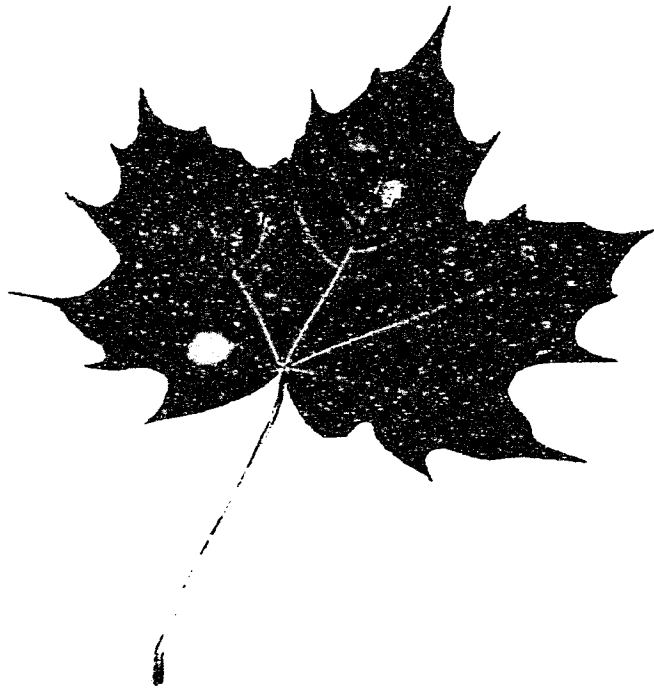


***CANADA'S INFORMATION &
COMMUNICATIONS TECHNOLOGIES
TRADE PERFORMANCE***

1993-1999



***ICT Branch, SITT
Industry Canada***

Final Draft

Contact: Gilles Claveau, (613) 941-1048

October 2000





What is the ICT Sector? (1)

103-05382/

- **ICT Manufacturing** (industry groups also used as product groups in this document)
 - Telecommunication and Other Communication Equipment (SIC 3351,3359)
 - Computer Equipment (SIC 3361,3368)
 - Electronic Parts and Components (SIC 3352)
 - Consumer Electronics (SIC 3341)
 - Instrumentation (SIC 3911,3912)
 - Communications Wires and Cables (SIC 3381)

- **ICT Services**
 - Software and Computer Services (SIC 7721,7722)
 - Telecommunications Services (wired & wireless) (SIC 4821,4839)
 - Cable Television (SIC 4814)
 - ICT Wholesaling (SIC 5743,5744,5791)
 - ICT Rental and Leasing (SIC 9913)

(1) According to the OECD/Statistics Canada industry-based definition adopted in September 1998.





The Canadian ICT Sector at a Glance

ICT Highlights:

- 26,000 establishments (including 1,300 in manufacturing)
- 512,018 employees in 1998
- Total revenues of \$116.4 billion in 1998
- Contribution to GDP in 1999: \$43.3 billion (1992 constant dollars)
- \$30.8 billion in total exports in 1999
- \$4.7 billion in R&D expenditures in 2000 (based on intentions)
- 47.5% of total Canadian private sector R&D in 2000 (intentions)

Source: ICT Statistical Overview, Industry Canada.

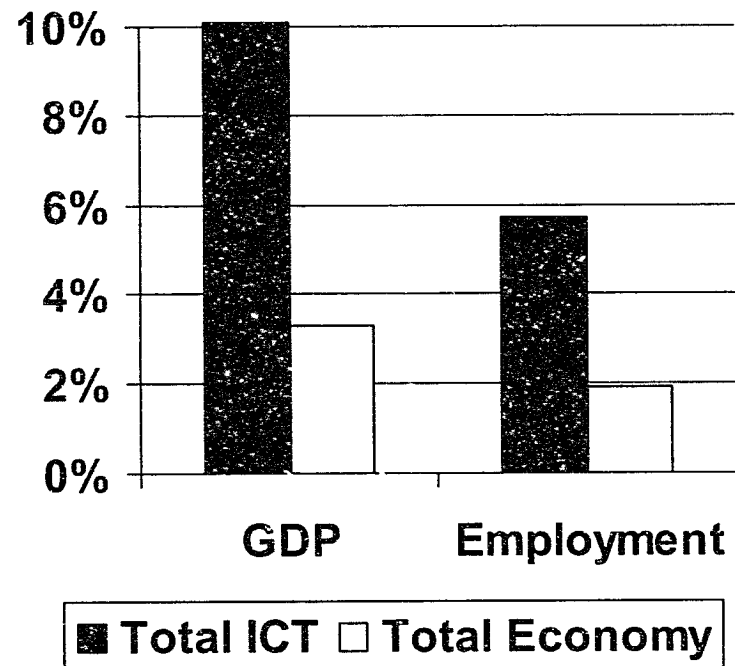




The ICT Sector is Growing Three Times Faster than the Canadian Economy

- Over the 1993-1999 period, the ICT sector GDP contribution has grown at a Compound Annual Growth Rate (CAGR) of 10.1% compared to 3.3% for the Canadian economy.
- Between 1993 and 1998, employment has also increased faster in the ICT sector than in the economy as a whole (CAGR of 5.7% vs 1.9%).

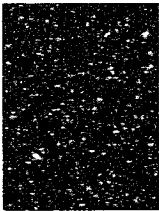
*Annual Growth in GDP and Employment, CAGR, 1993-1999**



* Covering the 1993-1998 period for Employment.

