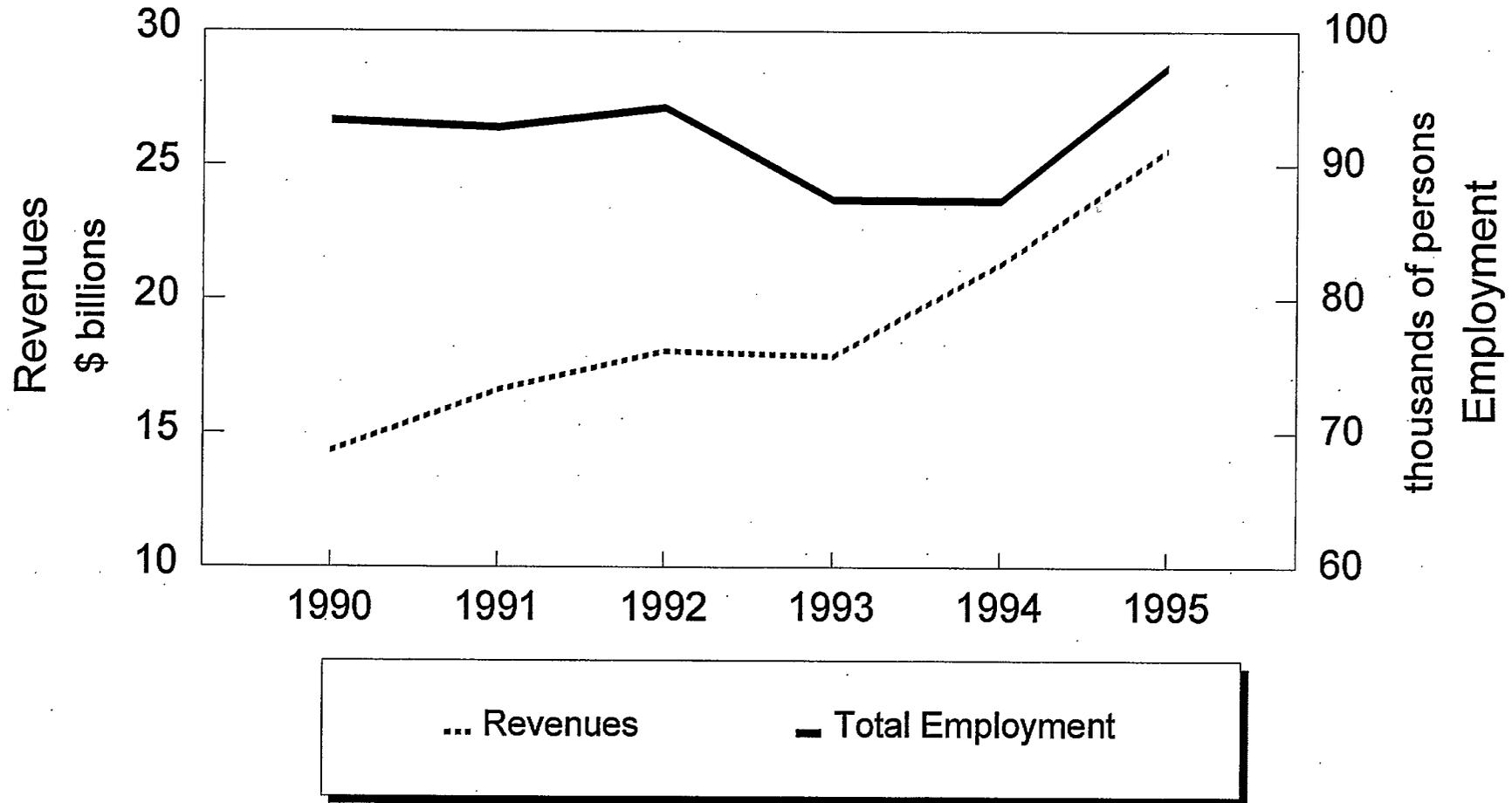


## Source:

Annual Survey of Manufactures, Statistics Canada (Cat. no. 31-203) with 1995 estimates by Industry Canada for both employment and revenues.  
 The Labour Force Survey, Statistics Canada (Cat. no. 71-001).  
 Financial and Taxation Statistics for Enterprises, Statistics Canada (Cat. no. 61-219).  
 Radio and Television Broadcasting, (Cat. no. 56-204), Cable Television, (Cat. no. 56-205), Statistics Canada.  
 Industry Canada estimates for Other Telecommunications Services Providers revenues.

Figure 6

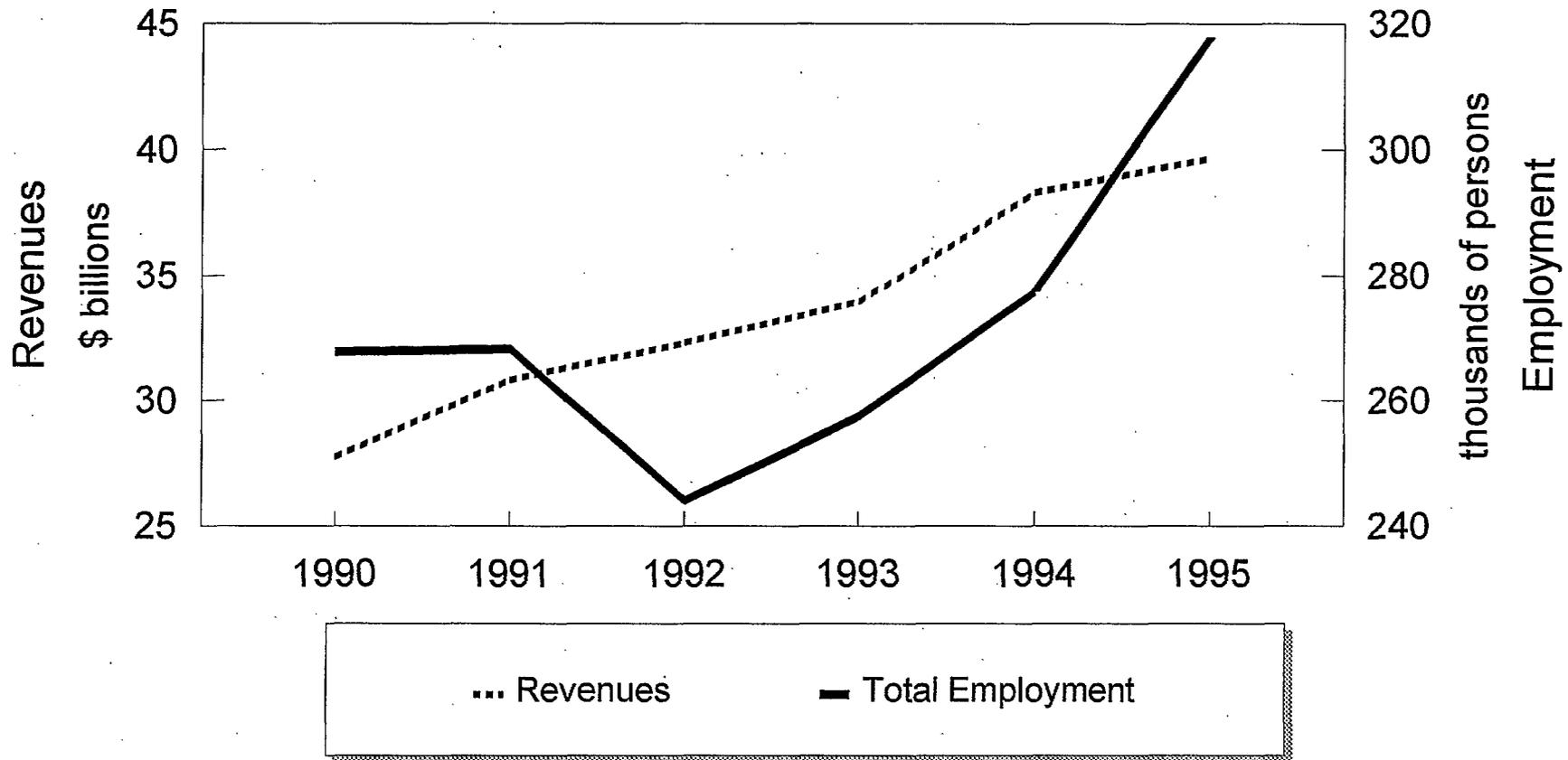
## ICT Manufacturing: 1990 - 1995 Revenues and Employment



Source: Annual Survey of Manufactures, Statistics Canada (Cat. no. 31-203) with 1995 estimates by Industry Canada.

Figure 7

## ICT Services: 1990 - 1995 Revenues and Employment



Source:

The Labour Force Survey, Statistics Canada (Cat. no. 71-001).

Financial and Taxation Statistics for Enterprises, Statistics Canada (Cat. no. 61-219).

Radio and Television Broadcasting, (Cat. no. 56-204), Cable Television, (Cat. no. 56-205), Statistics Canada.

Industry Canada estimates for Other Telecommunications Services Providers revenues.

# ICT Manufacturing and Services

## Figure 8 - Revenues and Employment Shares 1990, 1995

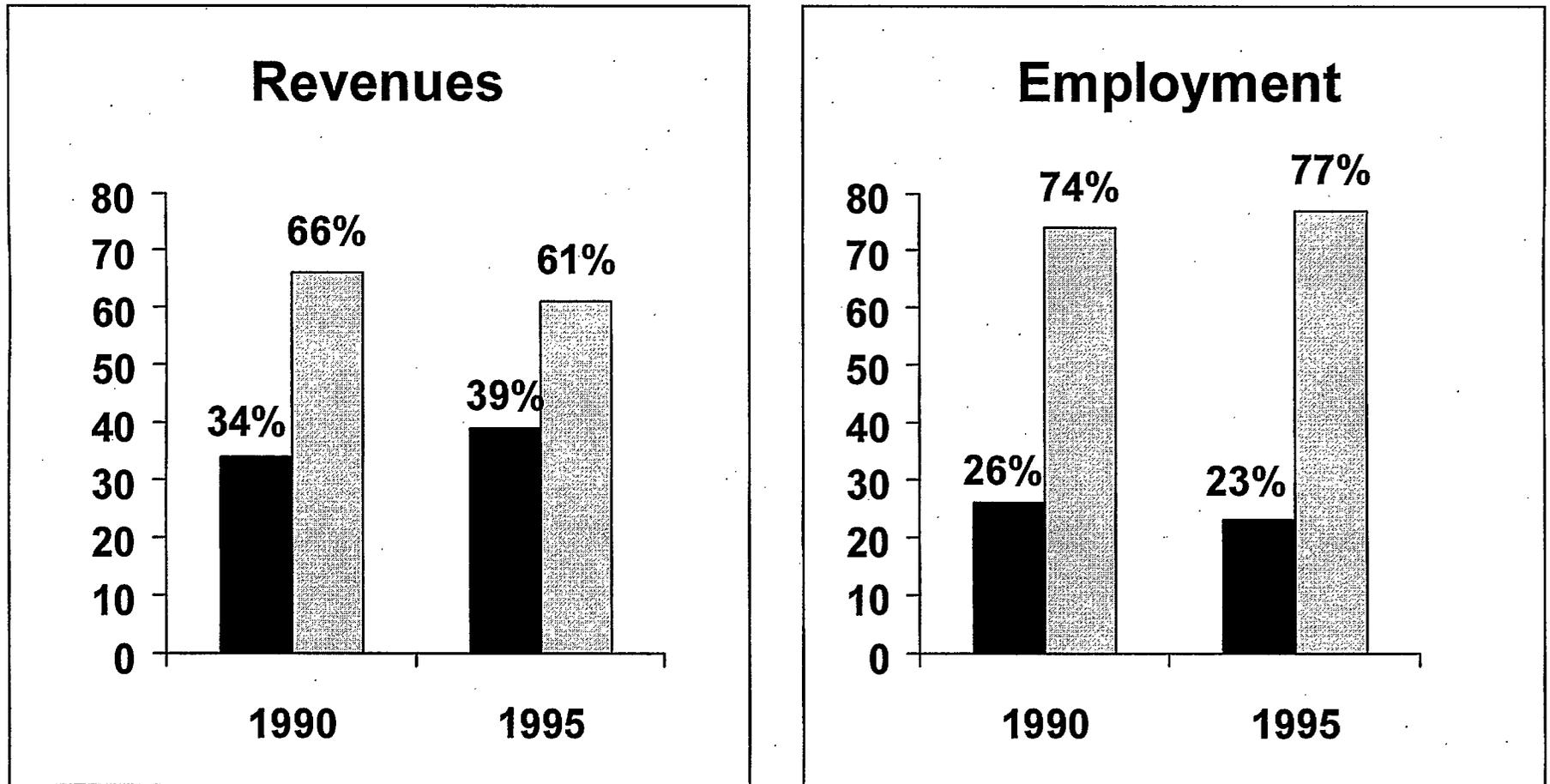
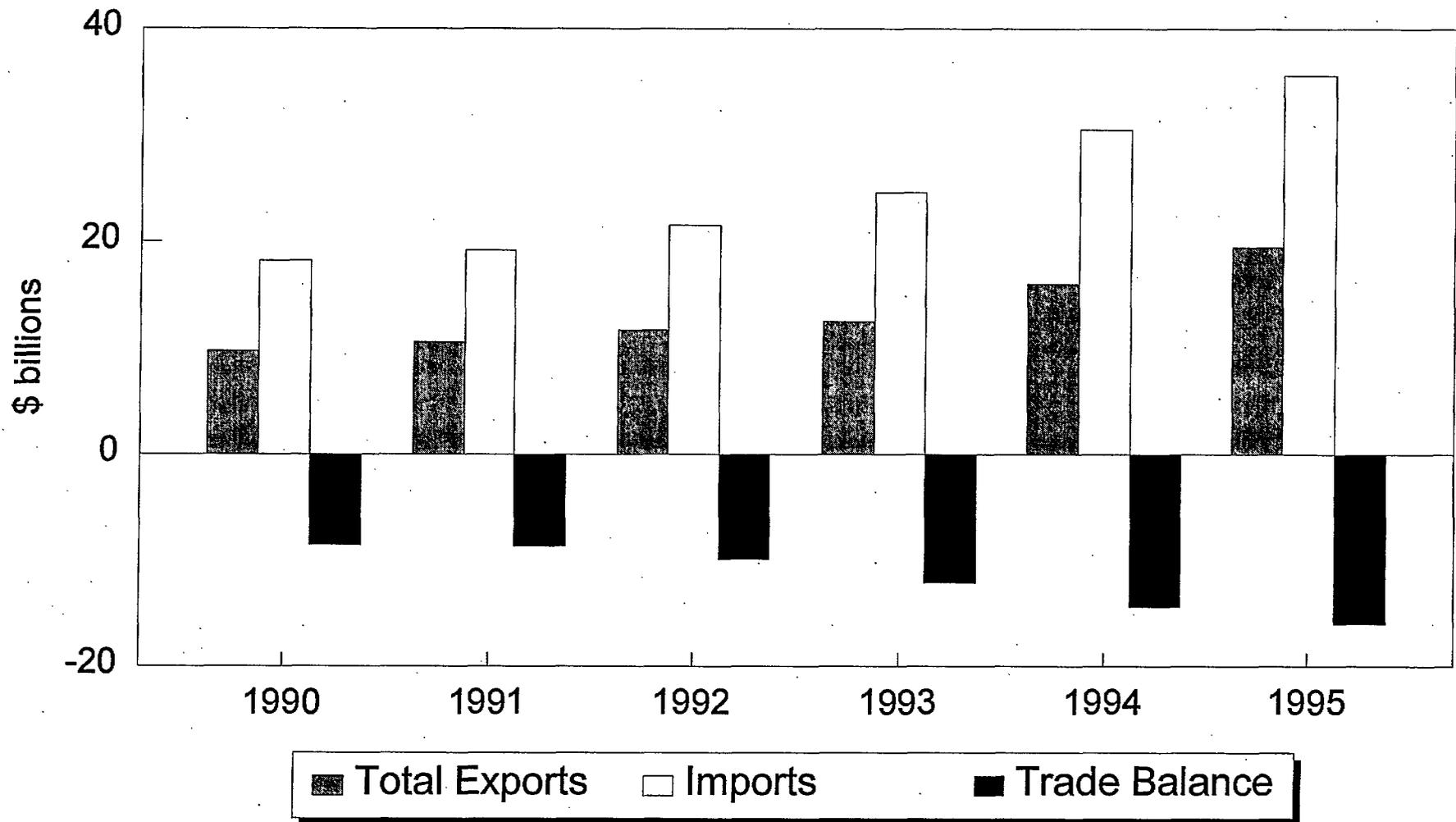


Figure 9

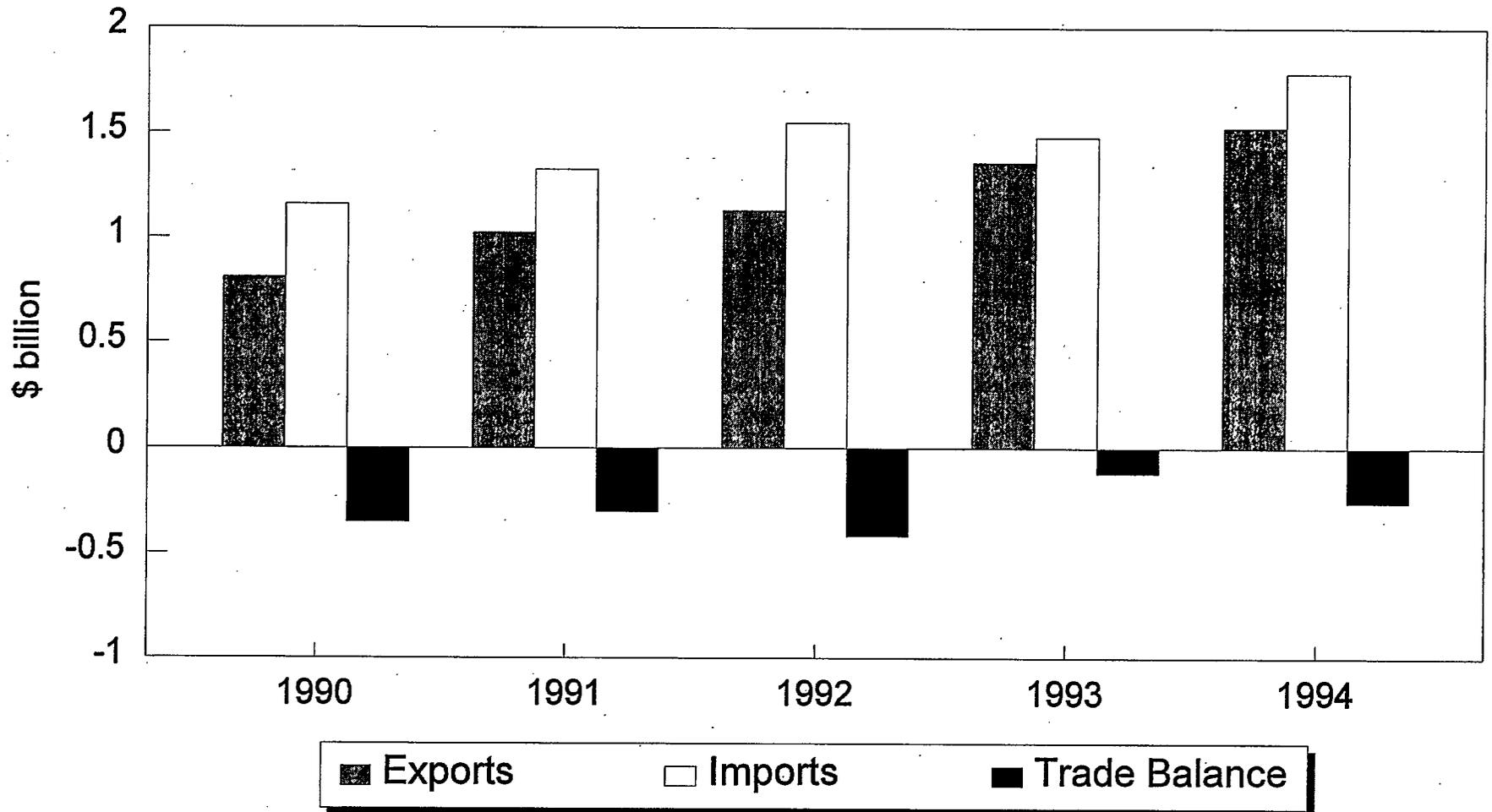
## ICT Manufacturing: 1990 - 1995 Total Exports, Imports and Trade Balance



Source: Trade Information Enquiry Retrieval System, International Trade Division, Statistics Canada.

Figure 10

## ICT Services: 1990 - 1994 Exports, Imports and Trade Balance



Source: Canada's International Transactions in Services (Cat. no. 67-203), Statistics Canada.

Note: Includes Telecommunications services and Postal and Courier services, but excludes Broadcasting. User requirement for redesign of trade data on ICT services are being discussed.



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**Section 4**  
**ICT Sector Aggregate Statistics:**  
**1990 - 1995**

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**Table 4.0**  
**Total ICT Sector**  
**Aggregate Statistics: 1990 - 1995**

Employment	1990	1991	1992	1993	1994	1995	% change 1994-1995	% change 1990-1995	CAGR 1990-1995
	(number of persons)						(percent)		
ICT Manufacturing	93,294	92,775	94,271	87,367	87,330	97,331	11.5	4.3	0.9
ICT Services	267,790	268,311	244,201	257,481	277,588	317,886	14.5	18.7	3.5
<b>Total ICT Sector</b>	<b>361,084</b>	<b>361,086</b>	<b>338,472</b>	<b>344,848</b>	<b>364,918</b>	<b>415,217</b>	<b>13.8</b>	<b>15.0</b>	<b>2.8</b>

Revenues	1990	1991	1992	1993	1994	1995	% change 1994-1995	% change 1990-1995	CAGR 1990-1995
	(in millions of dollars)						(percent)		
ICT Manufacturing	14,315	16,611	18,054	17,881	21,313	25,555	19.9	78.5	12.3
ICT Services	27,784	30,837	32,324	33,963	38,331	39,661	3.5	42.7	7.4
<b>Total ICT Sector</b>	<b>42,099</b>	<b>47,448</b>	<b>50,378</b>	<b>51,844</b>	<b>59,644</b>	<b>65,216</b>	<b>9.3</b>	<b>54.9</b>	<b>9.1</b>

Gross Domestic Product - GDP	1990	1991	1992	1993	1994	1995	% change 1994-1995	% change 1990-1995	CAGR 1990-1995
	(in millions of dollars - 1986 constant \$)						(percent)		
ICT Manufacturing	6,041	6,271	6,872	7,127	9,124	11,287	23.7	86.8	13.3
ICT Services	19,355	20,467	21,322	22,317	24,296	26,306	8.3	35.9	6.3
<b>Total ICT Sector</b>	<b>25,396</b>	<b>26,738</b>	<b>28,194</b>	<b>29,444</b>	<b>33,420</b>	<b>37,593</b>	<b>12.5</b>	<b>48.0</b>	<b>8.2</b>

Research and Development (R&D)	1990	1991	1992	1993	1994	1995	% change 1994-1995	% change 1990-1995	CAGR 1990-1995
	(in millions of dollars)						(percent)		
ICT Manufacturing	1,522	1,588	1,613	1,764	2,018	2,164	7.2	42.2	7.3
ICT Services	401	378	453	565	606	703	16.0	75.3	11.9
<b>Total ICT Sector</b>	<b>1,923</b>	<b>1,966</b>	<b>2,066</b>	<b>2,329</b>	<b>2,624</b>	<b>2,867</b>	<b>9.3</b>	<b>49.1</b>	<b>8.3</b>

See Sources and Technical Notes for more details

**Table 4.1**  
**Total ICT Employment: 1990 - 1995**  
**(Manufacturing and Services)**

		(persons)					
SIC	Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	2,628	2,279	2,664	1,433	1,516	1,591
3351	Telecommunication Equipment Industry	14,861	16,267	17,673	18,704	19,287	22,011
3352	Electronic Parts and Components Industry	14,963	16,389	14,681	13,065	14,293	16,312
3359	Other Communication and Electronic Equipment Industries	26,312	23,458	24,408	21,564	19,095	21,792
3361	Electronic Computing and Peripheral Equipment Industry	12,159	11,011	11,895	10,983	13,749	14,141
3368	Electronic and Other Office, Store and Business Machine Industries	4,037	4,669	4,840	4,444	2,103	2,163
3911	Indicating, Recording and Controlling Instruments Industry	11,452	10,843	10,484	9,678	9,429	10,539
3912	Other Instruments and Related Products Industry	6,882	7,859	7,626	7,496	7,858	8,783
	<b>Total ICT Manufacturing</b>	<b>93,294</b>	<b>92,775</b>	<b>94,271</b>	<b>87,367</b>	<b>87,330</b>	<b>97,331</b>
481	Broadcasting*	53,973	48,675	51,960	51,550	51,003	50,023
482	Telecommunications Carriers*	142,157	129,621	120,217	126,910	127,529	144,551
772	Computer and Related Services*	71,660	90,015	72,024	79,021	99,056	123,312
	<b>Total ICT Services*</b>	<b>267,790</b>	<b>268,311</b>	<b>244,201</b>	<b>257,481</b>	<b>277,588</b>	<b>317,886</b>
	<b>Total ICT</b>	<b>361,084</b>	<b>361,086</b>	<b>338,472</b>	<b>344,848</b>	<b>364,918</b>	<b>415,217</b>

		(percent)		
SIC	Industry	% change 1994-1995	% change 1990-1995	CAGR 1990-1995
3341	Record Player, Radio and Television Receiver Industry	4.9%	-39.5%	-9.5%
3351	Telecommunication Equipment Industry	14.1%	48.1%	8.2%
3352	Electronic Parts and Components Industry	14.1%	9.0%	1.7%
3359	Other Communication and Electronic Equipment Industries	14.1%	-17.2%	-3.7%
3361	Electronic Computing and Peripheral Equipment Industry	2.8%	16.3%	3.1%
3368	Electronic and Other Office, Store and Business Machine Industries	2.8%	-46.4%	-11.7%
3911	Indicating, Recording and Controlling Instruments Industry	11.8%	-8.0%	-1.6%
3912	Other Instruments and Related Products Industry	11.8%	27.6%	5.0%
	<b>Total ICT Manufacturing</b>	<b>11.5%</b>	<b>4.3%</b>	<b>0.9%</b>
481	Broadcasting*	-1.9%	-7.3%	-1.5%
482	Telecommunications Carriers*	13.3%	1.7%	0.3%
772	Computer and Related Services*	24.5%	72.1%	11.5%
	<b>Total ICT Services*</b>	<b>14.5%</b>	<b>18.7%</b>	<b>3.5%</b>
	<b>Total ICT</b>	<b>13.8%</b>	<b>15.0%</b>	<b>2.8%</b>

\* Includes full-time, part-time and self-employed.  
 See Sources and Technical Notes for more details

Table 4.2  
Total ICT Revenues: 1990 - 1995  
(Manufacturing and Services)

(thousands of dollars)

SIC	Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	831,455	726,534	915,371	668,585	821,370	916,675
3351	Telecommunication Equipment Industry	3,003,561	3,511,093	4,018,624	4,192,552	4,871,576	6,075,654
3352	Electronic Parts and Components Industry	1,250,912	3,084,722	3,568,802	3,636,628	3,917,958	4,765,270
3359	Other Communication and Electronic Equipment Industries	3,153,017	3,028,259	3,019,827	2,776,864	2,825,966	2,878,935
3361	Electronic Computing and Peripheral Equipment Industry	2,954,501	2,964,656	3,321,023	3,316,961	5,645,716	7,497,120
3368	Electronic and Other Office, Store and Business Machine Industries	784,958	821,601	775,650	745,497	431,305	384,492
3911	Indicating, Recording and Controlling Instruments Industry	1,317,861	1,286,427	1,282,708	1,313,436	1,405,389	1,579,605
3912	Other Instruments and Related Products Industry	1,019,109	1,187,977	1,151,648	1,230,694	1,393,310	1,456,988
	<b>Total ICT Manufacturing</b>	<b>14,315,374</b>	<b>16,611,269</b>	<b>18,053,653</b>	<b>17,881,217</b>	<b>21,312,590</b>	<b>25,554,739</b>
481	Broadcasting	4,458,660	4,644,385	4,957,793	5,144,482	5,416,315	5,776,527
482	Telecommunications Carriers (other providers included)	15,010,484	15,927,259	16,534,520	17,213,512	18,330,855	19,549,847
772	Computer and Related Services	8,315,311	10,266,406	10,831,564	11,605,200	14,583,107	14,334,180
	<b>Total ICT Services</b>	<b>27,784,455</b>	<b>30,838,050</b>	<b>32,323,877</b>	<b>33,963,194</b>	<b>38,330,277</b>	<b>39,660,554</b>
	<b>Total ICT</b>	<b>42,099,829</b>	<b>47,449,319</b>	<b>50,377,530</b>	<b>51,844,411</b>	<b>59,642,867</b>	<b>65,215,293</b>

(percent)

SIC	Industry	% change 1994-1995	% change 1990-1995	CAGR 1990-1995
3341	Record Player, Radio and Television Receiver Industry	11.6%	10.2%	2.0%
3351	Telecommunication Equipment Industry	24.7%	102.3%	15.1%
3352	Electronic Parts and Components Industry	21.6%	280.9%	30.7%
3359	Other Communication and Electronic Equipment Industries	1.9%	-8.7%	-1.8%
3361	Electronic Computing and Peripheral Equipment Industry	32.8%	153.8%	20.5%
3368	Electronic and Other Office, Store and Business Machine Industries	-10.9%	-51.0%	-13.3%
3911	Indicating, Recording and Controlling Instruments Industry	12.4%	19.9%	3.7%
3912	Other Instruments and Related Products Industry	4.6%	43.0%	7.4%
	<b>Total ICT Manufacturing</b>	<b>19.9%</b>	<b>78.5%</b>	<b>12.3%</b>
481	Broadcasting	6.7%	29.6%	5.3%
482	Telecommunications Carriers (other providers included)	6.6%	30.2%	5.4%
772	Computer and Related Services	-1.7%	72.4%	11.5%
	<b>Total ICT Services</b>	<b>3.5%</b>	<b>42.7%</b>	<b>7.4%</b>
	<b>Total ICT</b>	<b>9.3%</b>	<b>54.9%</b>	<b>9.1%</b>

See Sources and Technical Notes for more details

**Table 4.3**  
**Total ICT GDP (in 1986 dollars): 1990 - 1995**  
**(Manufacturing and Services)**

		(thousands of dollars)					
SIC	Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	159,000	132,400	147,100	75,200	108,700	117,800
3351	Telecommunication Equipment Industry	1,337,900	1,328,300	1,558,600	1,555,800	1,762,200	2,262,700
3352	Electronic Parts and Components Industry	680,900	753,000	834,200	868,900	983,800	1,182,300
3359	Other Communication and Electronic Equipment Industries	1,274,400	1,241,600	1,277,300	1,238,800	1,340,600	1,373,000
336	Office Store and Business Machine Industry	1,815,100	2,067,700	2,291,700	2,622,700	4,106,400	5,459,600
3361	Electronic Computing and Peripheral Equipment Industry	N/A	N/A	N/A	N/A	N/A	N/A
3368	Electronic and Other Office, Store and Business Machine Industries	N/A	N/A	N/A	N/A	N/A	N/A
391	Scientific and Professional Equipment*	804,000	847,700	849,000	858,900	921,200	977,100
	<b>Total ICT Manufacturing*</b>	<b>6,071,300</b>	<b>6,370,700</b>	<b>6,957,900</b>	<b>7,220,300</b>	<b>9,222,900</b>	<b>11,372,500</b>
481	Broadcasting	1,999,200	2,103,600	2,075,500	2,025,500	2,056,500	2,136,600
482	Telecommunications Carriers	13,663,000	14,248,000	14,687,000	15,361,000	16,753,000	18,188,000
772	Computer and Related Services	3,693,000	4,115,000	4,559,000	4,930,000	5,486,000	5,981,000
	<b>Total ICT Services</b>	<b>19,355,200</b>	<b>20,466,600</b>	<b>21,321,500</b>	<b>22,316,500</b>	<b>24,295,500</b>	<b>26,305,600</b>
	<b>Total ICT</b>	<b>25,426,500</b>	<b>26,837,300</b>	<b>28,279,400</b>	<b>29,536,800</b>	<b>33,518,400</b>	<b>37,678,100</b>
	<b>TOTAL CANADIAN GDP</b>	<b>503,660,700</b>	<b>494,543,900</b>	<b>497,603,900</b>	<b>510,690,400</b>	<b>531,599,000</b>	<b>542,006,600</b>

		(percent)		
SIC	Industry	% change 1994-1995	% change 1990-1995	CAGR 1990-1995
3341	Record Player, Radio and Television Receiver Industry	8.4%	-25.9%	-5.8%
3351	Telecommunication Equipment Industry	28.4%	69.1%	11.1%
3352	Electronic Parts and Components Industry	20.2%	73.6%	11.7%
3359	Other Communication and Electronic Equipment Industries	2.4%	7.7%	1.5%
336	Office store and Business Machine Industry	33.0%	200.8%	24.6%
3361	Electronic Computing and Peripheral Equipment Industry	N/A	N/A	N/A
3368	Electronic and Other Office, Store and Business Machine Industries	N/A	N/A	N/A
391	Scientific and Professional Equipment*	6.1%	21.5%	4.0%
	<b>Total ICT Manufacturing*</b>	<b>23.3%</b>	<b>87.3%</b>	<b>13.4%</b>
481	Broadcasting	3.9%	6.9%	1.3%
482	Telecommunications Carriers	8.6%	33.1%	5.9%
772	Computer and Related Services	9.0%	62.0%	10.1%
	<b>Total ICT Services</b>	<b>8.3%</b>	<b>35.9%</b>	<b>6.3%</b>
	<b>Total ICT</b>	<b>12.4%</b>	<b>48.2%</b>	<b>8.2%</b>
	<b>TOTAL CANADIAN GDP</b>	<b>2.0%</b>	<b>7.6%</b>	<b>1.5%</b>

\* Somewhat overstated due to the inclusion of SIC 3913 and 3914 which are not included in the definition of ICT.  
 Data are not available for SIC 3912. See below for GDP figures for SIC 3911.  
 See Sources and Technical Notes for more details

		(thousands of dollars)					
SIC	Industry	1990	1991	1992	1993	1994	1995
3911	Indicating, Recording and Controlling Instruments Industry	408,900	394,700	399,800	389,200	408,600	442,500

**Table 4.4**  
**Total ICT R&D Expenditures: 1990 - 1995**  
**(Manufacturing and Services)**

(thousands of dollars)

SIC	Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	3,182	7,164	9,519	10,662	11,662	12,159
3351	Telecommunication Equipment Industry	738,517	773,383	733,840	904,052	1,101,618	1,344,934
3352	Electronic Parts and Components Industry	42,588	41,436	49,036	48,590	51,771	54,364
3359	Other Communication and Electronic Equipment Industries	374,027	373,585	408,517	421,977	447,471	385,010
3361	Electronic Computing and Peripheral Equipment Industry	274,982	301,985	319,526	281,160	297,095	253,588
3368	Electronic and Other Office, Store and Business Machine Industries	23,834	27,117	25,027	28,049	30,226	31,533
3911	Indicating, Recording and Controlling Instruments Industry	25,347	23,595	24,495	26,580	27,202	28,923
3912	Other Instruments and Related Products Industry	39,515	39,778	42,740	43,107	51,127	53,876
	<b>Total ICT Manufacturing</b>	<b>1,521,992</b>	<b>1,588,043</b>	<b>1,612,700</b>	<b>1,764,177</b>	<b>2,018,172</b>	<b>2,164,387</b>
481+482	Broadcasting and Telecommunications Carriers*	138,875	147,113	172,975	251,591	253,380	236,155
772	Computer and Related Services	262,000	231,000	280,000	313,000	353,000	467,378
	<b>Total ICT Services*</b>	<b>400,875</b>	<b>378,113</b>	<b>452,975</b>	<b>564,591</b>	<b>606,380</b>	<b>703,533</b>
	<b>Total ICT</b>	<b>1,922,867</b>	<b>1,966,156</b>	<b>2,065,675</b>	<b>2,328,768</b>	<b>2,624,552</b>	<b>2,867,920</b>

(percent)

SIC	Industry	% change 1994-1995	% change 1990-1995	CAGR 1990-1995
3341	Record Player, Radio and Television Receiver Industry	4.3%	282.1%	30.7%
3351	Telecommunication Equipment Industry	22.1%	82.1%	12.7%
3352	Electronic Parts and Components Industry	5.0%	27.7%	5.0%
3359	Other Communication and Electronic Equipment Industries	-14.0%	2.9%	0.6%
3361	Electronic Computing and Peripheral Equipment Industry	-14.6%	-7.8%	-1.6%
3368	Electronic and Other Office, Store and Business Machine Industries	4.3%	32.3%	5.8%
3911	Indicating, Recording and Controlling Instruments Industry	6.3%	14.1%	2.7%
3912	Other Instruments and Related Products Industry	5.4%	36.3%	6.4%
	<b>Total ICT Manufacturing</b>	<b>7.2%</b>	<b>42.2%</b>	<b>7.3%</b>
481+482	Broadcasting and Telecommunications Carriers*	-6.8%	70.0%	11.2%
772	Computer and Related Services	32.4%	78.4%	12.3%
	<b>Total ICT Services*</b>	<b>16.0%</b>	<b>75.5%</b>	<b>11.9%</b>
	<b>Total ICT</b>	<b>9.3%</b>	<b>49.1%</b>	<b>8.3%</b>