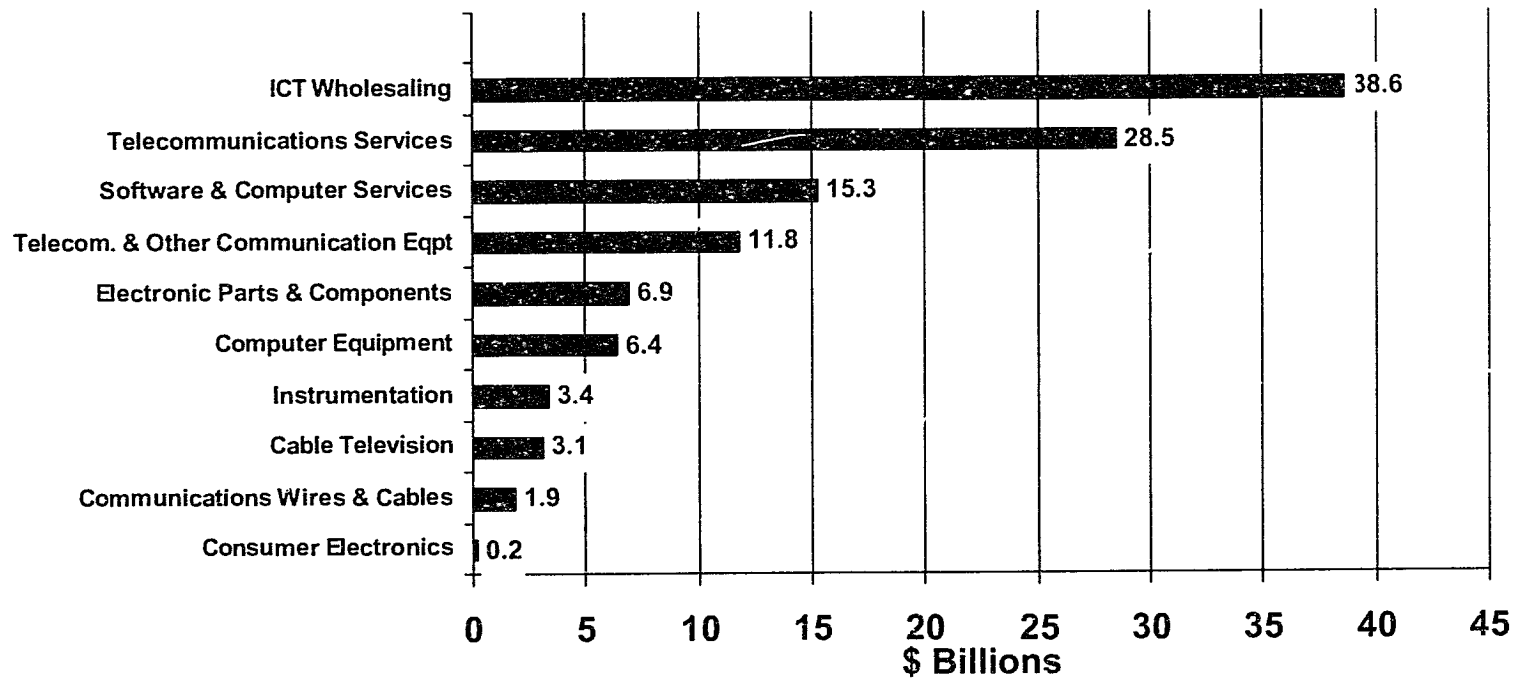
Source: ICT Statistical Overview, Industry Canada.





Total ICT Revenues Reached \$116.4 Billion in 1998

Revenue Breakdown by ICT Sub-Sector, 1998



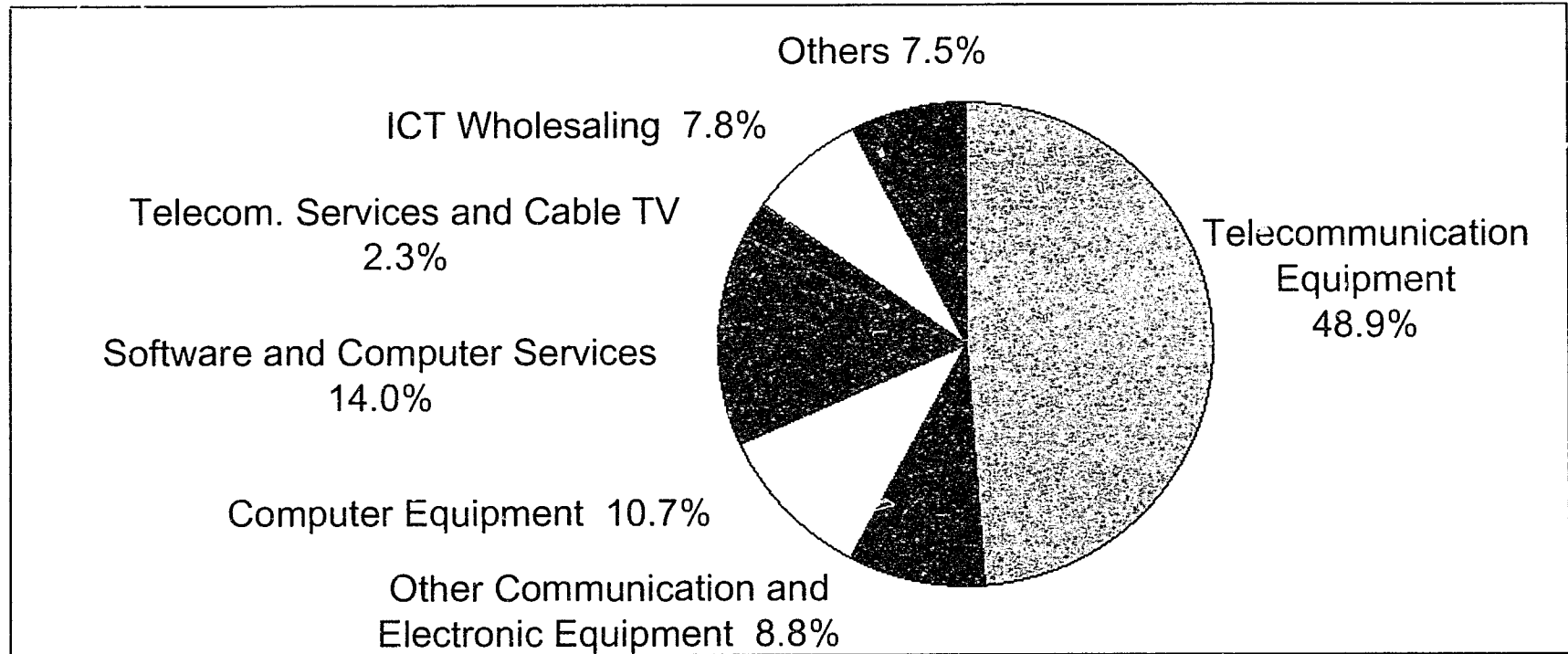
ICT Services account for 73% of all ICT Revenues

Source: ICT Statistical Overview, Industry Canada.



One of the Largest R&D Performers in Canada

R&D Expenditures by ICT Segment, 2000 Intentions (Total: \$4.7 Billion)



ICT sector represents 47.5% of total Canadian private sector R&D

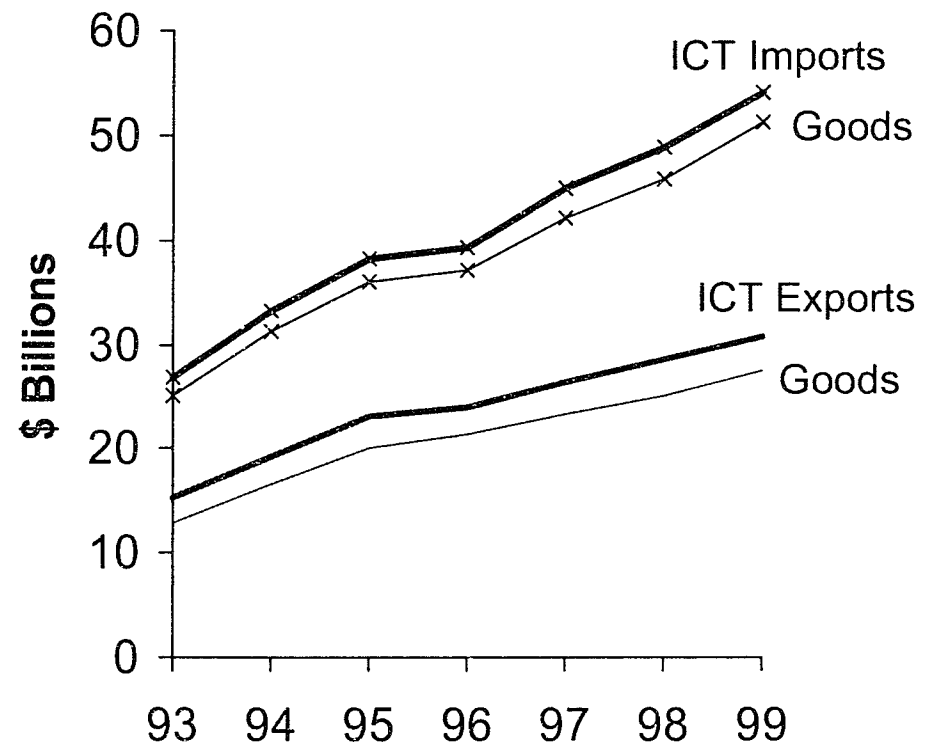
Source: ICT Statistical Overview, Industry Canada.