\* SIC's 481 and 482 are combined to maintain confidentiality among respondents.  
See Sources and Technical Notes for more details

**Table 4.5**  
**Total ICT: Trade**  
**Aggregate Statistics: 1990 - 1995**

Trade	1990	1991	1992	1993	1994	1995	% change	% change	CAGR
	(in millions of dollars)						1994-1995	1990-1995	1990-1995
ICT Manufacturing							(percent)		
Exports	9,643	10,487	11,604	12,434	16,052	19,523	21.6	102.5	15.2
Imports	18,200	19,155	21,549	24,588	30,474	35,563	16.7	95.4	14.3
<b>Balance of trade</b>	<b>(8,557)</b>	<b>(8,668)</b>	<b>(9,945)</b>	<b>(12,154)</b>	<b>(14,422)</b>	<b>(16,040)</b>	<b>11.22</b>	<b>87.45</b>	<b>13.39</b>

Trade	1990	1991	1992	1993	1994	1995	% change	% change	CAGR
	(in millions of dollars)						1993-1994	1990-1994	1990-1994
ICT Services							(percent)		
Exports	807	1,022	1,130	1,361	1,525	N/A	12.0	89.0	17.2
Imports	1,159	1,326	1,547	1,480	1,784	N/A	20.5	53.9	11.4
<b>Balance of trade</b>	<b>(352)</b>	<b>(304)</b>	<b>(417)</b>	<b>(119)</b>	<b>(259)</b>	<b>N/A</b>	<b>-117.6</b>	<b>26.4</b>	<b>7.4</b>

Trade	1990	1991	1992	1993	1994	1995	% change	% change	CAGR
	(in millions of dollars)						1993-1994	1990-1994	1990-1994
ICT Sector							(percent)		
Exports	10,450	11,509	12,734	13,795	17,577	N/A	27.4	68.2	13.9
Imports	19,359	20,481	23,096	26,068	32,258	N/A	23.7	66.6	13.6
<b>Balance of trade</b>	<b>(8,909)</b>	<b>(8,972)</b>	<b>(10,362)</b>	<b>(12,273)</b>	<b>(14,681)</b>	<b>N/A</b>	<b>-19.6</b>	<b>-64.8</b>	<b>-13.3</b>

See Sources and Technical Notes for more details

Table 4.6  
Total ICT Exports: 1990 - 1995

SIC	Name of Industry	1990	1991	1992	1993	1994	1995
(millions of dollars)							
3341	Record Player, Radio and Television Receiver Industry	190	114	137	145	217	257
3351	Telecommunication Equipment Industry	1,102	1,073	1,436	1,924	2,329	2,839
3359	Other Communication and Electronic Equipment Industries	945	879	1,000	974	1,471	1,649
3352	Electronic Parts and Components Industry	3,065	3,580	3,276	2,992	3,468	4,279
3361	Electronic Computing and Peripheral Equipment Industry	2,821	3,257	3,842	4,293	5,975	7,750
3368	Electronic and Other Office, Store and Business Machine Industries	363	324	311	356	392	372
3911	Indicating, Recording and Controlling Instruments Industry	574	601	710	833	1,175	1,214
3912	Other Instruments and Related Products Industry	582	660	891	916	1,026	1,164
	<b>Total ICT Manufacturing Exports</b>	<b>9,643</b>	<b>10,487</b>	<b>11,604</b>	<b>12,434</b>	<b>16,052</b>	<b>19,523</b>
	<b>Total Canadian Merchandise Exports</b>	<b>148,979</b>	<b>146,006</b>	<b>162,827</b>	<b>187,515</b>	<b>226,475</b>	<b>264,207</b>
	Computer and Software	204	382	573	627	799	N/A
	Communications*	603	640	557	734	726	N/A
	<b>Total ICT Services Exports</b>	<b>807</b>	<b>1,022</b>	<b>1,130</b>	<b>1,361</b>	<b>1,525</b>	<b>N/A</b>
	<b>Total Canadian Services Exports</b>	<b>23,361</b>	<b>24,615</b>	<b>25,788</b>	<b>28,118</b>	<b>31,519</b>	<b>36,504</b>
	<b>Total ICT Exports</b>	<b>10,450</b>	<b>11,509</b>	<b>12,734</b>	<b>13,795</b>	<b>17,577</b>	<b>N/A</b>
	<b>Total Canadian Exports</b>	<b>172,340</b>	<b>170,621</b>	<b>188,615</b>	<b>215,633</b>	<b>257,994</b>	<b>300,711</b>

SIC	Name of Industry	% Change	% Change	CAGR
		1994-1995	1990-1995	1990-1995
(percent)				
3341	Record Player, Radio and Television Receiver Industry	18.1	34.7	6.1
3351	Telecommunication Equipment Industry	21.9	157.6	20.8
3359	Other Communication and Electronic Equipment Industries	12.1	74.4	11.8
3352	Electronic Parts and Components Industry	23.4	39.6	6.9
3361	Electronic Computing and Peripheral Equipment Industry	29.7	174.7	22.4
3368	Electronic and Other Office, Store and Business Machine Industries	-4.9	2.6	0.5
3911	Indicating, Recording and Controlling Instruments Industry	3.3	111.5	16.2
3912	Other Instruments and Related Products Industry	13.5	100.1	14.9
	<b>Total ICT Manufacturing Exports</b>	<b>21.6</b>	<b>102.5</b>	<b>15.2</b>
	<b>Total Canadian Merchandise Exports</b>	<b>16.7</b>	<b>77.3</b>	<b>12.1</b>
		<b>% change</b>	<b>% change</b>	<b>CAGR</b>
	<b>Name of Industry</b>	<b>1993-1994</b>	<b>1990-1994</b>	<b>1990-1994</b>
	Computer and Software	27.4	291.7	40.7
	Communications*	-1.1	20.4	4.8
	<b>Total ICT Services Exports</b>	<b>12.0</b>	<b>89.0</b>	<b>17.2</b>
	<b>Total Canadian Services Exports</b>	<b>12.1</b>	<b>34.9</b>	<b>7.8</b>
	<b>Total ICT Exports</b>	<b>27.4</b>	<b>68.2</b>	<b>13.9</b>
	<b>Total Canadian Exports</b>	<b>19.6</b>	<b>49.7</b>	<b>10.6</b>

\* Includes Telecommunications services and Postal and Courier services, but excludes Broadcasting. User requirement for redesign of trade data are being discussed. See Sources and Technical Notes for more details

**Table 4.7**  
**ICT Imports: 1990 - 1995**

SIC	Name of Industry	1990	1991	1992	1993	1994	1995
(millions of dollars)							
3341	Record Player, Radio and Television Receiver Industry	1,459	1,665	1,786	2,056	2,323	2,542
3351	Telecommunication Equipment Industry	551	695	1,019	1,229	1,414	1,690
3359	Other Communication and Electronic Equipment Industries	1,461	1,367	1,357	1,524	1,862	2,163
3352	Electronic Parts and Components Industry	4,786	4,954	5,461	5,995	11,123	13,926
3361	Electronic Computing and Peripheral Equipment Industry	5,224	5,879	6,785	7,839	6,705	7,750
3368	Electronic and Other Office, Store and Business Machine Industries	908	878	1,022	1,106	1,154	1,220
3911	Indicating, Recording and Controlling Instruments Industry	1,276	1,235	1,358	1,758	2,469	2,778
3912	Other Instruments and Related Products Industry	2,535	2,481	2,759	3,080	3,424	3,494
<b>Total ICT Manufacturing Imports</b>		<b>18,200</b>	<b>19,155</b>	<b>21,549</b>	<b>24,588</b>	<b>30,474</b>	<b>35,563</b>
<b>Total Canadian Merchandise Imports</b>		<b>136,245</b>	<b>135,461</b>	<b>148,018</b>	<b>169,953</b>	<b>202,737</b>	<b>225,695</b>
	Computer and Software	518	663	926	853	1,020	N/A
	Communications*	641	663	621	627	764	N/A
<b>Total ICT Services Imports</b>		<b>1,159</b>	<b>1,326</b>	<b>1,547</b>	<b>1,480</b>	<b>1,784</b>	<b>N/A</b>
<b>Total Canadian Services Imports</b>		<b>34,363</b>	<b>36,189</b>	<b>38,055</b>	<b>40,406</b>	<b>40,949</b>	<b>45,860</b>
<b>Total ICT Imports</b>		<b>19,359</b>	<b>20,481</b>	<b>23,096</b>	<b>26,068</b>	<b>32,258</b>	<b>N/A</b>
<b>Total Canadian Imports</b>		<b>170,608</b>	<b>171,650</b>	<b>186,073</b>	<b>210,359</b>	<b>243,686</b>	<b>271,555</b>

SIC	Name of Industry	% Change	% Change	CAGR
		1994-1995	1990-1995	1990-1995
(percent)				
3341	Record Player, Radio and Television Receiver Industry	9.4	74.2	11.7
3351	Telecommunication Equipment Industry	19.5	206.9	25.1
3359	Other Communication and Electronic Equipment Industries	16.2	48.1	8.2
3352	Electronic Parts and Components Industry	25.2	191.0	23.8
3361	Electronic Computing and Peripheral Equipment Industry	15.6	48.3	8.2
3368	Electronic and Other Office, Store and Business Machine Industries	5.7	34.4	6.1
3911	Indicating, Recording and Controlling Instruments Industry	12.5	117.6	16.8
3912	Other Instruments and Related Products Industry	2.1	37.8	6.6
<b>Total ICT Manufacturing Imports</b>		<b>16.7</b>	<b>95.4</b>	<b>14.3</b>
<b>Total Canadian Merchandise Imports</b>		<b>11.3</b>	<b>65.7</b>	<b>10.6</b>
	<b>Name of Industry</b>	<b>% change</b>	<b>% change</b>	<b>CAGR</b>
	Computer and Software	19.6	96.9	18.5
	Communications*	21.9	19.2	4.5
<b>Total ICT Services Imports</b>		<b>20.5</b>	<b>53.9</b>	<b>11.4</b>
<b>Total Canadian Services Imports</b>		<b>1.3</b>	<b>19.2</b>	<b>4.5</b>
<b>Total ICT Imports</b>		<b>23.7</b>	<b>66.6</b>	<b>13.6</b>
<b>Total Canadian Imports</b>		<b>15.8</b>	<b>42.8</b>	<b>9.3</b>

\* Includes Telecommunications services and Postal and Courier services, but excludes Broadcasting. User requirement for redesign of trade data are being discussed. See Sources and Technical Notes for more details

Table 4.8  
ICT Trade Balance: 1990 - 1995

SIC	Name of Industry	1990	1991	1992	1993	1994	1995
		(millions of dollars)					
3341	Record Player, Radio and Television Receiver Industry	(1,268)	(1,551)	(1,649)	(1,911)	(2,106)	(2,285)
3351	Telecommunication Equipment Industry	551	378	417	695	914	1,149
3359	Other Communication and Electronic Equipment Industries	(515)	(488)	(357)	(550)	(391)	(514)
3352	Electronic Parts and Components Industry	(1,721)	(1,374)	(2,185)	(3,002)	(7,655)	(9,647)
3361	Electronic Computing and Peripheral Equipment Industry	(2,403)	(2,623)	(2,943)	(3,546)	(731)	0
3368	Electronic and Other Office, Store and Business Machine Industries	(545)	(554)	(710)	(750)	(762)	(848)
3911	Indicating, Recording and Controlling Instruments Industry	(703)	(634)	(648)	(925)	(1,294)	(1,564)
3912	Other Instruments and Related Products Industry	(1,953)	(1,822)	(1,868)	(2,165)	(2,398)	(2,330)
	<b>Total ICT Manufacturing Trade Balance</b>	<b>(8,557)</b>	<b>(8,668)</b>	<b>(9,945)</b>	<b>(12,154)</b>	<b>(14,422)</b>	<b>(16,040)</b>
	<b>Total Canadian Merchandise Trade Balance</b>	<b>12,734</b>	<b>10,545</b>	<b>14,809</b>	<b>17,562</b>	<b>23,738</b>	<b>38,512</b>
	Computer and Software	(314)	(281)	(353)	(226)	(221)	N/A
	Communications*	(38)	(23)	(64)	107	(38)	N/A
	<b>Total ICT Services Trade Balance</b>	<b>(352)</b>	<b>(304)</b>	<b>(417)</b>	<b>(119)</b>	<b>(259)</b>	<b>N/A</b>
	<b>Total Canadian Services Trade Balance</b>	<b>(11,002)</b>	<b>(11,574)</b>	<b>(12,267)</b>	<b>(12,488)</b>	<b>(9,430)</b>	<b>(9,356)</b>
	<b>Total ICT Trade Balance</b>	<b>(8,909)</b>	<b>(8,972)</b>	<b>(10,362)</b>	<b>(12,273)</b>	<b>(14,681)</b>	<b>N/A</b>
	<b>Total Canadian Trade Balance</b>	<b>1,732</b>	<b>(1,029)</b>	<b>2,542</b>	<b>5,074</b>	<b>14,308</b>	<b>29,156</b>

SIC	Name of Industry	% Change 1994-1995	% Change 1990-1995	CAGR 1990-1995
		(percent)		
3341	Record Player, Radio and Television Receiver Industry	-8.5	-80.2	-12.5
3351	Telecommunication Equipment Industry	25.6	108.3	15.8
3359	Other Communication and Electronic Equipment Industries	-31.6	0.2	0.0
3352	Electronic Parts and Components Industry	-26.0	-460.7	-41.2
3361	Electronic Computing and Peripheral Equipment Industry	N/A	N/A	N/A
3368	Electronic and Other Office, Store and Business Machine Industries	-11.2	-55.5	-9.2
3911	Indicating, Recording and Controlling Instruments Industry	-20.9	-122.6	-17.4
3912	Other Instruments and Related Products Industry	2.8	-19.3	-3.6
	<b>Total ICT Manufacturing Trade Balance</b>	<b>-11.2</b>	<b>-87.4</b>	<b>-13.4</b>
	<b>Total Canadian Merchandise Trade Balance</b>	<b>62.2</b>	<b>202.4</b>	<b>24.8</b>
		<b>% change 1993-1994</b>	<b>% change 1990-1994</b>	<b>CAGR 1990-1994</b>
	Computer and Software	2.2	29.6	8.4
	Communications*	-135.5	0.0	0.0
	<b>Total ICT Services Trade Balance</b>	<b>117.6</b>	<b>26.4</b>	<b>7.4</b>
	<b>Total Canadian Services Trade Balance</b>	<b>-24.5</b>	<b>-14.3</b>	<b>-3.8</b>
	<b>Total ICT Trade Balance</b>	<b>19.6</b>	<b>64.8</b>	<b>13.3</b>
	<b>Total Canadian Trade Balance</b>	<b>182.0</b>	<b>726.1</b>	<b>69.5</b>

\* Includes Telecommunications services and Postal and Courier services, but excludes Broadcasting. User requirement for redesign of trade data are being discussed. See Sources and Technical Notes for more details

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## **Section 5**

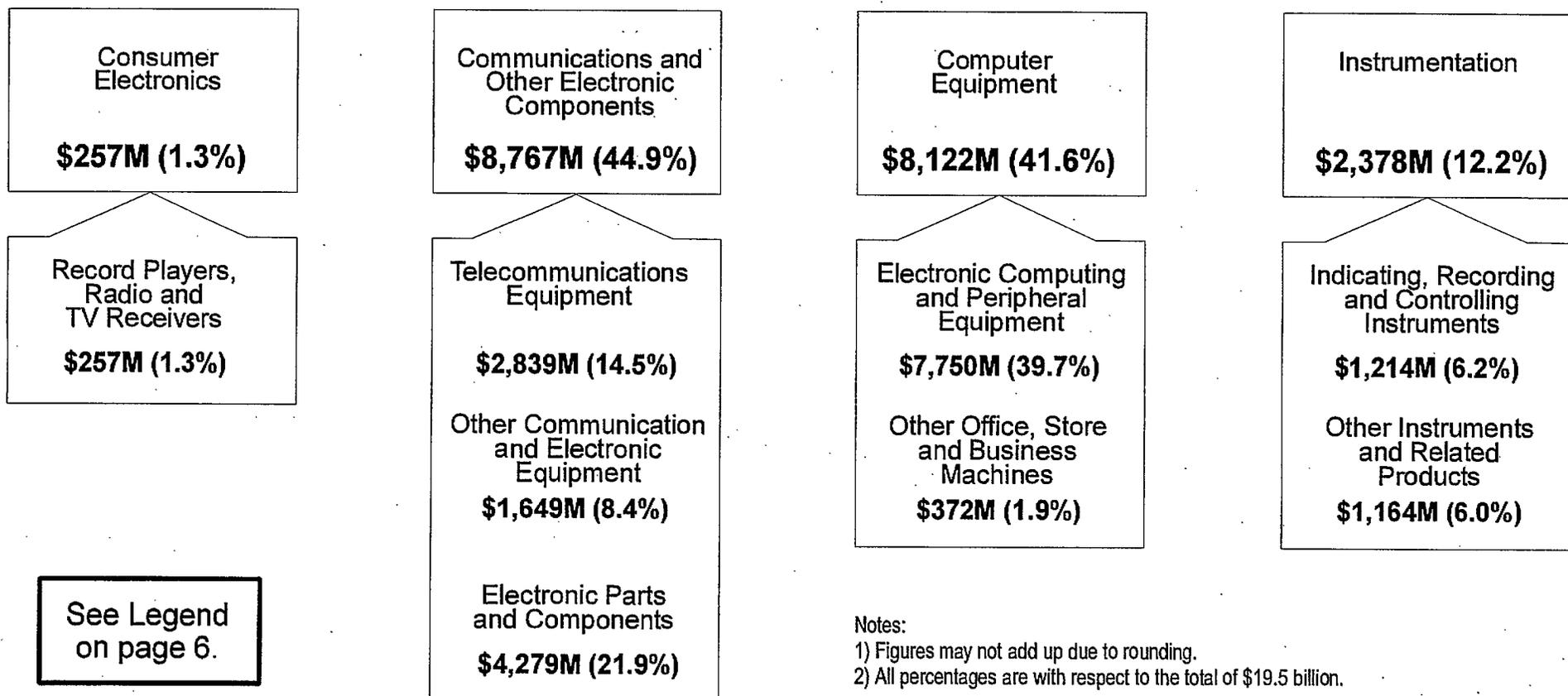
# **ICT Manufacturing (Merchandise) Trade**

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# Information and Communication Technologies

## Figure 11 - Total Manufacturing Exports: 1995

### \$19.5 billion



**Table 5.1**  
**ICT Manufacturing Sector**  
**Total Exports: 1990 - 1995**

thousands of dollars

SIC	Name of Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	190,474	114,095	137,032	144,635	217,188	256,547
3351	Telecommunication Equipment Industry	1,102,303	1,072,837	1,435,881	1,924,310	2,328,609	2,839,003
3359	Other Communication and Electronic Equipment Industries	945,377	878,691	999,938	974,174	1,470,926	1,649,016
3352	Electronic Parts and Components Industry	3,065,120	3,580,019	3,275,901	2,992,473	3,468,440	4,278,510
3361	Electronic Computing and Peripheral Equipment Industry	2,821,063	3,256,564	3,842,354	4,293,010	5,974,701	7,750,266
3368	Electronic and Other Office, Store and Business Machine Industries	362,885	323,877	311,499	356,132	391,522	372,226
3911	Indicating, Recording and Controlling Instruments Industry	573,830	601,047	710,445	833,335	1,175,056	1,213,645
3912	Other Instruments and Related Products Industry	581,687	659,845	890,685	915,770	1,025,593	1,163,902
	<b>Total ICT Manufacturing Exports</b>	<b>9,642,740</b>	<b>10,486,975</b>	<b>11,603,735</b>	<b>12,433,838</b>	<b>16,052,035</b>	<b>19,523,115</b>
	<b>Total Canadian Merchandise Exports</b>	<b>148,979,000</b>	<b>146,006,000</b>	<b>162,827,000</b>	<b>187,515,000</b>	<b>226,475,000</b>	<b>264,207,000</b>

Percentage of total ICT manufacturing exports

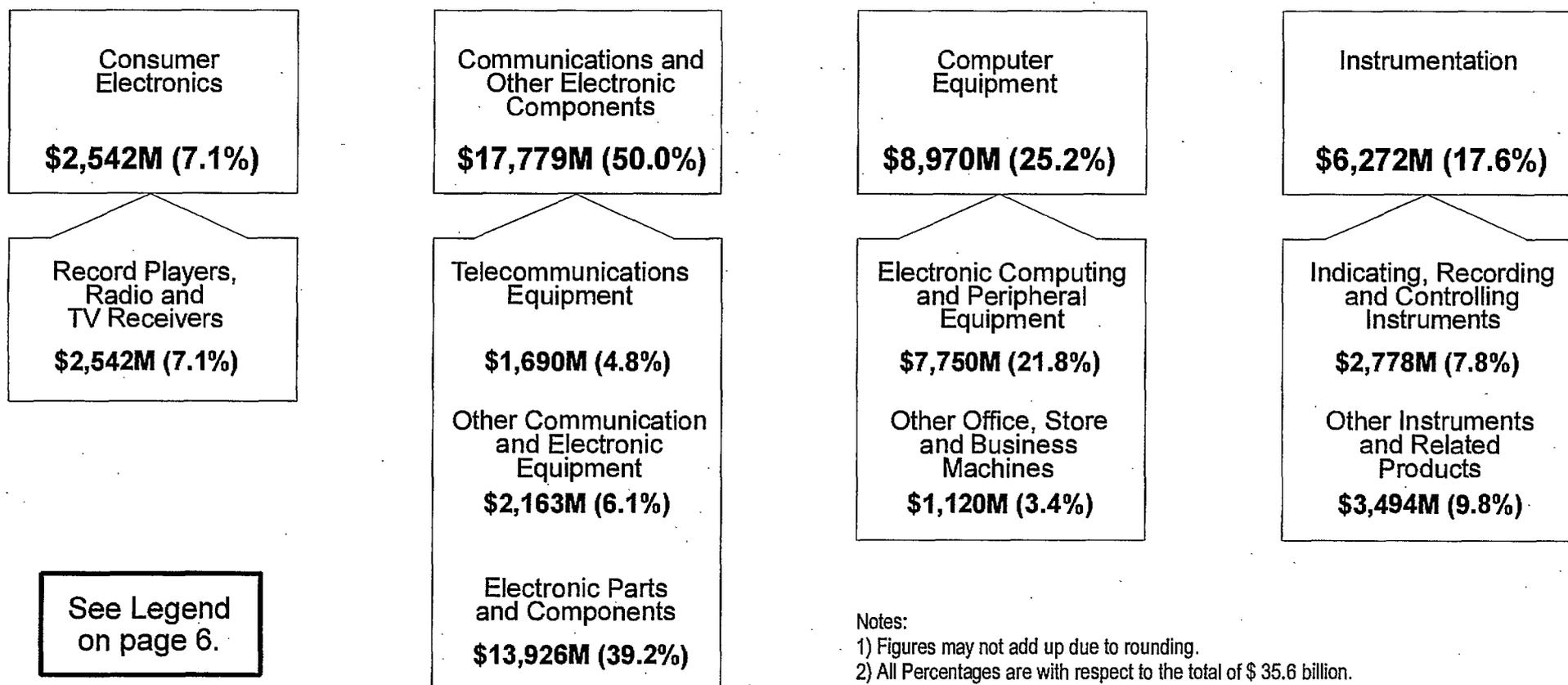
SIC	Name of Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	2.0	1.1	1.2	1.2	1.4	1.3
3351	Telecommunication Equipment Industry	11.4	10.2	12.4	15.5	14.5	14.5
3359	Other Communication and Electronic Equipment Industries	9.8	8.4	8.6	7.8	9.2	8.4
3352	Electronic Parts and Components Industry	31.8	34.1	28.2	24.1	21.6	21.9
3361	Electronic Computing and Peripheral Equipment Industry	29.3	31.1	33.1	34.5	37.2	39.7
3368	Electronic and Other Office, Store and Business Machine Industries	3.8	3.1	2.7	2.9	2.4	1.9
3911	Indicating, Recording and Controlling Instruments Industry	6.0	5.7	6.1	6.7	7.3	6.2
3912	Other Instruments and Related Products Industry	6.0	6.3	7.7	7.4	6.4	6.0
	<b>Total ICT Manufacturing Exports</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
	<b>ICT Exports as a percentage of total Canadian Merchandise Exports</b>	<b>6.5</b>	<b>7.2</b>	<b>7.1</b>	<b>6.6</b>	<b>7.1</b>	<b>7.4</b>

See Sources and Technical Notes for more details

# Information and Communication Technologies

## Figure 12 - Manufacturing Imports: 1995

### \$35.6 billion



**Table 5.2**  
**ICT Manufacturing Sector**  
**Imports: 1990 - 1995**

thousands of dollars

SIC	Name of Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	1,458,792	1,665,260	1,786,347	2,055,814	2,322,757	2,541,514
3351	Telecommunication Equipment Industry	550,875	695,294	1,019,251	1,229,492	1,414,368	1,690,402
3359	Other Communication and Electronic Equipment Industries	1,460,790	1,366,979	1,357,373	1,524,406	1,861,553	2,163,183
3352	Electronic Parts and Components Industry	4,785,828	4,953,746	5,461,302	5,994,935	11,123,493	13,926,002
3361	Electronic Computing and Peripheral Equipment Industry	5,224,331	5,879,324	6,785,206	7,839,459	6,705,253	7,750,232
3368	Electronic and Other Office, Store and Business Machine Industries	908,086	877,769	1,021,591	1,105,915	1,153,878	1,220,162
3911	Indicating, Recording and Controlling Instruments Industry	1,276,367	1,234,881	1,358,438	1,757,877	2,468,973	2,777,747
3912	Other Instruments and Related Products Industry	2,535,122	2,481,469	2,759,013	3,080,277	3,423,714	3,493,993
	<b>Total ICT Manufacturing Imports</b>	<b>18,200,191</b>	<b>19,154,722</b>	<b>21,548,520</b>	<b>24,588,175</b>	<b>30,473,990</b>	<b>35,563,238</b>
	<b>Total Canadian Merchandise Imports</b>	<b>136,245,000</b>	<b>135,461,000</b>	<b>148,018,000</b>	<b>169,953,000</b>	<b>202,737,000</b>	<b>225,695,000</b>

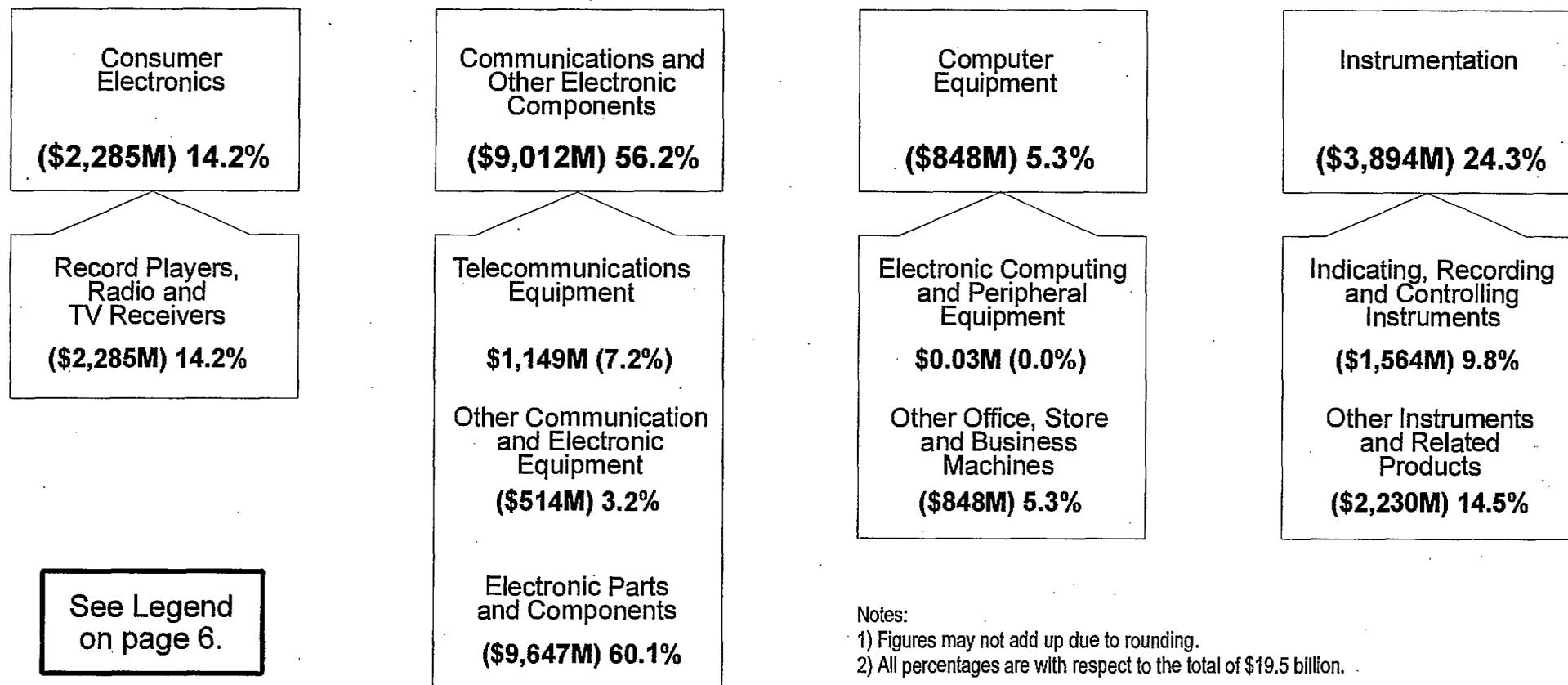
Percentage of total ICT manufacturing imports

SIC	Name of Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	8.0	8.7	8.3	8.4	7.6	7.1
3351	Telecommunication Equipment Industry	3.0	3.6	4.7	5.0	4.6	4.8
3359	Other Communication and Electronic Equipment Industries	8.0	7.1	6.3	6.2	6.1	6.1
3352	Electronic Parts and Components Industry	26.3	25.9	25.3	24.4	36.5	39.2
3361	Electronic Computing and Peripheral Equipment Industry	28.7	30.7	31.5	31.9	22.0	21.8
3368	Electronic and Other Office, Store and Business Machine Industries	5.0	4.6	4.7	4.5	3.8	3.4
3911	Indicating, Recording and Controlling Instruments Industry	7.0	6.4	6.3	7.1	8.1	7.8
3912	Other Instruments and Related Products Industry	13.9	13.0	12.8	12.5	11.2	9.8
	<b>Total ICT Manufacturing Imports</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
	<b>ICT Imports as a percentage of total Canadian Merchandise Imports</b>	<b>13.4</b>	<b>14.1</b>	<b>14.6</b>	<b>14.5</b>	<b>15.0</b>	<b>15.8</b>

See Sources and Technical Notes for more details

# Information and Communication Technologies

## Figure 13 - Total Manufacturing Trade Balance: 1995 (\$16.0 billion deficit)



**Table 5.3**  
**ICT Manufacturing Sector**  
**Trade Balance: 1990 - 1995**

thousands of dollars

SIC	Name of Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	(1,268,318)	(1,551,165)	(1,649,315)	(1,911,180)	(2,105,570)	(2,284,968)
3351	Telecommunication Equipment Industry	551,428	377,543	416,630	694,818	914,241	1,148,601
3359	Other Communication and Electronic Equipment Industries	(515,413)	(488,288)	(357,435)	(550,232)	(390,627)	(514,167)
3352	Electronic Parts and Components Industry	(1,720,708)	(1,373,726)	(2,185,401)	(3,002,462)	(7,655,053)	(9,647,492)
3361	Electronic Computing and Peripheral Equipment Industry	(2,403,267)	(2,622,761)	(2,942,852)	(3,546,449)	(730,552)	34
3368	Electronic and Other Office, Store and Business Machine Industries	(545,200)	(553,892)	(710,092)	(749,783)	(762,357)	(847,937)
3911	Indicating, Recording and Controlling Instruments Industry	(702,537)	(633,834)	(647,992)	(924,542)	(1,293,916)	(1,564,102)
3912	Other Instruments and Related Products Industry	(1,953,435)	(1,821,624)	(1,868,328)	(2,164,507)	(2,398,121)	(2,330,091)
	<b>Total ICT Manufacturing Trade Balance</b>	<b>(8,557,451)</b>	<b>(8,667,747)</b>	<b>(9,944,785)</b>	<b>(12,154,338)</b>	<b>(14,421,955)</b>	<b>(16,040,123)</b>
	<b>Total Canadian Merchandise Trade Balance</b>	<b>12,734,000</b>	<b>10,545,000</b>	<b>14,809,000</b>	<b>17,562,000</b>	<b>23,738,000</b>	<b>38,512,000</b>

Percentage of total ICT manufacturing trade balance

SIC	Name of Industry	1990	1991	1992	1993	1994	1995
3341	Record Player, Radio and Television Receiver Industry	14.8	17.9	16.6	15.7	14.6	14.2
3351	Telecommunication Equipment Industry	(6.4)	(4.4)	(4.2)	(5.7)	(6.3)	(7.2)
3359	Other Communication and Electronic Equipment Industries	6.0	5.6	3.6	4.5	2.7	3.2
3352	Electronic Parts and Components Industry	20.1	15.8	22.0	24.7	53.1	60.1
3361	Electronic Computing and Peripheral Equipment Industry	28.1	30.3	29.6	29.2	5.1	(0.0)
3368	Electronic and Other Office, Store and Business Machine Industries	6.4	6.4	7.1	6.2	5.3	5.3
3911	Indicating, Recording and Controlling Instruments Industry	8.2	7.3	6.5	7.6	9.0	9.8
3912	Other Instruments and Related Products Industry	22.8	21.0	18.8	17.8	16.6	14.5
	<b>Total ICT Manufacturing Trade Balance</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

See Sources and Technical Notes for more details



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**Section 6**  
**ICT Manufacturing**  
**Industry Tables**  
**1990 - 1995**

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**Table 6.0**  
**ICT Manufacturing: 1990 - 1995**  
**Total ICT Manufacturing**

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	60,280	58,244	61,418	56,822	57,448	63,464
Administrative & Executive Employment	33,014	34,533	32,853	30,545	29,882	33,867
Total Employment	93,294	92,775	94,271	87,367	87,330	97,331

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	1,251	1,112	1,077	1,033	1,020	1,070
Production Salaries & Wages	1,745,573	1,765,653	1,967,295	1,848,713	1,922,770	2,134,571
Administrative and Executive Salaries & Wages	1,403,093	1,512,405	1,469,318	1,569,527	1,578,441	1,663,420
Total Salaries and Wages	3,148,666	3,278,058	3,436,613	3,418,240	3,501,211	3,758,949
Total Shipments (Revenue)	14,315,374	16,611,269	18,053,653	17,881,217	21,312,590	25,554,739
Manufacturing Shipments	12,310,169	14,442,199	15,519,960	15,739,354	19,020,733	22,877,670
Cost of Fuel & Electricity	80,905	81,527	88,810	88,538	91,139	105,784
Cost of Materials and Supplies Used	5,891,056	8,106,478	9,014,576	9,049,160	11,505,427	14,067,752
Cost of Materials, Supplies & Goods for Resale	7,227,458	9,387,416	10,704,158	10,474,784	12,968,266	15,752,525
Manufacturing Value Added	6,292,725	6,219,326	6,515,474	6,766,994	7,473,050	8,768,924
Total Value Added	6,931,362	7,053,516	7,285,693	7,483,233	8,302,068	9,761,220

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	6,071,300	6,370,700	6,957,900	7,220,300	9,276,900	11,372,500
R&D Expenditures	1,521,992	1,588,043	1,612,700	1,764,177	2,018,172	2,164,387

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	18,200,191	19,154,722	21,548,520	24,588,175	30,473,990	35,563,238
Total Exports	9,642,740	10,486,975	11,603,735	12,433,838	16,052,035	19,523,115
Trade Balance	(8,557,451)	(8,667,747)	(9,944,785)	(12,154,338)	(14,421,955)	(16,040,123)
Manufacturing Shipments	12,310,169	14,442,199	15,519,960	15,739,354	19,020,733	22,877,670
Apparent Domestic Market	20,867,620	23,109,946	25,464,745	27,893,692	33,442,688	38,917,793