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Canadian ICT Trade is Growing Fast

- In 1999, ICT exports increased by 7.6%, reaching \$30.8 billion (incl. re-exports) while ICT imports reached \$54 billion, up 10.3% from 1998.
- Goods accounted for 89% of exports and 95% of imports.
- Between 1993 and 1999, ICT exports increased at a CAGR of 12.5% while imports grew by 12.4% (compared to 11.8% and 10.9% for total Canadian exports and imports respectively).
- The ICT trade deficit reached \$23.2 billion in 1999, an increase of 14.3% over 1998. The deficit grew at a CAGR of 12.2% between 1993 and 1999.

**ICT Trade, 1993-1999
Goods and Services**



Source: ICT Statistical Overview, Industry Canada.



ICT Trade Represents a Substantial Share of Canadian Trade

- ICT exports accounted for 8.1% of total Canadian exports in 1999 (up from 7.8% in 1993) while ICT imports represented 15.5% of total Canadian imports (up from 14.4% in 1993).
- Exports of ICT goods represented 7.7% of Canadian merchandise exports (up from 7.0% in 1993) while exports of ICT services accounted for 12.9% of total Canadian commercial services exports (down from 18.4% in 1993).
- Imports of ICT goods accounted for 16.0% of Canadian merchandise imports (up from 14.8% in 1993) while imports of ICT services represented 10.1% of the Canadian commercial services imports (down from 10.3% in 1993).

Share of ICT in Total Canadian Trade



Source: ICT Statistical Overview, Industry Canada.

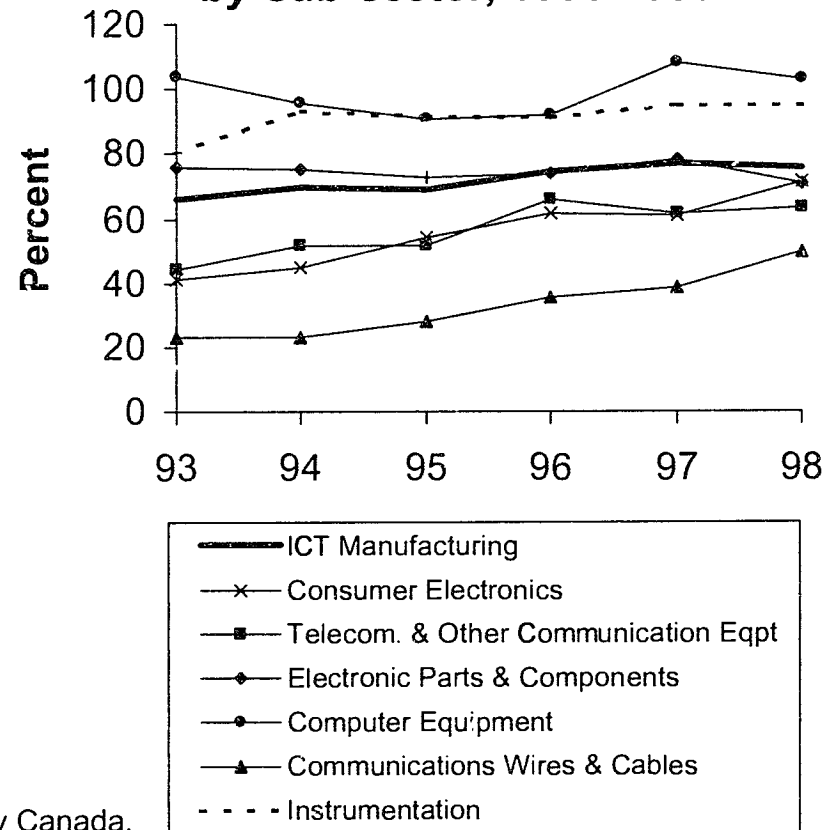




Exports are Crucial to the ICT Manufacturing Sector

- Domestic exports accounted for 75.9% of ICT manufacturing shipments in 1998, compared to 65.6% in 1993.
- In 1998, more than 95% of the manufacturing shipments of computer equipment and instrumentation were exported.
- For electronic parts and components, the ratio of domestic exports to manufacturing shipments went down from 78.5% in 1997 to 70.9% in 1998.
- This ratio has increased for consumer electronics, telecom. & other communication equipment, and wires & cables, reaching 71.5%, 63.5% and 49.5% respectively in 1998.

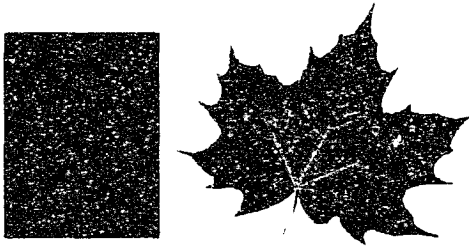
Ratio of Domestic Exports to ICT Manufacturing Shipments by Sub-sector, 1993-1998



Source: Data based on the ICT Statistical Overview, Industry Canada.

Note: Some ratios may be higher than 100% since the methodologies used to collect data on exports and shipments are different. See ANNEX 2 for more details.