See Sources and Technical Notes for more details

**Table 6.1**  
**ICT Manufacturing: 1990 - 1995**  
**Record Player, Radio and TV Receivers\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	2,066	1,779	2,195	1,239	1,195	1,287
Administrative & Executive Employment	562	500	469	194	321	304
<b>Total Employment</b>	<b>2,628</b>	<b>2,279</b>	<b>2,664</b>	<b>1,433</b>	<b>1,516</b>	<b>1,591</b>

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	20	20	14	15	16	18
Production Salaries & Wages	50,607	44,324	62,525	28,845	30,033	31,394
Administrative and Executive Salaries & Wages	24,444	24,387	25,068	10,698	15,491	15,715
<b>Total Salaries and Wages</b>	<b>75,051</b>	<b>68,711</b>	<b>87,593</b>	<b>39,543</b>	<b>45,524</b>	<b>46,708</b>
Total Shipments (Revenue)	831,455	726,534	915,371	668,585	821,370	916,675
Manufacturing Shipments	555,167	477,539	538,568	272,805	391,052	436,427
Cost of Fuel & Electricity	1,688	1,979	2,168	1,406	1,218	1,359
Cost of Materials and Supplies Used	338,983	322,323	346,017	225,027	327,885	365,930
Cost of Materials, Supplies & Goods for Resale	583,316	516,309	667,809	551,823	653,660	729,506
Manufacturing Value Added	208,825	169,810	178,010	48,190	56,987	63,599
<b>Total Value Added</b>	<b>240,780</b>	<b>224,819</b>	<b>233,021</b>	<b>117,174</b>	<b>161,530</b>	<b>180,273</b>

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	159,000	132,400	147,100	75,200	108,700	117,800
R&D Expenditures	3,182	7,164	9,519	10,662	11,662	12,159

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	1,458,792	1,665,260	1,786,347	2,055,814	2,322,757	2,541,514
Total Exports	190,474	114,095	137,032	144,635	217,188	256,547
Trade Balance	(1,268,318)	(1,551,165)	(1,649,315)	(1,911,180)	(2,105,570)	(2,284,968)
Manufacturing Shipments	555,167	477,539	538,568	272,805	391,052	436,427
Apparent Domestic Market	1,823,485	2,028,704	2,187,883	2,183,985	2,496,622	2,721,395

**\* Refers to SIC 3341**

also referred to as Consumer Electronics

See Sources and Technical Notes for more details

**Table 6.2**  
**ICT Manufacturing: 1990 - 1995**  
**Communication and Other Electronic Components\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	38,961	37,089	38,664	35,814	36,634	41,282
Administrative & Executive Employment	17,175	19,027	18,098	17,519	16,041	18,832
Total Employment	56,136	56,114	56,762	53,333	52,675	60,114

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	557	501	484	467	458	478
Production Salaries & Wages	1,190,772	1,189,347	1,337,439	1,255,766	1,311,787	1,464,119
Administrative and Executive Salaries & Wages	736,757	814,522	782,354	897,896	871,680	926,227
Total Salaries and Wages	1,927,529	2,003,869	2,119,793	2,153,662	2,183,467	2,345,313
Total Shipments (Revenue)	7,407,490	9,624,074	10,607,253	10,606,044	11,615,500	13,719,859
Manufacturing Shipments	6,700,601	8,781,806	9,699,201	9,840,064	10,970,217	12,963,176
Cost of Fuel & Electricity	47,624	49,934	56,645	56,326	57,911	67,329
Cost of Materials and Supplies Used	2,607,817	4,507,419	5,287,977	5,369,644	5,712,608	6,789,416
Cost of Materials, Supplies & Goods for Resale	3,076,025	5,029,965	5,873,564	5,914,240	6,224,115	7,386,112
Manufacturing Value Added	4,045,294	4,160,918	4,480,071	4,515,577	5,206,312	6,115,202
Total Value Added	4,253,809	4,426,698	4,728,644	4,736,961	5,340,088	6,275,188

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	3,293,200	3,322,900	3,670,100	3,663,500	4,086,600	4,818,000
R&D Expenditures	1,155,132	1,188,404	1,191,393	1,374,619	1,600,860	1,784,308

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	6,797,493	7,016,018	7,837,926	8,748,834	14,399,414	17,779,588
Total Exports	5,112,800	5,531,547	5,711,720	5,890,957	7,267,975	8,766,529
Trade Balance	(1,684,693)	(1,484,471)	(2,126,206)	(2,857,877)	(7,131,439)	(9,013,058)
Manufacturing Shipments	6,700,601	8,781,806	9,699,201	9,840,064	10,970,217	12,963,176
Apparent Domestic Market	8,385,294	10,266,277	11,825,407	12,697,941	18,101,656	21,976,234

\* Refers to SIC 335 (aggregation of SIC 3351, 3352 & 3359)

See Sources and Technical Notes for more details

**Table 6.2.1**  
**ICT Manufacturing: 1990 - 1995**  
**Electronic Parts and Components Industry\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	12,242	11,192	9,799	10,251	11,532	12,545
Administrative & Executive Employment	2,721	5,198	4,882	2,814	2,761	3,767
<b>Total Employment</b>	<b>14,963</b>	<b>16,389</b>	<b>14,681</b>	<b>13,065</b>	<b>14,293</b>	<b>16,312</b>

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	262	222	215	208	209	218
Production Salaries & Wages	286,730	265,730	260,060	266,494	313,373	349,764
Administrative and Executive Salaries & Wages	111,053	194,405	158,345	138,083	142,628	151,553
Total Salaries and Wages	397,783	460,135	418,405	404,577	456,001	489,801
Total Shipments (Revenue)	1,250,912	3,084,722	3,568,802	3,636,628	3,917,958	4,765,270
Manufacturing Shipments**	1,190,258	3,020,879	3,484,147	3,568,140	3,893,984	4,736,112
Cost of Fuel & Electricity	20,448	21,595	21,921	22,566	24,636	29,964
Cost of Materials and Supplies Used	448,742	2,204,267	2,720,184	2,693,925	2,759,935	3,356,809
Cost of Materials, Supplies & Goods for Resale	502,776	2,246,050	2,785,072	2,738,921	2,784,005	3,386,084
Manufacturing Value Added	723,672	688,527	741,087	847,092	1,122,989	1,365,851
Total Value Added	730,292	709,106	764,812	870,584	1,122,893	1,365,734

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	680,900	753,000	834,200	868,900	983,800	1,182,300
R&D Expenditures	42,588	41,436	49,036	48,590	51,771	54,364

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	4,785,828	4,953,746	5,461,302	5,994,935	11,123,493	13,926,002
Total Exports	3,065,120	3,580,019	3,275,901	2,992,473	3,468,440	4,278,510
Trade Balance	(1,720,708)	(1,373,726)	(2,185,401)	(3,002,462)	(7,655,053)	(9,647,492)
Manufacturing Shipments**	1,190,258	3,020,879	3,484,147	3,568,140	3,893,984	4,736,112
Apparent Domestic Market	2,910,966	4,394,605	5,669,548	6,570,602	11,549,037	14,383,604

**\* Refers to SIC 3352**

\*\* In 1991, the method of reporting manufacturing shipments changed for this SIC.  
 See Sources and Technical Notes for more details

**Table 6.2.2**  
**ICT Manufacturing: 1990 - 1995**  
**Telecommunication Equipment Industry and Other**  
**Communication and Electronic Equipment Industries**

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	26,719	25,897	28,865	25,563	25,102	28,737
Administrative & Executive Employment	14,454	13,829	13,216	14,705	13,280	15,065
Total Employment	41,173	39,725	42,081	40,268	38,382	43,802

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	295	279	269	259	249	259
Production Salaries & Wages	904,042	923,617	1,077,379	989,272	998,414	1,114,356
Administrative and Executive Salaries & Wages	625,704	620,117	624,009	759,813	729,052	774,674
Total Salaries and Wages	1,529,746	1,543,734	1,701,388	1,749,085	1,727,466	1,855,512
Total Shipments (Revenue)	6,156,578	6,539,352	7,038,451	6,969,416	7,697,542	8,954,589
Manufacturing Shipments	5,510,343	5,760,927	6,215,054	6,271,924	7,076,233	8,227,064
Cost of Fuel & Electricity	27,176	28,339	34,724	33,760	33,275	37,365
Cost of Materials and Supplies Used	2,159,075	2,303,152	2,567,793	2,675,719	2,952,673	3,432,607
Cost of Materials, Supplies & Goods for Resale	2,573,249	2,783,915	3,088,492	3,175,319	3,440,110	4,000,028
Manufacturing Value Added	3,321,622	3,472,391	3,738,984	3,668,485	4,083,323	4,749,351
Total Value Added	3,523,517	3,717,592	3,963,832	3,866,377	4,217,195	4,909,454

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	2,612,300	2,569,900	2,835,900	2,794,600	3,102,800	3,635,700
R&D Expenditures	1,112,544	1,146,968	1,142,357	1,326,029	1,549,089	1,729,944

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	2,011,665	2,062,273	2,376,624	2,753,898	3,275,921	3,853,586
Total Exports	2,047,680	1,951,528	2,435,819	2,898,483	3,799,535	4,488,019
Trade Balance	36,015	(110,745)	59,195	144,585	523,614	634,434
Manufacturing Shipments	5,510,343	5,760,927	6,215,054	6,271,924	7,076,233	8,227,064
Apparent Domestic Market	5,474,328	5,871,672	6,155,859	6,127,339	6,552,619	7,592,630

\* Refers to SIC 3358 (SIC 3351 & 3359)

See Sources and Technical Notes for more details

**Table 6.2.2.1**  
**ICT Manufacturing: 1990 - 1995**  
**Telecommunication Equipment Industry\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	8,498	10,054	11,609	10,497	11,439	13,313
Administrative & Executive Employment	6,363	6,214	6,064	8,207	7,848	8,698
Total Employment	14,861	16,267	17,673	18,704	19,287	22,011

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	57	65	63	62	61	64
Production Salaries & Wages	286,268	361,047	435,825	429,334	445,974	497,763
Administrative and Executive Salaries & Wages	307,360	311,110	314,860	469,780	472,796	502,382
Total Salaries and Wages	593,628	672,157	750,685	899,114	918,770	986,872
Total Shipments (Revenue)	3,003,561	3,511,093	4,018,624	4,192,552	4,871,576	6,075,654
Manufacturing Shipments	2,736,077	3,186,491	3,636,904	3,811,177	4,457,561	5,559,309
Cost of Fuel & Electricity	9,304	10,945	13,226	14,568	15,174	18,924
Cost of Materials and Supplies Used	1,010,953	1,248,250	1,485,546	1,669,679	1,858,810	2,318,241
Cost of Materials, Supplies & Goods for Resale	1,210,404	1,475,777	1,738,055	1,935,754	2,168,973	2,705,065
Manufacturing Value Added	1,743,039	1,990,567	2,238,095	2,234,300	2,580,733	3,218,597
Total Value Added	1,780,906	2,035,181	2,289,456	2,349,600	2,684,585	3,348,118

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	1,337,900	1,328,300	1,558,600	1,555,800	1,762,200	2,262,700
R&D Expenditures	738,517	773,383	733,840	904,052	1,101,618	1,344,934

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	550,875	695,294	1,019,251	1,229,492	1,414,368	1,690,402
Total Exports	1,102,303	1,072,837	1,435,881	1,924,310	2,328,609	2,839,003
Trade Balance	551,428	377,543	416,630	694,818	914,241	1,148,601
Manufacturing Shipments	2,736,077	3,186,491	3,636,904	3,811,177	4,457,561	5,559,309
Apparent Domestic Market	2,184,649	2,808,948	3,220,274	3,116,359	3,543,320	4,410,708

\* Refers to SIC 3351

See Sources and Technical Notes for more details

**Table 6.2.2.2**  
**ICT Manufacturing: 1990 - 1995**  
**Other Communication and Electronic Equipment Industries\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	18,221	15,843	17,256	15,066	13,663	15,424
Administrative & Executive Employment	8,091	7,615	7,152	6,498	5,432	6,367
<b>Total Employment</b>	<b>26,312</b>	<b>23,458</b>	<b>24,408</b>	<b>21,564</b>	<b>19,095</b>	<b>21,791</b>

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	238	214	206	197	188	195
Production Salaries & Wages	617,774	562,570	641,554	559,938	552,440	616,593
Administrative and Executive Salaries & Wages	318,344	309,007	309,149	290,033	256,256	272,292
Total Salaries and Wages	936,118	871,577	950,703	849,971	808,696	888,639
Total Shipments (Revenue)	3,153,017	3,028,259	3,019,827	2,776,864	2,825,966	2,878,935
Manufacturing Shipments	2,774,266	2,574,436	2,578,150	2,460,747	2,618,672	2,667,755
Cost of Fuel & Electricity	17,872	17,394	21,498	19,192	18,101	18,440
Cost of Materials and Supplies Used	1,148,122	1,054,902	1,082,247	1,006,040	1,093,863	1,114,366
Cost of Materials, Supplies & Goods for Resale	1,362,845	1,308,138	1,350,437	1,239,565	1,271,137	1,294,963
Manufacturing Value Added	1,578,583	1,481,824	1,500,889	1,434,185	1,502,590	1,530,754
Total Value Added	1,742,611	1,682,411	1,674,376	1,516,777	1,532,610	1,561,337

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	1,274,400	1,241,600	1,277,300	1,238,800	1,340,600	1,373,000
R&D Expenditures	374,027	373,585	408,517	421,977	447,471	385,010

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	1,460,790	1,366,979	1,357,373	1,524,406	1,861,553	2,163,183
Total Exports	945,377	878,691	999,938	974,174	1,470,926	1,649,016
Trade Balance	(515,413)	(488,288)	(357,435)	(550,232)	(390,627)	(514,167)
Manufacturing Shipments	2,774,266	2,574,436	2,578,150	2,460,747	2,618,672	2,667,755
Apparent Domestic Market	3,289,679	3,062,724	2,935,585	3,010,979	3,009,299	3,181,922

\* Refers to SIC 3359

See Sources and Technical Notes for more details

**Table 6.3**  
**ICT Manufacturing: 1990 - 1995**  
**Office, Store and Business Machine Industry\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	8,340	7,886	8,826	8,743	8,974	8,781
Administrative & Executive Employment	7,856	7,794	7,909	6,684	6,878	7,523
Total Employment	16,196	15,680	16,735	15,427	15,852	16,304

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	225	189	190	182	173	183
Production Salaries & Wages	211,811	218,263	233,737	247,138	263,516	277,946
Administrative and Executive Salaries & Wages	326,386	346,946	361,736	363,620	374,813	392,305
Total Salaries and Wages	538,197	565,209	595,473	610,758	638,329	673,189
Total Shipments (Revenue)	3,739,459	3,786,257	4,096,673	4,062,458	6,077,021	7,881,612
Manufacturing Shipments	3,208,158	3,297,202	3,353,379	3,655,312	5,496,222	7,128,566
Cost of Fuel & Electricity	13,020	12,711	12,528	13,980	14,894	18,601
Cost of Materials and Supplies Used	2,118,547	2,468,110	2,532,752	2,610,536	4,522,583	5,893,125
Cost of Materials, Supplies & Goods for Resale	2,407,573	2,712,727	3,023,641	2,803,307	4,751,400	6,191,122
Manufacturing Value Added	1,049,582	841,478	788,092	1,079,661	1,000,602	1,273,251
Total Value Added	1,291,857	1,085,916	1,040,497	1,294,036	1,352,584	1,728,298

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	1,815,100	2,067,700	2,291,700	2,622,700	4,160,400	5,459,600
R&D Expenditures	298,816	329,102	344,553	309,209	327,321	285,121

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	6,132,416	6,757,094	7,806,797	8,945,374	7,859,131	8,970,395
Total Exports	3,183,948	3,580,441	4,153,853	4,649,141	6,366,223	8,122,492
Trade Balance	(2,948,468)	(3,176,652)	(3,652,945)	(4,296,232)	(1,492,909)	(847,903)
Manufacturing Shipments	3,208,158	3,297,202	3,353,379	3,655,312	5,496,222	7,128,566
Apparent Domestic Market	6,156,626	6,473,854	7,006,324	7,951,544	6,989,131	7,976,470

**\* Refers to SIC 336 (aggregation of SIC 3361, 3362 & 3369)**

also referred to as Computer Equipment

See Sources and Technical Notes for more details

**Table 6.3.1**  
**ICT Manufacturing: 1990 - 1995**  
**Electronic Computing and Peripheral Equipment Industry\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	7,029	6,606	7,447	7,333	7,747	8,452
Administrative & Executive Employment	5,130	4,405	4,448	3,650	6,002	5,689
Total Employment	12,159	11,011	11,895	10,983	13,749	14,141

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	182	148	149	142	137	146
Production Salaries & Wages	177,069	181,627	194,351	204,824	224,592	236,890
Administrative and Executive Salaries & Wages	219,385	209,571	208,862	191,921	333,535	349,101
Total Salaries and Wages	396,454	391,198	403,213	396,745	558,127	588,607
Total Shipments (Revenue)	2,954,501	2,964,656	3,321,023	3,316,961	5,645,716	7,497,120
Manufacturing Shipments	2,837,539	2,884,371	2,960,469	3,241,689	5,106,651	6,781,279
Cost of Fuel & Electricity	10,358	9,863	9,501	10,860	12,198	16,198
Cost of Materials and Supplies Used	1,883,892	2,200,457	2,292,468	2,351,323	4,264,713	5,663,244
Cost of Materials, Supplies & Goods for Resale	1,980,981	2,263,632	2,617,155	2,395,903	4,480,114	5,949,281
Manufacturing Value Added	919,273	716,937	637,622	923,177	873,492	1,159,937
Total Value Added	939,146	734,047	673,489	953,869	1,197,156	1,589,740

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	N/A	N/A	N/A	N/A	N/A	N/A
R&D Expenditures	274,982	301,985	319,526	281,160	297,095	253,588

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	5,224,331	5,879,324	6,785,206	7,839,459	6,705,253	7,750,232
Total Exports	2,821,063	3,256,564	3,842,354	4,293,010	5,974,701	7,750,266
Trade Balance	(2,403,267)	(2,622,761)	(2,942,852)	(3,546,449)	(730,552)	34
Manufacturing Shipments	2,837,539	2,884,371	2,960,469	3,241,689	5,106,651	6,781,279
Apparent Domestic Market	5,240,806	5,507,132	5,903,321	6,788,138	5,837,203	6,781,245

\* Refers to SIC 3361

See Sources and Technical Notes for more details

**Table 6.3.2**  
**ICT Manufacturing: 1990 - 1995**  
**Office, Store and Business Machine Industries (including Electronic)\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	1,311	1,280	1,379	1,410	1,227	1,255
Administrative & Executive Employment	2,726	3,389	3,461	3,034	876	908
Total Employment	4,037	4,669	4,840	4,444	2,103	2,163