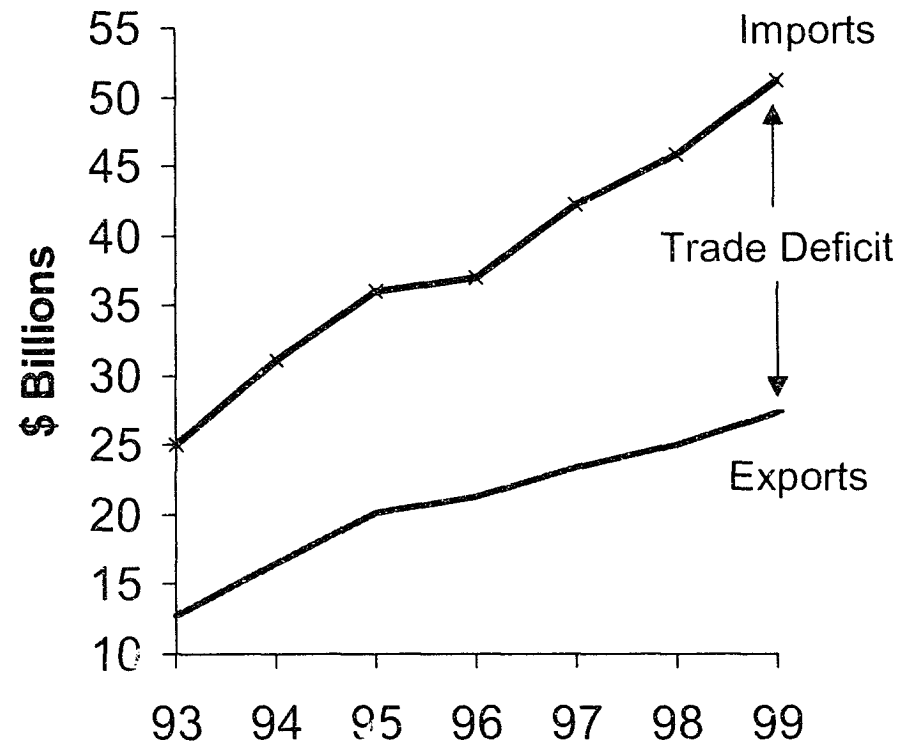




A Growing Trade Deficit in ICT Goods...

- Exports of ICT goods were \$27.4 billion in 1999 (up 9.3% from 1998) while imports reached \$51.2 billion (up 11.5% from 1998).
- The resulting trade deficit reached \$23.8 billion, an increase of 11.0% from 1998 (the CAGR is 14.2% over the 1993-1999 period).
- The growing deficit is mainly due to the increased imports of electronic parts and components which reached \$17.6 billion in 1999, including \$10.1 billion in imports of semiconductors. Canada is aggressively seeking investment in a semiconductor plant.
- Between 1993 and 1999, the CAGRs for the exports and imports of ICT goods were 13.5% and 12.6% respectively (compared to 11.7% and 11.1% for total Canadian merchandises).

**Trade of ICT Goods,
1993-1999**



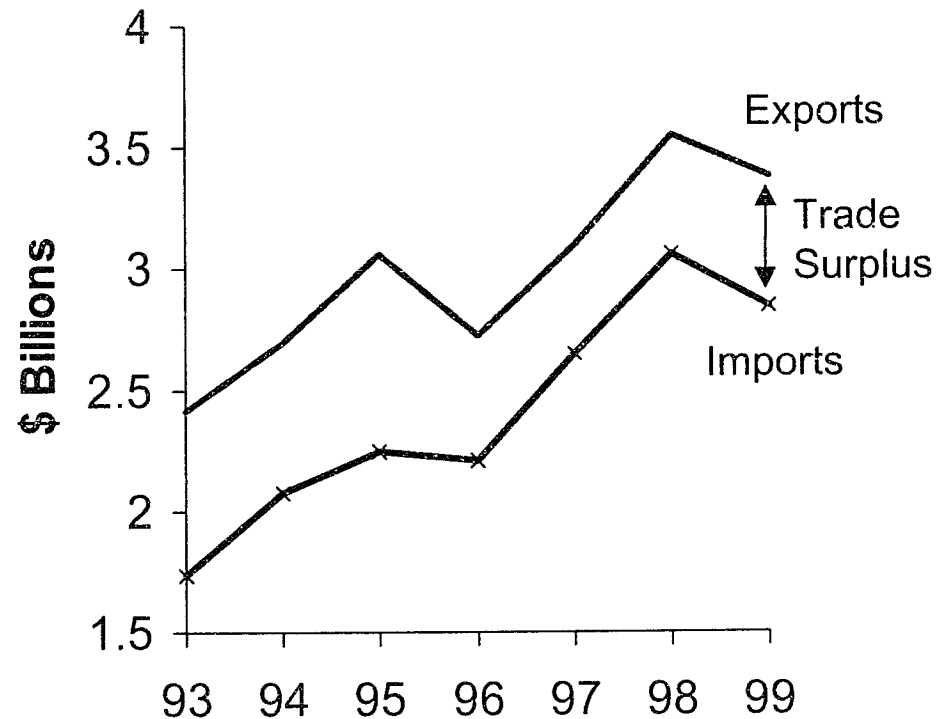
Source: ICT Statistical Overview, Industry Canada.



... but a Positive Trade Balance in ICT Services

- ICT services account for a small portion of total ICT trade (11% of exports and 5.3% of imports in 1999). Computer and communications services are the only two services for which trade statistics are available.
- Exports in ICT services decreased to \$3.4 billion in 1999 (down by 4.6% from 1998), while imports fell to \$2.8 billion (down by 7.1% from 1998). Between 1993 and 1999, the CAGR was 5.8% for exports and 8.6% for imports (compared to 12.2% and 9.0% respectively for the Canadian commercial services).
- The positive trade balance for ICT services increased by 10.6% in 1999, up to \$544 million. However, the communications services have faced a small trade deficit since 1997.

**Trade of ICT Services,
1993-1999**



Source: ICT Statistical Overview, Industry Canada.





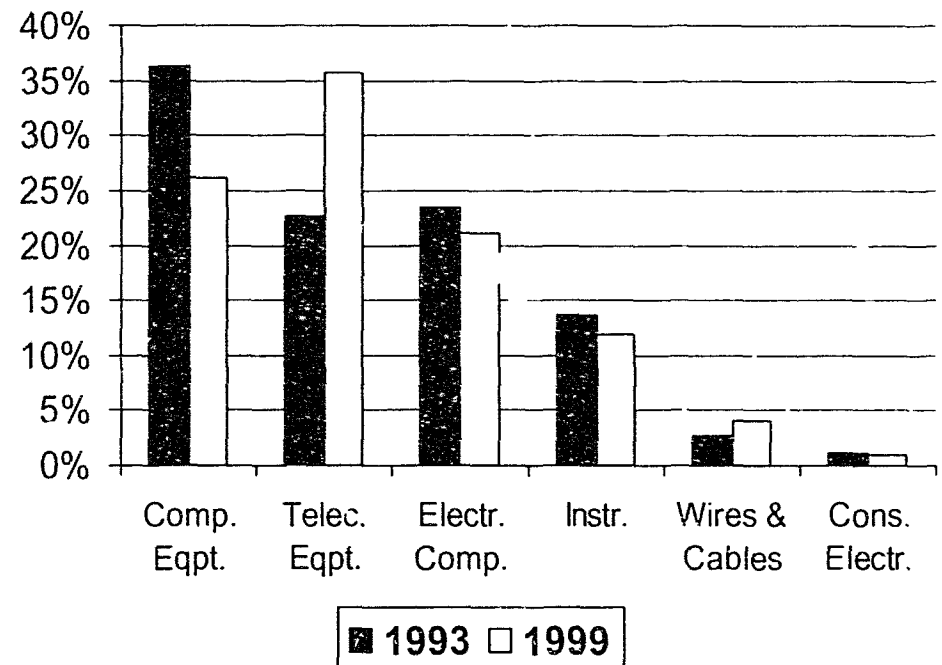
Composition of Exports in ICT Goods

- Computer equipment, telecom. & other communication equipment, and electronic parts & components represented 83% of total exports of ICT goods in 1999.
- The share of exports of telecom. & other communication equipment strongly increased from 22.7% to 35.7% between 1993 and 1999, while the share of computer equipment decreased from 36.3% to 26.2%. This is the result of much stronger growth in the exports of telecom. & other communication equipment over the last six years.
- Shares of electronic part & components and instrumentation showed a slight decline over that period.