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	43	41	41	40	36	37
Production Salaries & Wages	34,742	36,636	39,386	42,314	38,924	41,055
Administrative and Executive Salaries & Wages	107,001	137,375	152,874	171,699	41,278	43,204
Total Salaries and Wages	141,743	174,011	192,260	214,013	80,202	84,582
Total Shipments (Revenue)	784,958	821,601	775,650	745,497	431,305	384,492
Manufacturing Shipments	370,619	412,831	392,910	413,623	389,571	347,287
Cost of Fuel & Electricity	2,662	2,848	3,027	3,120	2,696	2,403
Cost of Materials and Supplies Used	234,655	267,653	240,284	259,213	257,870	229,881
Cost of Materials, Supplies & Goods for Resale	426,592	449,095	406,486	407,404	271,286	241,841
Manufacturing Value Added	130,309	124,541	150,470	156,484	127,110	113,314
Total Value Added	352,711	351,869	367,008	340,167	155,428	138,558

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	N/A	N/A	N/A	N/A	N/A	N/A
R&D Expenditures	23,834	27,117	25,027	28,049	30,226	31,533

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	908,086	877,769	1,021,591	1,105,915	1,153,878	1,220,162
Total Exports	362,885	323,877	311,499	356,132	391,522	372,226
Trade Balance	(545,200)	(553,892)	(710,092)	(749,783)	(762,357)	(847,937)
Manufacturing Shipments	370,619	412,831	392,910	413,623	389,571	347,287
Apparent Domestic Market	915,819	966,723	1,103,002	1,163,406	1,151,928	1,195,224

\* Refers to SIC 3368 (SIC 3362 & 3369)

See Sources and Technical Notes for more details

**Table 6.4**  
**ICT Manufacturing: 1990 - 1995**  
**Indicating, Recording, Controlling and Other**  
**Instruments and Related Products Industry\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	10,913	11,490	11,733	11,026	10,645	12,114
Administrative & Executive Employment	7,421	7,212	6,377	6,148	6,642	7,208
Total Employment	18,334	18,702	18,110	17,174	17,287	19,322

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	449	402	389	369	373	392
Production Salaries & Wages	292,383	313,719	333,594	316,964	317,434	361,111
Administrative and Executive Salaries & Wages	315,506	326,550	300,160	297,313	316,457	329,173
Total Salaries and Wages	607,889	640,269	633,754	614,277	633,891	693,739
Total Shipments (Revenue)	2,336,970	2,474,404	2,434,356	2,544,130	2,798,699	3,036,593
Manufacturing Shipments	1,846,243	1,885,652	1,928,812	1,971,173	2,163,242	2,349,501
Cost of Fuel & Electricity	18,573	16,903	17,469	16,826	17,116	18,495
Cost of Materials and Supplies Used	825,709	808,626	847,830	843,953	942,351	1,019,281
Cost of Materials, Supplies & Goods for Resale	1,160,544	1,128,415	1,139,144	1,205,414	1,339,091	1,445,785
Manufacturing Value Added	989,024	1,047,120	1,069,301	1,123,566	1,209,149	1,316,873
Total Value Added	1,144,916	1,316,083	1,283,531	1,335,062	1,447,866	1,577,461

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)**	804,000	847,700	849,000	858,900	921,200	977,100
R&D Expenditures	64,862	63,373	67,235	69,687	78,329	82,799

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	3,811,489	3,716,350	4,117,450	4,838,154	5,892,687	6,271,741
Total Exports	1,155,517	1,260,891	1,601,131	1,749,105	2,200,650	2,377,547
Trade Balance	(2,655,972)	(2,455,459)	(2,516,320)	(3,089,049)	(3,692,038)	(3,894,194)
Manufacturing Shipments	1,846,243	1,885,652	1,928,812	1,971,173	2,163,242	2,349,501
Apparent Domestic Market	4,502,215	4,341,111	4,445,132	5,060,222	5,855,280	6,243,695

**\* Refers to SIC 391 (SIC 3911 & 3912)**  
also referred to as Instrumentation

\*\* Somewhat overstated due to the inclusion of SICs 3913 and 3914.  
See Sources and Technical Notes for more details

**Table 6.4.1**  
**ICT Manufacturing: 1990 - 1995**  
**Indicating, Recording and Controlling Instruments Industry\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	6,622	6,509	6,499	5,815	5,522	6,323
Administrative & Executive Employment	4,830	4,334	3,985	3,863	3,907	4,216
<b>Total Employment</b>	<b>11,452</b>	<b>10,843</b>	<b>10,484</b>	<b>9,678</b>	<b>9,429</b>	<b>10,539</b>

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	270	242	234	221	216	218
Production Salaries & Wages	174,721	178,574	186,881	168,790	159,481	181,425
Administrative and Executive Salaries & Wages	190,081	174,697	169,807	168,680	183,305	190,671
<b>Total Salaries and Wages</b>	<b>364,802</b>	<b>353,271</b>	<b>356,688</b>	<b>337,470</b>	<b>342,786</b>	<b>375,150</b>
<b>Total Shipments (Revenue)</b>	<b>1,317,861</b>	<b>1,286,427</b>	<b>1,282,708</b>	<b>1,313,436</b>	<b>1,405,389</b>	<b>1,579,605</b>
Manufacturing Shipments	1,075,575	1,025,508	1,053,380	1,031,833	1,116,696	1,255,125
Cost of Fuel & Electricity	10,128	7,861	8,186	7,621	7,619	8,563
Cost of Materials and Supplies Used	466,442	435,372	436,907	393,747	432,687	486,324
Cost of Materials, Supplies & Goods for Resale	610,643	568,843	556,544	530,204	581,319	653,381
Manufacturing Value Added	595,495	575,978	611,791	641,260	670,358	753,458
<b>Total Value Added</b>	<b>693,580</b>	<b>703,426</b>	<b>721,482</b>	<b>786,406</b>	<b>810,419</b>	<b>910,881</b>

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	408,900	394,700	399,800	389,200	408,600	442,500
R&D Expenditures	25,347	23,595	24,495	26,580	27,202	28,923

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	1,276,367	1,234,881	1,358,438	1,757,877	2,468,973	2,777,747
Total Exports	573,830	601,047	710,445	833,335	1,175,056	1,213,645
Trade Balance	(702,537)	(633,834)	(647,992)	(924,542)	(1,293,916)	(1,564,102)
Manufacturing Shipments	1,075,575	1,025,508	1,053,380	1,031,833	1,116,696	1,255,125
Apparent Domestic Market	1,778,112	1,659,342	1,701,372	1,956,375	2,410,612	2,819,227

\* Refers to SIC 3911

See Sources and Technical Notes for more details

**Table 6.4.2**  
**ICT Manufacturing: 1990 - 1995**  
**Other Instruments and Related Products\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Production Employees	4,291	4,981	5,234	5,211	5,123	5,819
Administrative & Executive Employment	2,591	2,878	2,392	2,285	2,735	2,964
Total Employment	6,882	7,859	7,626	7,496	7,858	8,783

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments	179	160	155	148	157	174
Production Salaries & Wages	117,662	135,145	146,713	148,174	157,953	179,686
Administrative and Executive Salaries & Wages	125,425	151,853	130,353	128,633	133,152	138,502
Total Salaries and Wages	243,087	286,998	277,066	276,807	291,105	318,589
Total Shipments (Revenue)	1,019,109	1,187,977	1,151,648	1,230,694	1,393,310	1,456,988
Manufacturing Shipments	770,668	860,144	875,432	939,340	1,046,546	1,094,376
Cost of Fuel & Electricity	8,445	9,042	9,283	9,205	9,497	9,931
Cost of Materials and Supplies Used	359,267	373,254	410,923	450,206	509,664	532,957
Cost of Materials, Supplies & Goods for Resale	549,901	559,572	582,600	675,210	757,772	792,404
Manufacturing Value Added	393,529	471,142	457,510	482,306	538,791	563,415
Total Value Added	451,336	612,657	562,049	548,656	637,447	666,580

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	N/A	N/A	N/A	N/A	N/A	N/A
R&D Expenditures	39,515	39,778	42,740	43,107	51,127	53,876

Trade Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Imports	2,535,122	2,481,469	2,759,013	3,080,277	3,423,714	3,493,993
Total Exports	581,687	659,845	890,685	915,770	1,025,593	1,163,902
Trade Balance	(1,953,435)	(1,821,624)	(1,868,328)	(2,164,507)	(2,398,121)	(2,330,091)
Manufacturing Shipments	770,668	860,144	875,432	939,340	1,046,546	1,094,376
Apparent Domestic Market	2,724,103	2,681,768	2,743,760	3,103,847	3,444,667	3,424,467

\* Refers to SIC 3912

See Sources and Technical Notes for more details

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**Section 7**  
**ICT Services**  
**Industry Tables**  
**1990 - 1995**

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**Table 7.0**  
**ICT Services: 1990 - 1995**  
**Total ICT Services**

<b>Establishment Level</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
<b>Number of Establishments*</b>	10,924	11,447	12,001	13,203	13,611	14,364

persons

<b>Employment</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
<b>Total Employment**</b>	267,790	268,311	244,201	257,481	277,588	317,886

thousands of dollars

<b>Revenues</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
<b>Total Revenues</b>	27,784,455	30,838,050	32,323,877	33,963,194	38,330,277	39,660,554

thousands of dollars

<b>Company Level</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
<b>GDP at Factor Cost (1986 constant dollars)</b>	19,355,200	20,466,600	21,321,500	22,316,500	24,295,500	26,305,600
<b>R&amp;D Expenditures</b>	400,875	378,113	452,975	564,591	606,380	703,533

\* Computer Services only.

\*\* Source: The Labour Force Survey, Statistics Canada (Cat. no. 71-001); includes full-time, part-time and self-employed.

See Sources and Technical Notes for more details

**Table 7.1**  
**ICT Services: 1990 - 1995**  
**Software and Computer Services\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment**	71,660	90,015	72,024	79,021	99,056	123,312

Employment	estimated breakdown of employment data (persons)					
	1990	1991	1992	1993	1994	1995
- Full-Time	66,000	84,500	66,100	73,200	92,000	113,300
- Part-Time	5,700	7,500	6,000	5,800	7,100	10,000
Self-Employed	19,600	27,000	18,200	25,200	23,800	31,900

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of Establishments**	10,924	11,447	12,001	13,203	13,611	14,364
Total Wages and Salaries**	2,434,055	2,548,549	2,782,016	3,424,000	3,637,000	4,095,567

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP at Factor Cost (Constant 1986 dollars)	3,693,000	4,115,000	4,559,000	4,930,000	5,486,000	5,981,000
R&D Expenditures	262,000	231,000	280,000	313,000	353,000	467,378

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Revenues	8,315,311	10,266,406	10,831,564	11,605,200	14,583,107	14,334,180
Operating Expenses	7,563,026	10,188,328	10,423,684	11,302,751	13,812,381	13,706,412
Operating Income/Loss	752,285	78,078	407,880	302,449	770,726	627,768
Net Profit	368,278	(109,481)	25,580	(113,776)	354,800	307,002
Total Assets	6,044,536	6,574,283	6,696,952	6,878,901	6,893,074	7,466,076
Total Liabilities	3,454,190	4,347,281	4,209,129	4,449,715	4,090,853	4,441,758
Total Equity	2,590,346	2,227,002	2,487,823	2,429,186	2,802,221	3,024,317
Profit Margin (%)	9.05	0.76	3.77	2.61	5.29	4.38

\* Refers to SIC 772 (Computer and Related Services) or as Software & Computer Services

\*\* "Total Employment" and "Total Wages and Salaries" data are from different sources

See Sources and Technical Notes for more details

Table 7.2  
ICT Services: 1990 - 1995  
Telecommunications Services\*

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment	142,157	129,621	120,217	126,910	127,529	144,551

estimated breakdown of employment data (persons)						
Employment	1990	1991	1992	1993	1994	1995
- Full-Time	136,800	123,600	114,400	120,400	120,000	137,700
- Part-Time	4,000	4,200	4,200	4,900	5,200	5,800
Self-Employed (less than 1,500)	x	x	x	x	x	x

thousands of dollars						
Company Level	1990	1991	1992	1993	1994	1995
GDP at Factor Cost (Constant 1986 dollars)	13,663,000	14,248,000	14,687,000	15,361,000	16,753,000	18,188,000
R&D Expenditures (Combined with Broadcasting)	N/A	N/A	N/A	N/A	N/A	N/A

thousands of dollars						
Operating Revenues	1990	1991	1992	1993	1994	1995
Telecommunications Carriers**	12,264,484	13,712,259	14,277,520	15,876,512	16,501,855	17,817,847
Other Telecommunications Service Providers	2,746,000	2,215,000	2,257,000	1,337,000	1,829,000	1,732,000
Revenues	15,010,484	15,927,259	16,534,520	17,213,512	18,330,855	19,549,847

thousands of dollars or percent						
Other Financial Data	1990	1991	1992	1993	1994	1995
Telecommunications Carriers (only)**						
Operating Expenses	9,318,163	10,283,758	10,728,820	12,599,365	13,142,281	14,813,786
Operating Income/Loss	2,946,321	3,428,501	3,548,700	3,277,147	3,359,574	3,004,061
Net Profit	1,322,946	1,542,339	1,591,491	894,261	1,221,941	792,505
Total Assets	30,966,673	33,271,242	36,150,346	38,591,527	39,346,789	40,617,992
Total Liabilities	16,928,640	18,506,186	20,250,756	22,450,834	23,090,737	24,914,779
Total Equity	14,038,032	14,765,056	15,899,590	16,140,693	16,256,052	15,703,213
Profit Margin (%)	24.02	25.00	24.86	20.64	20.36	16.86

\* Carriers only, refers to SIC 482 (Telecommunications Carriers)

\*\* As reported by Statistics Canada (Cat. no. 61-219)  
See Sources and Technical Notes for more details

**Table 7.3**  
**ICT Services: 1990 - 1995**  
**Broadcasting Services\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment**	53,973	48,675	51,960	51,550	51,003	50,023

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP at factor cost (1986 constant dollars)	1,999,200	2,103,600	2,075,500	2,025,500	2,056,500	2,136,600
- Radio & TV Broadcasting	1,309,100	1,361,300	1,330,300	1,257,000	1,268,600	1,321,500
- Cable Television	690,100	742,300	745,200	768,500	787,900	815,100
R&D Expenditures (Combined with Telecom)	N/A	N/A	N/A	N/A	N/A	N/A

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Revenues (excludes grants)	4,458,660	4,644,385	4,957,793	5,144,482	5,416,315	5,776,527
- Radio & TV Broadcasting	2,817,531	2,854,925	3,011,783	2,992,559	3,086,850	3,244,231
- Cable Television	1,641,129	1,789,460	1,946,010	2,151,923	2,329,465	2,532,296
Operating Expenses	5,372,322	5,558,666	5,690,229	6,048,127	6,253,918	6,735,714
- Radio & TV Broadcasting	3,972,852	4,028,728	4,089,546	4,149,177	4,254,089	4,383,435
- Cable Television	1,399,470	1,529,938	1,600,683	1,898,950	1,999,829	2,352,279
Total Profit before income tax	287,111	220,271	457,963	360,876	509,009	595,739
- Radio & TV Broadcasting***	35,893	(45,807)	104,156	95,261	124,942	161,592
- Cable Television	251,218	266,078	353,807	265,615	384,067	434,147

\* Refers to SIC 481 (Broadcasting).

\*\* Source: The Labour Force Survey, Statistics Canada (Cat. no. 71-001).

\*\*\* Profits include grants for Non-Commercial Radio and TV. Profits not applicable to the CBC.

See Sources and Technical Notes for more details

Table 7.3.1  
ICT Services: 1990 - 1995  
Broadcasting Services  
Radio and TV Broadcasting\*

Establishment Level	1990	1991	1992	1993	1994	1995
Employment**	persons					
- Private radio stations	10,417	10,213	9,813	9,591	9,251	8,963
- Private television stations	8,673	8,524	8,297	8,158	8,273	8,193
- Pay and specialty television services	969	1,061	1,125	1,161	1,200	1,437
- CBC	10,733	9,814	9,294	9,208	12,298	11,524
- Non commercial radio and television stations	1,732	1,775	1,967	2,176	2,250	2,177
<b>Total Employment**</b>	<b>32,524</b>	<b>31,387</b>	<b>30,496</b>	<b>30,294</b>	<b>33,272</b>	<b>32,294</b>

thousands of dollars						
Financial Data	1990	1991	1992	1993	1994	1995
<b>Revenues (excludes grants)</b>	<b>2,817,531</b>	<b>2,854,925</b>	<b>3,011,783</b>	<b>2,992,559</b>	<b>3,086,850</b>	<b>3,244,231</b>
- Private radio stations	780,271	755,900	768,453	741,056	765,837	780,259
- Private television stations	1,364,987	1,377,787	1,460,496	1,464,467	1,490,061	1,530,515
- Pay and specialty television services	297,478	328,685	365,447	399,415	421,413	507,556
- CBC	318,012	321,922	346,307	332,173	350,279	364,821
- Non commercial radio and television stations	56,783	70,631	71,080	55,448	59,260	61,080
<b>Expenses</b>	<b>3,972,852</b>	<b>4,028,728</b>	<b>4,089,546</b>	<b>4,149,177</b>	<b>4,254,089</b>	<b>4,383,435</b>
- Private radio stations	811,434	816,220	813,086	785,219	775,986	764,342
- Private television stations	1,374,221	1,394,014	1,407,197	1,386,806	1,413,233	1,438,529
- Pay and specialty television services	263,022	270,978	290,597	336,183	341,278	429,613
- CBC	1,338,457	1,345,446	1,375,532	1,423,180	1,490,598	1,524,275
- Non commercial radio and television stations	185,718	202,070	203,134	217,789	232,994	226,676
<b>Total Profit before income tax</b>	<b>35,893</b>	<b>(45,807)</b>	<b>104,156</b>	<b>95,261</b>	<b>124,942</b>	<b>161,592</b>
- Private radio stations	(19,602)	(34,145)	(32,074)	(50,034)	(27,770)	3,770
- Private television stations	13,982	(70,409)	56,819	90,364	81,663	92,078
- Pay and specialty television services	34,907	55,315	73,141	62,827	79,355	75,143
- CBC	--	--	--	--	--	--
- Non commercial radio and television stations***	6,606	3,432	6,270	(7,896)	(8,306)	(9,399)
<b>Salaries &amp; Benefits</b>	<b>1,570,138</b>	<b>1,644,269</b>	<b>1,652,858</b>	<b>1,671,453</b>	<b>1,762,806</b>	<b>1,806,155</b>
- Private radio stations	375,241	386,963	391,683	382,501	386,156	379,815
- Private television stations	405,513	420,885	424,694	427,520	444,069	469,029
- Pay and specialty television services	23,516	28,656	33,174	53,761	55,148	66,913
- CBC	683,173	719,801	711,313	713,340	783,203	798,713
- Non commercial radio and television stations	82,695	87,964	91,994	94,331	94,230	91,685

thousands of dollars						
Company Level	1990	1991	1992	1993	1994	1995
GDP: (1986 constant dollars)	1,309,100	1,361,300	1,330,300	1,257,000	1,268,600	1,321,500

\* Refers to SIC 4811 (Radio Broadcasting), SIC 4812 (TV Broadcasting)  
and SIC 4813 (Combined Radio and TV Broadcasting). Data already included in Table 7.3

\*\* Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) was used to provide industry details (full-time equivalents).

\*\*\* Includes grants

See Sources and Technical Notes for more details

**Table 7.3.1A**  
**ICT Services: 1990 - 1995**  
**Radio & TV Broadcasting**  
**Private Radio Stations\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment**	10,417	10,213	9,813	9,591	9,251	8,963

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of stations	495	504	501	499	495	495
Salaries & Benefits	375,241	386,963	391,683	382,501	386,156	379,815

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Revenues	780,271	755,900	768,453	741,056	765,837	780,259
- Sale of air time	764,343	741,063	749,436	721,455	741,141	754,049
- Other	15,928	14,837	19,017	19,601	24,697	26,210
Expenses	811,434	816,220	813,086	785,219	775,986	764,342
- Program	248,740	254,399	255,163	247,774	246,131	251,347
- Technical	32,215	32,562	33,265	31,899	32,126	32,016
- Sales & promotion	199,502	194,525	204,607	204,726	213,510	208,088
- Administration & general	231,940	233,893	234,501	227,203	225,947	207,793
- Depreciation	30,632	31,762	32,250	31,022	29,673	28,418
- Interest expense	68,404	69,079	53,300	42,595	28,598	36,680
Income(Loss) before taxes and adjustments	(31,163)	(60,320)	(44,633)	(44,163)	(10,149)	15,917
Other adjustments-income (expense)	11,561	26,174	12,559	(5,871)	(17,621)	(12,148)
Income(Loss) before income taxes	(19,602)	(34,145)	(32,074)	(50,034)	(27,770)	3,770
Income(Loss) after income taxes	(26,047)	(41,085)	(36,229)	(48,196)	(31,288)	(4,346)

\* Data already included in Table 7.3.1

\*\* Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) was used to provide industry details (full-time equivalents).  
 Numbers may not add up due to rounding  
 See Sources and Technical Notes for more details

**Table 7.3.1B**  
**ICT Services: 1990 -1995**  
**Radio & TV Broadcasting**  
**Private TV Stations\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment**	8,673	8,524	8,297	8,158	8,273	8,193

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of stations	103	104	104	106	102	100
Salaries & Benefits	405,513	420,885	424,694	427,520	444,069	469,029

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Revenues	1,364,987	1,377,787	1,460,496	1,464,467	1,490,061	1,530,515
- Sale of air time	1,248,382	1,262,735	1,341,424	1,329,877	1,370,898	1,444,038
- Other	116,606	115,052	119,073	134,590	119,163	86,476
Expenses	1,374,221	1,394,014	1,407,197	1,386,806	1,413,233	1,438,529
- Program	774,164	789,972	800,898	791,133	820,885	825,206
- Technical	74,084	70,164	71,865	71,566	71,520	75,486
- Sales & promotion	149,799	147,222	148,085	156,002	154,202	168,201
- Administration & general	226,131	223,064	220,131	212,367	220,629	210,069
- Depreciation	54,500	54,068	55,709	54,991	56,066	55,674
- Interest expense	95,544	109,523	110,508	100,746	89,930	103,893
Income(Loss) before taxes and adjustments	(9,234)	(16,227)	53,299	77,661	76,828	91,986
Other adjustments-income (expense)	23,215	(54,183)	3,520	12,703	4,836	92
Income(Loss) before income taxes	13,982	(70,409)	56,819	90,364	81,663	92,078
Income(Loss) after income taxes	915	(64,979)	29,528	58,452	38,399	44,272

\* Data already included in Table 7.3.1

\*\* Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) was used to provide industry details (full-time equivalents).

Numbers may not add up due to rounding

See Sources and Technical Notes for more details

**Table 7.3.1C**  
**ICT Services: 1990 -1995**  
**Radio & TV Broadcasting**  
**Pay and Specialty TV Services\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment**	969	1,061	1,125	1,161	1,200	1,437

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Number of services	16	16	18	18	18	27
Salaries & Benefits	23,516	28,656	33,174	53,761	55,148	66,913

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Revenues	297,478	328,685	365,447	399,415	421,413	507,556
- Sale of air time	54,826	65,340	77,936	87,126	94,964	104,718
- Other	242,653	263,345	287,511	312,289	326,448	402,838
Expenses	263,022	270,978	290,597	336,183	341,278	429,613
- Program	143,298	148,969	162,589	186,379	197,836	253,208
- Technical	34,572	36,634	39,158	42,542	39,341	48,399
- Sales & promotion	35,263	41,585	41,064	46,114	44,588	55,961
- Administration & general	23,036	28,899	34,480	44,595	43,745	48,400
- Depreciation	5,032	5,228	5,284	7,002	5,280	7,074
- Interest expense	21,821	9,664	8,022	9,551	10,489	16,572
Income(Loss) before taxes and adjustments	34,456	57,707	74,850	63,232	80,134	77,943
Other adjustments-income (expense)	451	(2,392)	(1,709)	(405)	(779)	(2,799)
Income(Loss) before income taxes	34,907	55,315	73,141	62,827	79,355	75,143
Income(Loss) after income taxes	N/A	N/A	N/A	N/A	N/A	N/A

\* Data already included in Table 7.3.1. This Table excludes data on CBC Newsworld and RDI

\*\* Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) was used to provide industry details (full-time equivalents).

Numbers may not add up due to rounding

See Sources and Technical Notes for more details

**Table 7.3.1D**  
**ICT Services: 1990 -1995**  
**Radio & TV Broadcasting**  
**Canadian Broadcasting Corporation (CBC)\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment**	10,733	9,814	9,294	9,208	12,298	11,524

Company Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Salaries & Benefits	683,173	719,801	711,313	713,340	783,203	798,713

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Revenues	318,012	321,922	346,307	332,173	350,279	364,821
- Sale of air time	291,048	282,927	308,753	281,927	291,635	284,058
- Other	26,964	38,995	37,554	50,246	58,644	80,763
Grants (See Sources and Technical Notes)	N/A	N/A	N/A	N/A	N/A	N/A
Expenses	1,338,457	1,345,446	1,375,532	1,423,180	1,490,598	1,524,275
- Program	511,987	827,672	840,566	840,210	968,539	985,758
- Technical	421,393	81,498	92,877	92,958	91,976	94,547
- Sales & promotion	39,755	54,330	61,815	61,367	66,605	64,115
- Administration & general	297,645	309,745	301,641	317,620	209,511	222,949
- Depreciation	67,677	72,201	78,633	89,190	127,650	126,905
- Interest expense	--	--	--	21,835	26,317	30,001
Income(Loss) before grants, taxes and adjustments	(1,020,445)	(1,023,524)	(1,029,225)	(1,091,007)	(1,140,319)	(1,159,454)
Other adjustments-income (expense)	31,497	16,044	25,092	21,913	18,515	47,093
Income(Loss) before grants and income taxes***	(988,948)	(1,007,480)	(1,004,133)	(1,069,094)	(1,121,804)	(1,112,361)
Income(Loss) after income taxes	N/A	N/A	N/A	N/A	N/A	N/A

\* Data already included in Table 7.3.1

\*\* Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) was used to provide industry details (full-time equivalents).

\*\*\* Net cost of CBC operations

Numbers may not add up due to rounding

See Sources and Technical Notes for more details

**Table 7.3.1E**  
**ICT Services: 1990 -1995**  
**Radio & TV Broadcasting**  
**Non Commercial Radio and TV\***

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment**	1,732	1,775	1,967	2,176	2,250	2,177

Establishment Level	number or thousands of dollars					
	1990	1991	1992	1993	1994	1995
Salaries & Benefits	82,695	87,964	91,994	94,331	94,230	91,685

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Revenues	56,783	70,631	71,080	55,448	59,260	61,080
- Sale of air time	8,216	7,201	7,842	9,087	10,357	10,827
- Other	48,567	63,430	63,238	46,360	48,903	50,253
Grants	132,228	132,433	137,745	154,349	165,256	155,494
Expenses	185,718	202,070	203,134	217,789	232,994	226,676
- Program	107,420	119,288	116,904	121,819	124,428	124,479
- Technical	25,226	24,607	28,754	34,772	37,739	32,368
- Sales & promotion	16,528	20,780	19,124	18,521	16,055	16,596
- Administration & general	28,906	29,676	32,166	36,514	48,546	47,407
- Depreciation	4,495	4,719	3,122	3,138	3,904	4,573
- Interest expense	3,142	3,001	3,064	3,025	2,322	1,253
Income(Loss) before taxes and adjustments	3,293	994	5,691	(7,993)	(8,479)	(10,103)
Other adjustments-income (expense)	3,313	2,438	580	97	172	704
Income(Loss) before income taxes***	6,606	3,432	6,270	(7,896)	(8,306)	(9,399)
Income(Loss) after income taxes	N/A	N/A	N/A	N/A	N/A	N/A

\* Data already included in Table 7.3.1

\*\* Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) was used to provide industry details (full-time equivalents).

\*\*\* Calculated as (Revenues + Grants - Expenses + Adjustments).

Numbers may not add up due to rounding

See Sources and Technical Notes for more details

Table 7.3.2A  
ICT Services: 1990 - 1995  
Broadcasting Services  
Cable Television Industry\*

Employment	persons					
	1990	1991	1992	1993	1994	1995
Total Employment	9,799	9,758	9,112	9,211	9,419	10,487
- Basic	8,951	9,043	8,455	8,684	8,877	9,706
- Discretionary	848	715	657	527	542	781

Establishment Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Salaries and Benefits	346,792	355,903	370,941	385,871	391,504	411,035
- Basic	320,056	331,152	347,142	366,065	369,886	390,258
- Discretionary	26,736	24,751	23,799	19,806	21,618	20,777

Company Level	thousands of dollars					
	1990	1991	1992	1993	1994	1995
GDP (1986 constant dollars)	690,100	742,300	745,200	768,500	787,900	815,100
R&D Expenditures (Combined with Telecom)	N/A	N/A	N/A	N/A	N/A	N/A

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
Revenues	1,641,129	1,789,460	1,946,010	2,151,923	2,333,791	2,532,295
- Basic	1,356,622	1,477,609	1,588,094	1,680,976	1,763,119	1,846,052
- Discretionary	284,507	311,851	357,916	470,947	570,672	686,243
Expenses	1,399,470	1,529,938	1,600,634	1,898,950	2,003,814	2,352,279
- Interest	126,592	161,173	137,177	281,364	289,371	436,455
- Depreciation	219,533	250,128	260,496	291,395	303,716	332,395
- Other Expenses	1,053,345	1,118,637	1,202,961	1,326,191	1,410,727	1,583,429
Income(Loss) before taxes and adjustments	241,659	259,522	345,376	252,973	329,977	180,016
Adjustments-income (expense)	9,559	7,440	8,430	12,643	55,090	254,130
Income(Loss) before income taxes	251,218	266,962	353,806	265,616	385,067	434,146
Net Income(Loss) after Income taxes	181,436	188,828	270,009	171,014	259,830	325,906

\* Refers to SIC 4814. Data already included in Table 7.3

See Sources and Technical Notes for more details

**Table 7.3.2B**  
**ICT Services: 1990 - 1995**  
**Broadcasting Services**  
**Cable Television Industry (Continued)\***

Financial Data	thousands of dollars					
	1990	1991	1992	1993	1994	1995
<b>Revenues</b>	1,641,129	1,789,460	1,946,010	2,151,923	2,329,465	2,532,295
- Basic	1,356,622	1,477,609	1,588,094	1,680,976	1,759,126	1,846,052
- Discretionary	284,507	311,851	357,916	470,947	570,339	686,243
<b>Expenses</b>	<b>1,399,470</b>	<b>1,529,938</b>	<b>1,600,634</b>	<b>1,898,951</b>	<b>2,003,814</b>	<b>2,352,279</b>
- Basic	1,173,567	1,298,423	1,342,858	1,497,559	1,538,734	1,795,346
- Interest	123,573	156,166	133,268	228,440	208,045	337,638
- Depreciation	197,815	232,908	242,841	265,720	275,713	297,280
- Other	852,179	909,349	966,749	1,003,399	1,054,976	1,160,428
- Discretionary	225,903	231,515	257,776	401,392	465,080	556,933
- Interest	3,020	5,008	3,909	52,924	81,326	98,818
- Depreciation	21,719	17,220	17,656	25,676	28,002	35,115
- Other	201,164	209,287	236,211	322,792	355,752	423,000
<b>Income(Loss) before taxes and adjustments</b>	<b>241,659</b>	<b>259,522</b>	<b>345,376</b>	<b>252,972</b>	<b>325,651</b>	<b>180,016</b>
- Basic	183,055	179,186	245,236	183,417	220,392	50,706
- Discretionary	58,604	80,336	100,140	69,555	105,259	129,310
<b>Adjustments-income (expense)</b>	<b>9,559</b>	<b>7,439</b>	<b>8,430</b>	<b>12,643</b>	<b>55,090</b>	<b>254,130</b>
- Basic	8,743	(262)	8,062	11,290	50,382	239,233
- Discretionary	816	7,701	368	1,353	4,708	14,897
<b>Income(Loss) before income taxes</b>	<b>251,218</b>	<b>266,961</b>	<b>353,806</b>	<b>265,615</b>	<b>380,741</b>	<b>434,146</b>
- Basic	191,798	178,924	253,298	194,707	270,774	289,939
- Discretionary	59,420	88,037	100,508	70,908	109,967	144,207
<b>Net Income(Loss) after income taxes</b>	<b>181,436</b>	<b>188,828</b>	<b>270,009</b>	<b>171,015</b>	<b>259,832</b>	<b>325,906</b>
- Basic	134,952	126,637	195,614	123,330	184,589	226,221
- Discretionary	46,484	62,191	74,395	47,685	75,243	99,685

\* Refers to SIC 4814. Data already included in Table 7.3

See Sources and Technical Notes for more details

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# Statistical Appendices

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# Statistics Canada SIC Definitions

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## Industry Descriptions by SIC, with product/service classifications based on Standard Industrial Classification - 1980 Statistics Canada, (Cat. no. 12-501)

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### SIC 3341 Record Player, Radio and Television Industry

Establishments primarily engaged in manufacturing radio and television receiving sets, sound playing and recording equipment and parts (except electronic parts) and video recording and duplicating equipment. Establishments primarily engaged in producing automobile radios are classified here.

- audio and video recording and duplicating equipment
- loud speakers
- phonographs
- radio and phonograph combinations
- radio receiving sets, automobile, home, clock, etc.
- record player and tape recorder parts (except electronic)
- stereo amplifiers
- T.V. converters
- tape players
- television receiving sets, domestic
- video recording and duplicating equipment

### SIC 3351 Telecommunication Equipment Industry

Establishments primarily engaged in manufacturing telephone, telegraph and microwave transmitting and related equipment.

- carrier current equipment, telephone and telegraph
- central office and switching equipment, telephone or telegraph
- intercommunicating telephone sets
- micro-wave transmitting equipment
- multiplex equipment
- station apparatus
- telegraph equipment and parts

### SIC 3352 Electronic Parts and Components Industry

Establishments primarily engaged in manufacturing electronic components and parts.

- audio frequency amplifiers (excl. stereo amplifiers)
- capacitors
- connectors
- crystals (mounted) and holders
- electronic chips and bubbles
- integrated circuits
- power packs (non-rotating power supply converter units)
- printed circuits for electronic equipment
- receiving tubes
- resistors
- satellite parts and components (incl. for earth stations)
- semi-conductors (transistor, rectifier)
- television picture tubes (incl. rebuilt)
- transformers, electronic

## Industry Descriptions by SIC, with product/service classifications based on Standard Industrial Classification - 1980 Statistics Canada, (Cat. no. 12-501)

### SIC 3359 Other Communication and Electronic Equipment Industries

Establishments primarily engaged in manufacturing electronic equipment not elsewhere classified. Establishments primarily engaged in the repair and overhaul of electronic equipment, except household equipment, are classified here.

- alarm and signals systems (excl. railway and street traffic)
- antennae (incl. parts and mountings)
- aviation radio equipment
- C.B. radio equipment
- closed circuit television equipment
- electronic navigational aids and related devices
- electronic process control equipment
- intercommunication systems (excl. telephone)
- land mobile radio communication equipment
- marine radio communication equipment
- micro-wave transmitting equipment (excl. telephone)
- point-to-point radio equipment
- public address systems
- radar equipment, commercial or defence
- radio broadcast equipment
- repair and overhaul of electronic equipment (excl. household)
- sonar equipment, commercial or defence
- studio equipment, radio or television broadcast
- television broadcast equipment
- transmitting equipment, radio and television broadcast (incl. antenna)

### SIC 3361 Electronic Computing and Peripheral Equipment Industry

Establishments primarily engaged in manufacturing electronic data processing equipment.

- analog electronic computing and processing equipment
- central processing units, electronic
- computer peripheral equipment, digital electric
- computers, single package
- control units
- disc drives
- drum drives
- electronic computers (excl. parts and components)
- electronic data processing machinery and equipment (excl. parts and components)
- input or output on-line devices (printers, plotters, readers)
- input-output devices, computer connectors (terminals-keyboard, punched cards)
- key-punch drives
- memory modules (basic and add on)
- peripheral processing units (incl. channels)
- tape drives

## Industry Descriptions by SIC, with product/service classifications based on Standard Industrial Classification - 1980 Statistics Canada, (Cat. no. 12-501)

### SIC 3368 Office, Store and Business Machine Industry (including Electronic) (SICs 3362 and 3369)

Note: As the industrial classifications 3362 and 3369 are closely related, they are both listed under classification 3368.

#### SIC 3362 - Electronic Office, Store and Business Machine Industry

Establishments primarily engaged in manufacturing electronic office, store and business machines.

- accounting machines
- adding machines
- balances, for store, home, office or factory
- business machines and equipment
- calculating machines
- cash registers
- scales

#### SIC 3369 - Other Office, Store and Business Machine Industries

Establishments primarily engaged in manufacturing office, store and business machines and equipment (except electronic).