Shift in Composition of Exports in ICT Goods

1993 \$12.8 B

1999 \$27.4 B



Source: Data based on the ICT Statistical Overview, Industry Canada.



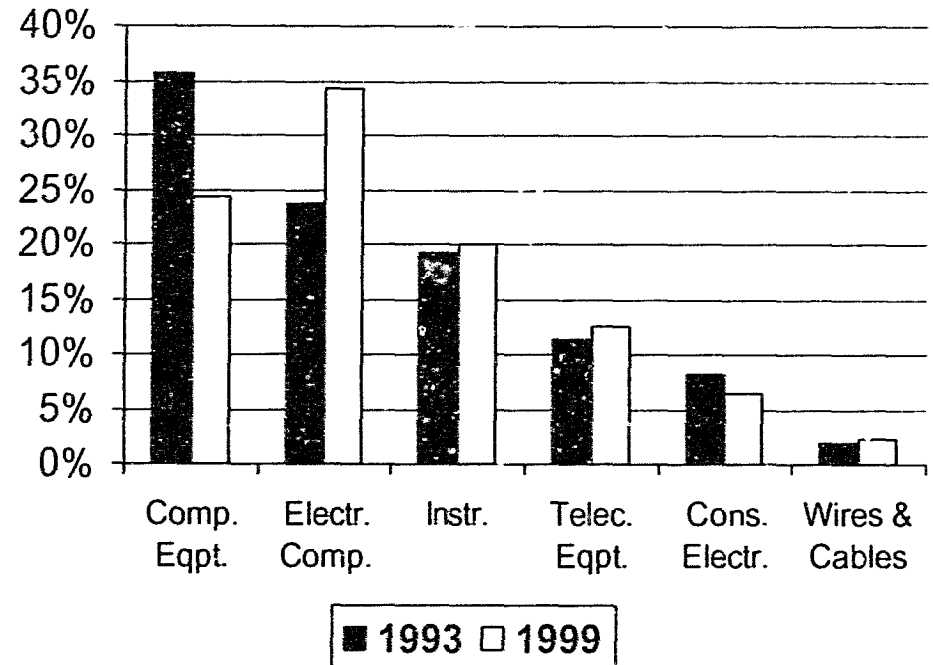


Composition of Imports in ICT Goods

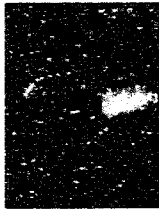
- Electronic parts & components, computer equipment and instrumentation represented close to 80% of the imports of ICT goods in 1999.
- The share of imports of electronic parts & components increased from 23.8% to 34.4% between 1993 and 1999, while the share of computer equipment decreased from 35.6% to 24.3%. This is the result of a strong jump of \$5.1B (or 86.1%) in the imports of electronic components in 1994.
- Electronic parts & components accounted for 50% of the trade deficit in ICT goods in 1999 and 41% of the deficit growth occurring between 1993 and 1999.
- Most of the ICT goods experienced a trade deficit over the 1993-1999 period. Telecom. & other communication equipment is the only group that consistently shows a trade surplus.

Shift in Composition of Imports in ICT Goods

1993 \$25.1 B
1999 \$51.2 B



Source: Data based on the ICT Statistical Overview, Industry Canada.



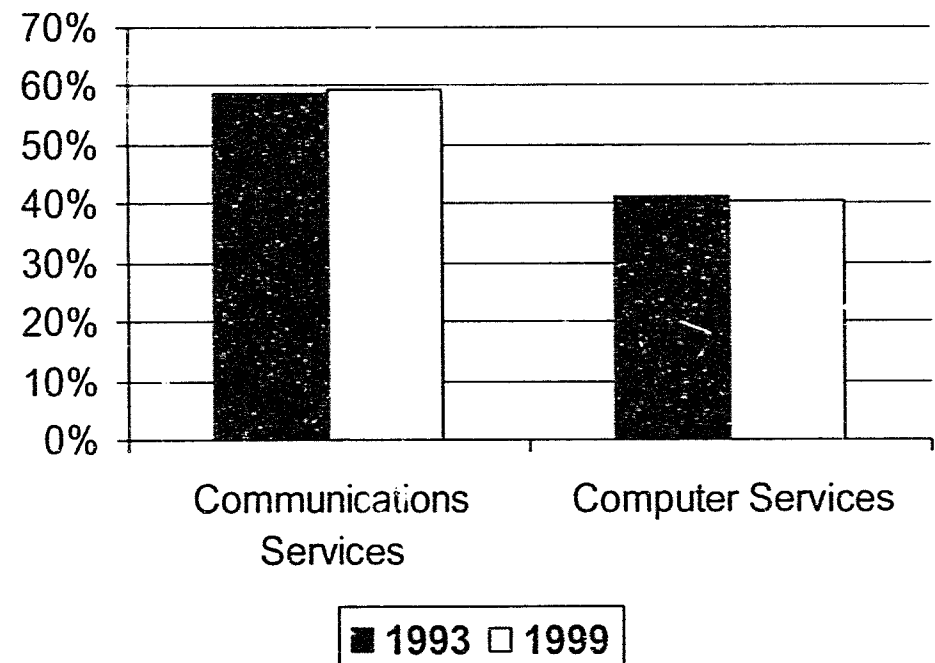
Composition of Exports in ICT Services

Shift in Composition of Exports in ICT Services

1993 \$2.4 B

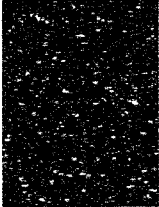
1999 \$3.4 B

- Communications services represented 60% of the exports of ICT services in 1999 while computer services accounted for 40%.
- The share in exports of both services remained relatively stable over the 1993-1999 period. We do not observe major changes but only small oscillations from year to year.



Source: Data based on the ICT Statistical Overview, Industry Canada.