- accounting machines
- adding machines
- business machines and equipment
- calculating machines
- cash registers
- hair dryers
- scales for store, home, office or factory
- tape dispensing machines
- typewriters
- vending machines and parts

### SIC 3911 Indicating, Recording and Controlling Instruments Industry

Establishments primarily engaged in manufacturing mechanical, electrical or electronic instruments for indicating, recording and controlling (except electronic process control and electrical industrial control).

- control panels
- control valves and regulators for measuring and measuring- controlling instruments
- controls and accessories for heating and ventilating
- flow and liquid level instruments and accessories
- flow regulators
- galvanometers
- gas meter mechanisms and parts
- indicating instruments, parts and accessories
- mechanical motion, rotation, timing and cycle instruments
- pressure regulators (incl. reducing valves)
- recording instruments, parts and accessories
- temperature regulators
- thermostats
- water meter mechanisms and parts

# Industry Descriptions by SIC, with product/service classifications

based on Standard Industrial Classification - 1980 Statistics Canada, (Cat. no. 12-501)

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## SIC 3912 Other Instruments and Related Products Industry

Establishments primarily engaged in manufacturing professional and scientific instruments excluding electronic navigational instruments.

- aeronautical instruments
- balances, scientific
- engineering and geophysical instruments and apparatus
- medical and related instruments, apparatus and equipment
- navigational instruments (excl. electronic)
- ophthalmic (optical) examining and diagnostic equipment
- photographic equipment and supplies
- photographic film and plates (incl. X-ray), unexposed
- projectors (incl. image and cinematographic)
- pyrometers (incl. thermocouples) and accessories
- scales, scientific
- surgical instruments
- surveying instruments
- sutures and suture needles (incl. sutures with needles)
- thermometers and accessories
- X-ray equipment

## SIC 481 Broadcasting

Establishments primarily engaged in broadcasting audio or video signals by radio and television including cable systems.

### SIC 4811 - Radio Broadcasting Industry

Establishments primarily engaged in operating radio broadcasting studios and facilities for programs of entertainment, news, talks and the like. This industry includes establishments primarily engaged in operating radio broadcasting networks and relay systems.

- Network broadcasting service, radio
- Radio broadcasting network service
- Radio broadcasting relay system operation
- Radio broadcasting service
- Radio program producing and directing
- Studio operation, radio

### SIC 4812 - Television Broadcasting Industry

Establishments primarily engaged in operating television broadcasting and in the operation of television broadcasting studios for programs of entertainment, news, talks and the like. This industry includes establishments primarily engaged in operating television broadcasting networks and relay systems.

- Network broadcasting service, television
- Relay systems, television, operation
- Studio operation, television
- Television broadcasting service
- Television rebroadcasting station

## Industry Descriptions by SIC, with product/service classifications based on Standard Industrial Classification - 1980 Statistics Canada, (Cat. no. 12-501)

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### SIC 4813 - Combined Radio and Television Broadcasting Industry

Establishments primarily engaged in an integrated radio and television broadcasting operation for programs of entertainment, news, talks and the likes. This industry includes establishments primarily engaged in operating integrated radio and television broadcasting networks and relay systems.

- Integrated radio and television broadcasting service
- Integrated radio and television broadcasting network
- Integrated radio and television broadcasting relay system

Broadcasting as defined in this document differs from the Standard Industrial Classification definition of SIC 481, primarily because figures in this document are collected from all holders of broadcasting licenses, regardless of their SIC.

- Private Radio and Television Broadcasting Stations: All commercial broadcasting stations, the regional television network, Global Communications Limited and the national network, CTV Television Network Limited.
- Non Commercial Stations: Those stations having more revenue from sources other than air-time sales (ie., grants, fund-raising), unlike commercial broadcasting stations whose major revenue is from air-time sales.
- Pay and Specialty TV Services: Services aimed at particular audiences. This category includes services specializing in children's programming, news, music, sports, movies and the likes.

For a more detailed explanation, please refer to Statistics Canada's "*Radio and Television Broadcasting*" (Cat. no. 56-204).

### SIC 4814 Cable Television Industry

Establishments primarily engaged in broadcasting television and frequency modulated radio signals to subscribers by mean of co-axial cable and community antennas.

- cable television service
- community antenna service (CATV)

### SIC 482 Telecommunication Carriers Industry

Establishments primarily engaged in operating telephone and other telecommunication transmission services by electro-magnetic means.

- broadband exchange service
- cable service, telephone
- overseas telephone service
- public telephone service
- satellite communications service
- telegraph communication service, wire or radio
- telephone carrier service
- telephone network service
- telephoto service
- teletype service

## Industry Descriptions by SIC, with product/service classifications based on Standard Industrial Classification - 1980 Statistics Canada, (Cat. no. 12-501)

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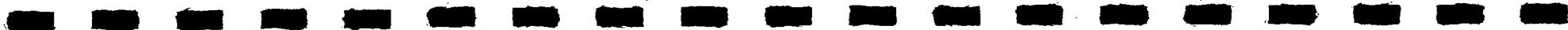
### SIC 772 Computer and Related Services

Establishments primarily engaged in providing computer services and in the maintenance and repair of computer equipment.

- computer consulting
- computer input preparation
- computer maintenance
- computer processing
- computer programming
- computer rental or leasing (excl. finance leasing)
- computer repair
- computer software services
- computer time-sharing
- electronic data processing equipment, maintenance and repair
- software packages, computer services
- systems analysis and design
- systems design

Note: It is expected that the implementation of the North American Industrial Classification System (NAICS) by 1997 will greatly facilitate defining the ICT sector. More information on the 1997 NAICS can be obtained from Statistics Canada and/or its website at:

<http://www.statcan.ca/english/subjects/standard>



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# Financial and Statistical Definitions

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## Financial and Statistical Definitions

Readers are advised to consult with Statistics Canada on specific methodologies and definitions used throughout this publication, the relevant Statistics Canada documents contain such information. The following definitions pertain mainly to ICT manufacturing data.

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### **Profiling Data (at the establishment level)**

**Number of Establishments:** Smallest operating unit in a business capable of reporting specified input and output data which are collected and published at the establishment level by the Survey of Manufacturing Technology.

**Production Employment:** Those employees engaged in processing, assembling, storing, inspection and maintenance.

**Production Salaries and Wages:** Gross amount paid to production employees, including overtime, bonus and commissions, but before deductions for income tax and employee benefits.

**Cost of Fuel and Electricity:** Cost of fuel purchased for use in production and transportation and cost of electricity consumed for energy purposes, both in manufacturing and non-manufacturing operations.

**Cost of Materials and Supplies Used:** Raw materials, containers and supplies purchased and owned by the establishment and used in its manufacturing operations.

**Administrative and Executive Employment:** Those employees designated as executive, administrative, clerical/office and sales staff.

**Administrative and Executive Salaries & Wages:** Gross amount paid to executive, administrative, clerical and sales staff, including overtime, bonuses and commissions, but before deductions for income tax and employee benefits.

**Total Employment:** Production Employment plus Administrative and Executive Employment. Total employment for the manufacturing industries comes from the Annual Survey of Manufactures, while employment for the services industries is from the Labour Force Survey which captures the self-employed.

**Total Salaries & Wages:** Production Salaries and Wages plus Administrative and Executive Salaries and Wages.

**Manufacturing Shipments:** Shipments of goods manufactured from the establishment's own materials, except consignment shipments.

**Manufacturing Value Added:** Value of shipments of goods of the establishment's own manufacture plus the net change in inventory of goods in process and finished goods, minus the cost of materials supplies and fuel and electricity used.

**Total Shipments:** This includes both Manufacturing Shipments and non-manufacturing shipments. Non-manufacturing shipments include wholesaling of goods, rental of new equipment, construction of buildings for the establishment's own use with its own labour, and the operation of cafeterias, laboratories, etc.

**Cost of Materials, Supplies & Goods for Resale:** Cost of purchase of materials, supplies and goods which were sold without a change in the condition (wholesaling).

**Total Value Added:** Value added for manufacturing and non-manufacturing activities.

## Financial and Statistical Definitions

Readers are advised to consult with Statistics Canada on specific methodologies and definitions used throughout this publication, the relevant Statistics Canada documents contain such information. The following definitions pertain mainly to ICT manufacturing data.

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### Profiling Data (at the company level)

**GDP:** is a measure of an industry's value-added to the economy. GDP at factor cost is essentially total sales by the industry (gross output) less inputs of goods and services provided by sources other than the industry itself.

**R&D Expenditures:** R&D expenditures are those eligible for Revenue Canada R&D tax credits.

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### Trade Data

There is a fundamental difference between trade and production data. Production data also captures secondary production which occurs at the establishment level and differs from the plant's principle manufacturing activity to which they are classified. Trade data, on the other hand, classifies all products as they cross the border regardless of the principle activity of the producing establishment. This data is captured as a commodity rather than as an industry good. In an effort to quantify industry trade, Statistics Canada associates the exported commodity code with a manufacturing industry code (Cat. no. 65-202). A simple example would be the case of an exported automobile engine which would be attributed to the Canadian Motor Vehicle Engine and Engine Parts Industry even though it may have been produced by a plant classified to the Motor Vehicle Industry.

Readers should note that this is a crude estimation of industry trade and is susceptible to errors. However, in the absence of a better measurement method, this type of estimation is one of few means available to estimate industrial trade.

**Imports:** All goods which have crossed Canada's territorial boundary, whether for immediate consumption in Canada or stored in bonded customs warehouses.

**Total Exports:** Total exports include both domestic exports and re-exports. DOMESTIC exports include goods grown, extracted or manufactured in Canada, including goods of foreign origin which have been materially transformed in Canada. RE-EXPORTS are exports of foreign goods which have not been materially transformed in Canada, including foreign goods withdrawn for export from bonded customs warehouses.

**Apparent Domestic Market:** Total Imports minus Total Exports plus Manufacturing Shipments.

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### Definitions specific to Broadcasting

**Total Expenses:** The sum of program, technical, sales & promotion, administration and general, depreciation and interest expenses.

**Program Expenses:** The sum of programs telecast and other programming expenses.

**Technical Expenses:** The sum of technical equipment, technical consultants services, maintenance, other technical costs, line, microwave or satellite charges and remuneration.

**Sales and Promotion Expenses:** The sum of audience promotion, trade promotion, rating services, sales commission representatives, other sales and promotion expenses and remuneration.

**Broadcasting Station:** A licensed operating station operating in the broadcasting band, the transmissions of which are intended for public reception.



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# Sources and Technical Notes

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## Sources

### REVENUES

#### Manufacturing (as measured by total shipments):

Business Integrated Database (Statistics Canada and Industry Canada), including the Annual Survey of Manufactures (Cat. no. 31-203), Manufacturing, Construction and Energy Division, Statistics Canada.

#### Services (Computer Services and Telecommunications Carriers):

Financial and Taxation Statistics for Enterprises (Cat. no. 61-219), Industrial Organization and Finance Division; Services Indicators (Cat. no. 63-016), Science and Technology Redesign Project, Statistics Canada.

#### Other Telecommunications Service Providers

Annual reports to shareholders

#### Broadcasting

Radio and Television Broadcasting (Cat. no. 56-204), Science and Technology Redesign Project;  
Cable Television Statistics (Cat. no. 56-205), Science and Technology Redesign Project, Statistics Canada.

#### Non-Commercial Radio and TV

Service Bulletin - Communications (Cat. no. 56-001), Statistics Canada

### EMPLOYMENT

#### Manufacturing

Business Integrated Database (Statistics Canada and Industry Canada), including the Annual Survey of Manufactures (Cat. no. 31-203), Manufacturing, Construction and Energy Division, Statistics Canada.

#### Services (Computer Services and Telecommunications Carriers):

The Labour Force Survey (Cat. no. 71-001), Household Surveys Division, Statistics Canada.

#### Broadcasting

The Labour Force Survey (Cat. no. 71-001), Household Surveys Division. At a more disaggregated level, used Radio and Television Broadcasting (Cat. no. 56-204), Science and Technology Redesign Project, Statistics Canada and Cable Television Statistics (Cat. no. 56-205), Science and Technology Redesign Project, Statistics Canada.

## Sources

### GROSS DOMESTIC PRODUCT (GDP)

Gross Domestic Product by Industry (Cat. no. 15-001), Industry Measures and Analysis Division, Statistics Canada.

### TRADE

#### ICT Manufacturing

Trade Information Enquiry and Retrieval System (TIERS), International Trade Division, Statistics Canada.

#### ICT Services

Canada's International Transactions in Services (Cat. no. 67-203), Balance of Payments Division, Statistics Canada.

### RESEARCH AND DEVELOPMENT (R&D)

Special tabulations for Industry Canada (Feb. 1997); Science and Technology Redesign Project, Statistics Canada.

### OTHER DATA

#### Manufacturing

Business Integrated Database (Statistics Canada and Industry Canada), including the Annual Survey of Manufactures (Cat. no. 31-203), Manufacturing, Construction and Energy Division, Statistics Canada.

#### Computer and Related Services (SIC 772)

Number of establishments and total wages and salaries:

Software Development and Computer Service Industry (Cat. no. 63-222), Services Division, Statistics Canada.

#### Total Canadian Merchandise Exports

Exports, Merchandise Trade (Cat. no. 65-202), International Trade Division, Statistics Canada.

#### Total Canadian Merchandise Imports

Imports, Merchandise Trade (Cat. no. 65-203), International Trade Division, Statistics Canada.

## Technical Notes

### EMPLOYMENT

#### Manufacturing

All 1995 figures are Industry Canada estimates based on 12 months of monthly data for 1995 from the Monthly Survey of Manufacturing, Statistics Canada (Cat. no. 31-001). These monthly employment figures (only full-time equivalents) are only available at the 3 digit SIC-E level of disaggregation. Industry Canada therefore estimates the 4 digit values by using the 1994 percentages of their respective 3 digit value. It is for this reason that the percentage change from 1994 to 1995 for all 4 digit SICs within the same 3 digit SIC will be the same. Employment figures for previous years are actual 4 digit values from the Annual Survey of Manufactures, Statistics Canada (Cat. no. 31-203).

#### Services

All employment figures for ICT Services sector are from the Labour Force Survey (LFS), Statistics Canada (Cat. no. 71-001). Employment figures from this source include full-time, part-time employees and self-employed. Additional sources of employment data were used to provide industry details for Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) and Cable Television, Statistics Canada (Cat. no. 56-205). The data from these catalogues are gathered by means of mandatory production surveys sent to all license holders. Employment figures from these catalogues are measured in terms of full-time equivalents (FTE's) and do not include contractors (freelancers) or the self-employed. The principal reason that 56-204 and 56-205 are used in this publication is because these catalogues allow for a much finer disaggregation of the broadcasting sector than does the LFS. For the purposes of this publication, the LFS employment figures will be used when stating "Total ICT services employment", whereas the employment figures from 56-204 and 56-205 will be used when examining the broadcasting industry itself. To emphasize this point, employment figures from both the LFS and 56-204 and 56-205 are quoted on the employment summary chart.

#### General

Different statistical methodologies were used in the collection of the data for the ICT services and ICT manufacturing industries as outlined above. Data from the LFS and the Annual Survey of Manufacturers use different statistical methodologies and were not intended to be aggregated. Industry Canada, however, feels that the aggregation of these survey results, despite their differences, does provide some insight into the performance of the Canadian ICT manufacturing and services sectors. It is for this reason that throughout this publication, "Total ICT Employment" should be regarded as Industry Canada estimates, based on different Statistics Canada sources.

# Technical Notes

## REVENUES

### Manufacturing

All revenue figures in the manufacturing sector are measured in term of total shipments. All 1995 figures are Industry Canada estimates based on 12 months of monthly data for 1995 from the Monthly Survey of Manufacturing, Statistics Canada (Cat. no. 31-001).

### Services (Computer Services and Telecommunications Carriers)

All revenue figures in the services sector are measured in terms of operating revenues and are from Financial and Taxation Statistics for Enterprises, Statistics Canada (Cat. no. 61-219). These figures are gathered at the ENTERPRISE level rather than the ESTABLISHMENT level. Enterprise statistics reflect consolidated data for a "family of businesses under common ownership and control..." (see "Quarterly Financial Statistics For Enterprises, Fourth Quarter 1995, Statistics Canada, Cat. no. 61-008 page 47 for more details), whereas establishment data are derived from the "The smallest operating entity which produces as homogeneous a set of good and services as possible..." (see Standard Industrial Classification, Statistics Canada, Cat. no. 12-501 page 16 for more details).

### Other Telecommunications Service Providers

Since the 1990's, there have been significant changes in the telecommunications service industry. Significant progress has been made to reflect these changes in the on-going surveys of Statistics Canada. The results, however, will mainly appear in 1996 data and beyond. In the meantime, Industry Canada has estimated the data gaps based on an analysis of key telecommunications service providers' annual reports to shareholders. These estimates have been added to revenue data of Statistics Canada.

### Broadcasting

All revenue figures for the broadcasting industries are from Radio and Television Broadcasting, Statistics Canada (Cat. no. 56-204) and Cable Television, Statistics Canada (Cat. no. 56-205). These catalogues compile survey information for all license holders regardless of the SIC to which they are classified. Revenue figures for CBC and Non-Commercial Radio and Television Stations exclude grants.

## Technical Notes

### GROSS DOMESTIC PRODUCT (GDP)

All GDP figures are from Gross Domestic Product by Industry, Statistics Canada (Cat. no. 15-001). No estimates have been made.

### RESEARCH AND DEVELOPMENT (R&D)

R&D figures for the Telecommunications and Broadcasting industries have been combined to maintain confidentiality among respondents. Industry Canada has not estimated any of the data to produce more disaggregated data.

### CBC

#### Employment

Starting in 1994, the average number of employees and remuneration reported by CBC includes permanent, temporary and casuals whereas previous years reflected only the average number of permanent employees and the total wage remuneration for all employees regardless of employment status. It would be misleading to derive an average salary estimate based only on the number of permanent employees or to assume a growth in the workforce. Also starting in 1994, contractual employees of CBC whose contracts are of 13 weeks or more are now included as part of total remuneration. These salaries were not included in remuneration previously.

#### Revenues

- (i) CBC's total revenues do not include grants.
- (ii) In 1991, the CBC changed its reporting procedures transferring salaries and benefits from technical expenditures to program expenses which reflects production salaries related to programming. Technical salaries and benefits are thus limited to employees engaged in maintaining studio, equipment and transmission.
- (iii) The activities of CBC Newsworld and RDI are captured in CBC and not in Pay and Specialty TV Services.

#### Other

In Table 7.3.1D, CBC grants are not included because they are based on a different fiscal year time frame.

### GENERAL

All underlined figures in this publication are Industry Canada estimates.