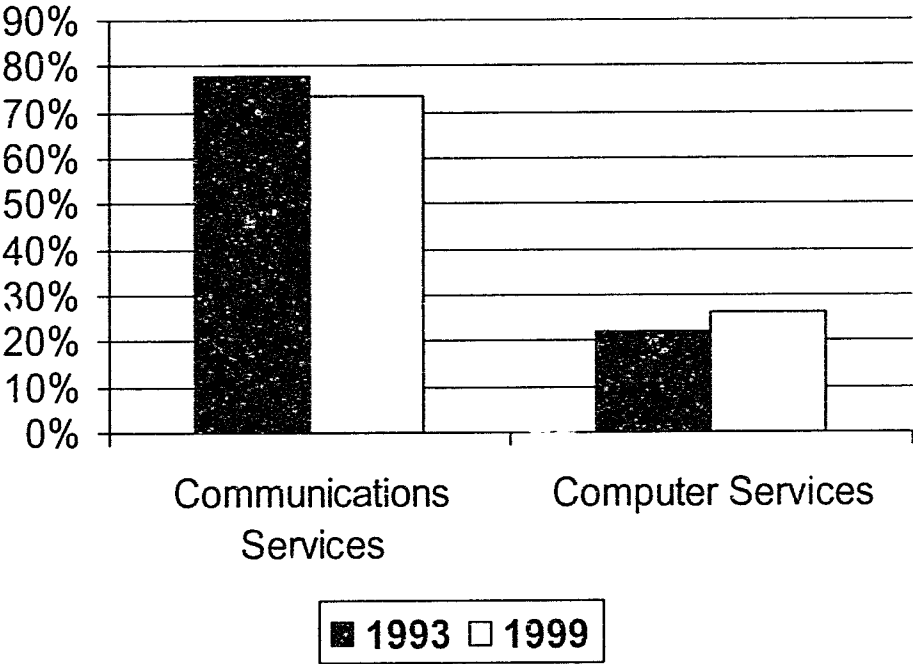


Composition of Imports in ICT Services

Shift in Composition of Imports in ICT Services

1993 \$1.7 B
1999 \$2.8 B

- Communications services accounted for 73.6% of the imports of ICT services in 1999 compared to 26.4% for computer services.
- The share in imports of both services remained relatively stable over the 1993-1999 period. We do not observe major changes but only small oscillations from year to year.
- In 1999, Canada had a trade deficit of \$80M in communications services but a trade surplus of \$624M in computer services.



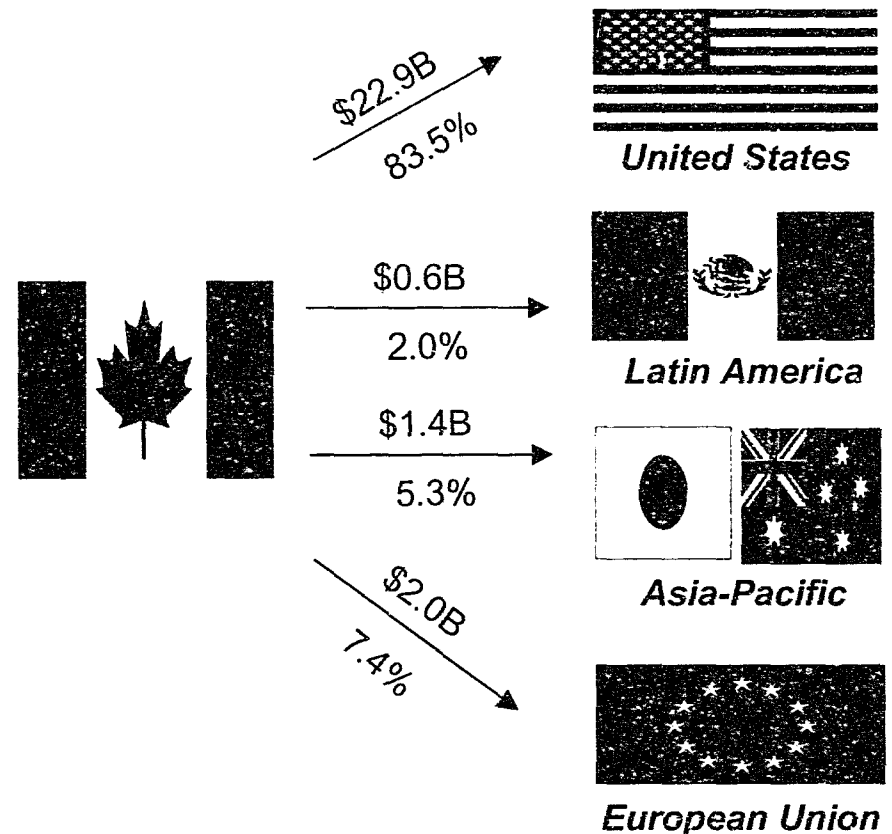
Source: Data based on the ICT Statistical Overview, Industry Canada.



The U.S. is our largest ICT export market

- Shipments to the United States grew by 11.3% in 1999 to reach \$22.9B. These exports accounted for 83.5% of all exports of ICT goods, up from 77.8% in 1993.
- By contrast, exports to the Asia-Pacific region went down for the second consecutive year to stand at \$1.4B in 1999, down from \$1.8B in 1997. The proportion of shipments to this region went constantly down from 8.9% to 5.3% over the 1993-1999 period.
- These changes in the shares of the U.S. and the Asia-Pacific region are mainly due to our exports of telecom. & other communication equipment which have strongly increased to the U.S. but decreased to the Asia-Pacific region since 1995.
- The proportion of exports to other regions of the world remained relatively stable between 1993 and 1999.

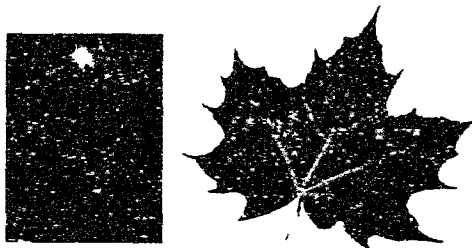
Exports of ICT Goods by Region of Destination, Value and Share, 1999



Rest of the World: \$0.5 Billion (1.8%)

Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

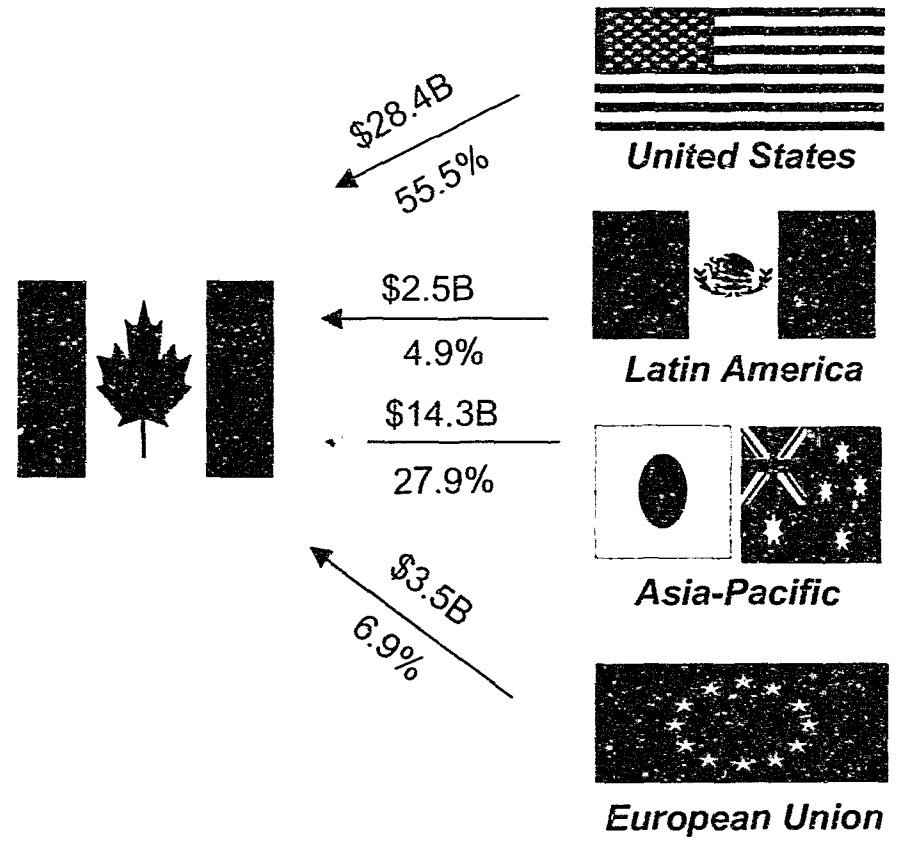
October 2000



while the Asia-Pacific region represents a substantial share of our ICT imports

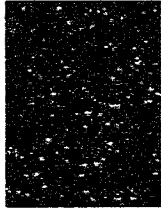
- Imports from the U.S. grew by 5.7% in 1999, reaching \$28.4B and accounting for 55.5% of all imports of ICT goods.
- Imports from the Asia-Pacific region went up by 11.9% in 1999 to a value of \$14.3B, accounting for a substantial 27.9% of all imports of ICT goods.
- With the exception of Latin America, where the share of imports increased from 2.0% to 4.9% between 1993 and 1999, the proportion of imports from all other regions remained relatively stable over this period. No specific trends are observed.
- The 1993-99 CAGRs in imports by region of origin were 30.4% for Latin America, 14.7% for the E.U., 12.3% for the Asia-Pacific region, and 12.1% for the U.S.

Imports of ICT Goods by Region of Origin, Value and Share, 1999



Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

Rest of the World: \$2.4 Billion (4.8%) October 2000



The Top 15 Canadian ICT Export Market Countries

Canadian Exports of ICT Goods, Top 15 Countries of Destination, 1999

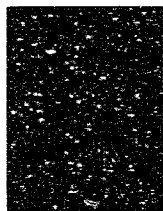
- Our largest export market by far is the U.S. (\$22.9B), which showed a CAGR of 14.9% over the 1993-1999 period. The U.K. comes second, with \$894M in 1999.
- Hong Kong, Germany, France and Ireland follow in terms of size. Our exports to Ireland and Hong Kong showed the highest CAGR between 1993 and 1999 with 35.1% and 17.9% respectively.
- Italy and the U.K. reached the highest growth in 1999 with increases of 33.6% and 29.0% respectively.
- Shipments to China and Japan continued to go down in 1999 showing negative growth rates.
- Exports of ICT goods to Brazil, Ireland, Mexico and Australia went also down in 1999.

Country of Destination	Exports (M \$Cdn)	CAGR % 1993-99	Growth % 1998-99
1 U.S.A.	22,888	14.9%	11.3%
2 U.K.	894	17.9%	29.0%
3 Hong Kong	299	17.9%	13.0%
4 Germany	210	1.3%	6.8%
5 France	206	10.1%	0.1%
6 Ireland	206	35.1%	-15.2%
7 Japan	203	-1.8%	-16.2%
8 Taiwan	178	16.1%	4.1%
9 Netherlands	178	7.5%	6.1%
10 Australia	153	5.7%	-7.5%
11 China	151	-11.9%	-23.9%
12 South Korea	137	9.1%	12.9%
13 Mexico	122	1.8%	-13.5%
14 Brazil	109	10.1%	-58.9%
15 Italy	82	-3.8%	33.6%
Total Top 15	26,017	13.8%	9.8%
Total Worldwide	27,396	13.5%	9.3%



Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

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Canada Ranks 16th in Global Exports of ICT Goods

Global Exports of ICT Goods, Top 16 Countries, 1998

- The U.S. and Japan are the two largest exporters of ICT products, followed by Germany, Singapore and the U.K. These five countries represent \$673B or 48.4% of global exports of ICT goods.
- Canada, which showed a CAGR similar to that of the U.S., went from the 13th to the 16th rank between 1993 and 1998. With a total of \$25.1B in 1998, Canada accounted for 1.8% of global exports of ICT goods.
- With a CAGR of 69%, the Philippines showed the largest annual growth rate in exports over the 1993-1998 period, followed by China (45%), Mexico (28%) and Ireland (25%). Half of the top 16 export countries are Asian.

Export Country	ICT Exports (Billions \$Cdn)	CAGR % 1993-98
1 U.S.A.	239.2	13.9%
2 Japan	164.9	3.2%
3 Germany	96.0	11.1%
4 Singapore	90.9	14.7%
5 U.K.	82.1	12.4%
6 Taiwan	69.2	15.4%
7 Hong Kong	63.8	14.3%
8 France	58.7	15.1%
9 Malaysia	56.0	17.3%
10 Netherlands	55.1	16.2%
11 Korea Rp	51.1	14.4%
12 China	45.2	32.7%
13 Mexico	41.9	27.6%
14 Ireland	31.1	25.4%
15 Philippines	29.3	69.0%
16 Canada	25.1	14.0%
Top16 countries	1,199.7	13.6%
Total Worldwide	1,390.0	14.0%



Source: Industry Canada compilations based on World Trade Analyzer, Statistics Canada.

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Canada's Share of Global ICT Imports is Stagnant

Global Imports of ICT Goods, Top 15 Importers & Canadian Share

- Global imports of ICT goods showed a CAGR of 14.0% between 1993-1998. With \$276B in 1998, the U.S. is by far the largest buyer of ICT goods in the world, followed by Germany, the U.K., Japan and France, while Canada ranks 10th.
- Over the 1993-1998 period, Canada has seen its share of U.S. imports increase from 6.69% to 7.20% but its share of worldwide imports remain relatively stable since Canada lost shares in a number of countries (especially Japan, China and Italy).
- The strongest growing ICT markets are Asian countries such as China, Malaysia, Japan and Taiwan. Mexico and the Netherlands also showed substantial growth between 93 and 98.

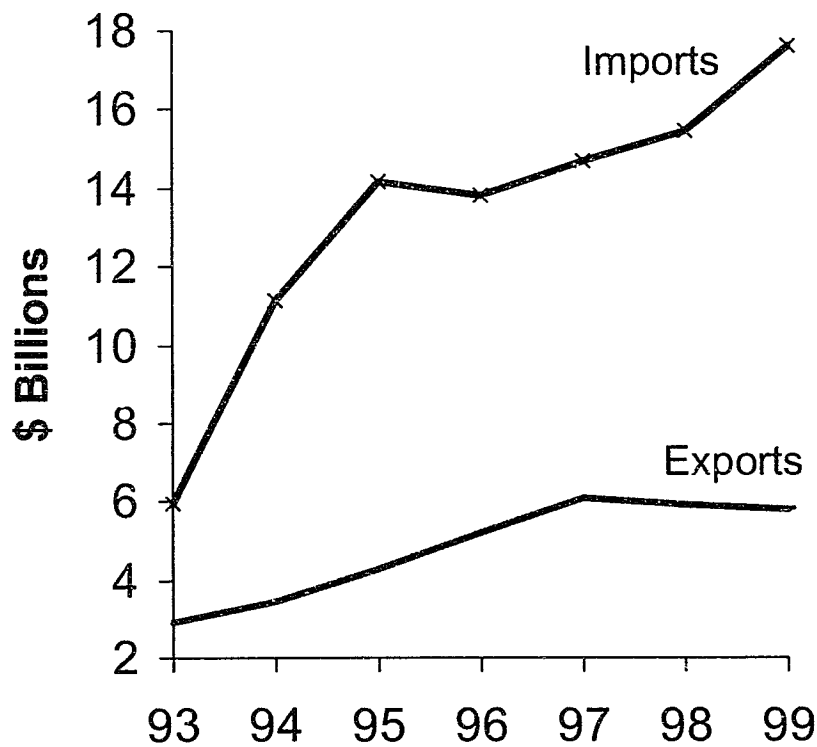
Import Country	Global Imports (Billions \$Cdn)			Cdn Share (percent %)		
	1998	1993	CAGR	1998	1993	+/-
1 U.S.A.	276.2	152.5	12.6%	7.20	6.69	+
2 Germany	102.4	59.7	11.4%	0.22	0.25	-
3 U.K.	85.3	45.3	13.5%	0.92	0.90	+
4 Japan	67.0	29.9	17.5%	0.38	0.64	-
5 France	62.3	33.5	13.2%	0.36	0.37	-
6 Singapore	59.4	34.5	11.5%	0.21	0.19	+
7 Netherlands	57.2	25.7	17.4%	0.25	0.35	-
8 Hong Kong	55.9	29.4	13.7%	0.49	0.42	+
9 China	52.1	21.8	19.1%	0.38	1.08	-
10 Canada	45.7	27.1	11.0%			
11 Taiwan	42.6	20.4	15.8%	0.40	0.37	+
12 Malaysia	41.0	17.9	17.9%	0.08	0.12	-
13 Mexico	37.7	15.4	19.6%	0.93	1.05	-
14 Italy	35.9	21.8	10.5%	0.22	0.47	-
15 Korea Rp.	27.5	16.7	10.4%	0.41	0.50	-
Top 15	1,020.5	534.8	13.8%			
Top 15 (-Can)	974.8	507.7	13.9%	2.35	2.37	-
Worldwide	1,390.0	721.9	14.0%			
World. (-Can)	1,344.3	694.8	14.1%	1.70	1.73	-

Source: Industry Canada compilations based on World Trade Analyzer, Statistics Canada.

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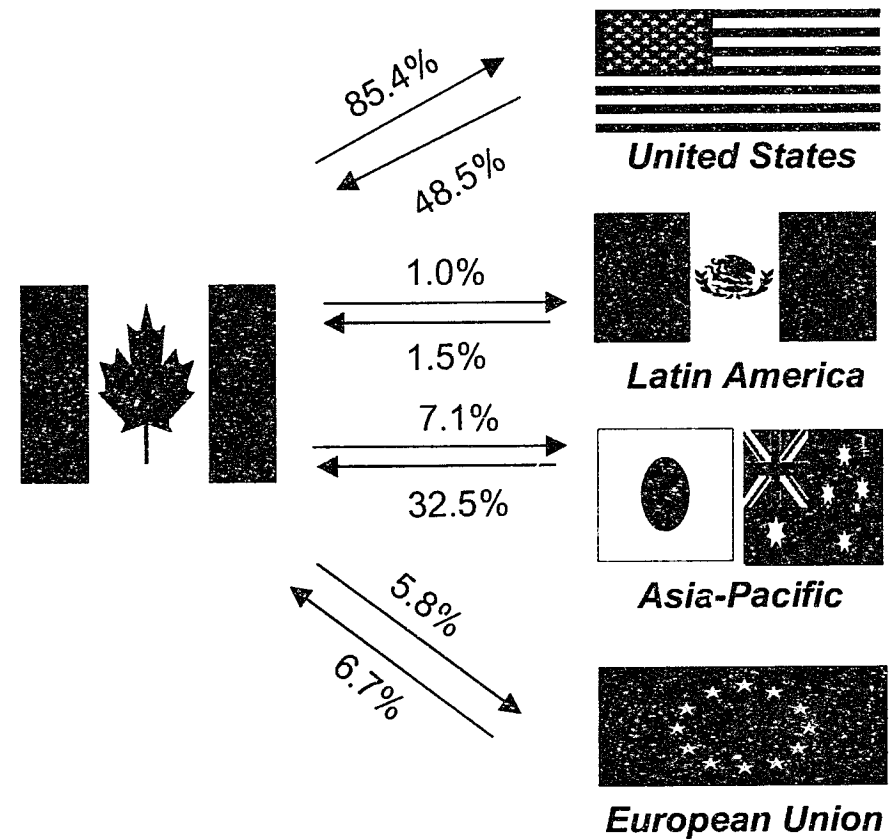
ICT Trade by Product Group and Region

Trade in Electronic Parts & Components, 1993-1999



Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

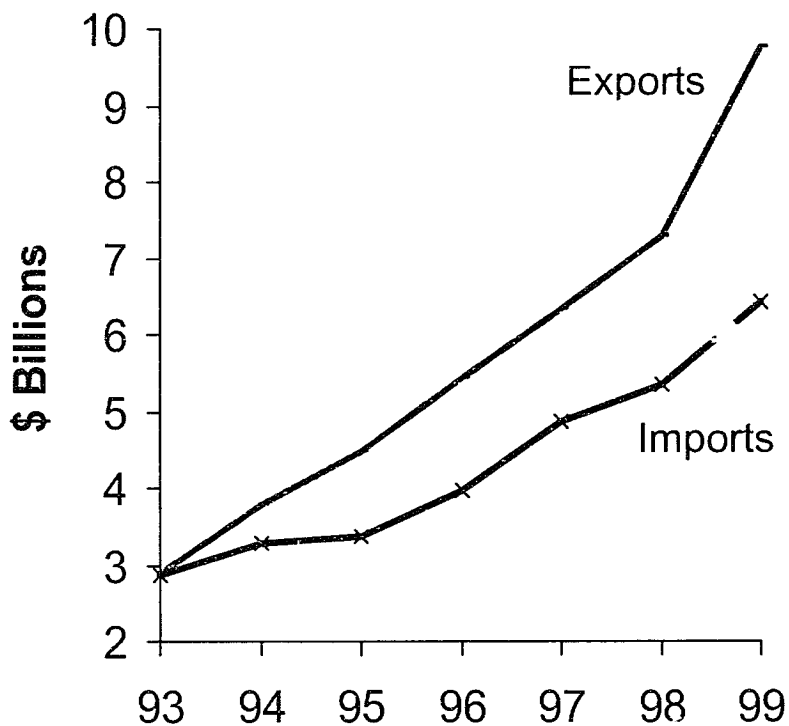
Trade in Electronic Parts & Components, Share by Region, 1999



Rest of the World: Exports (0.7%), Imports (10.8%)

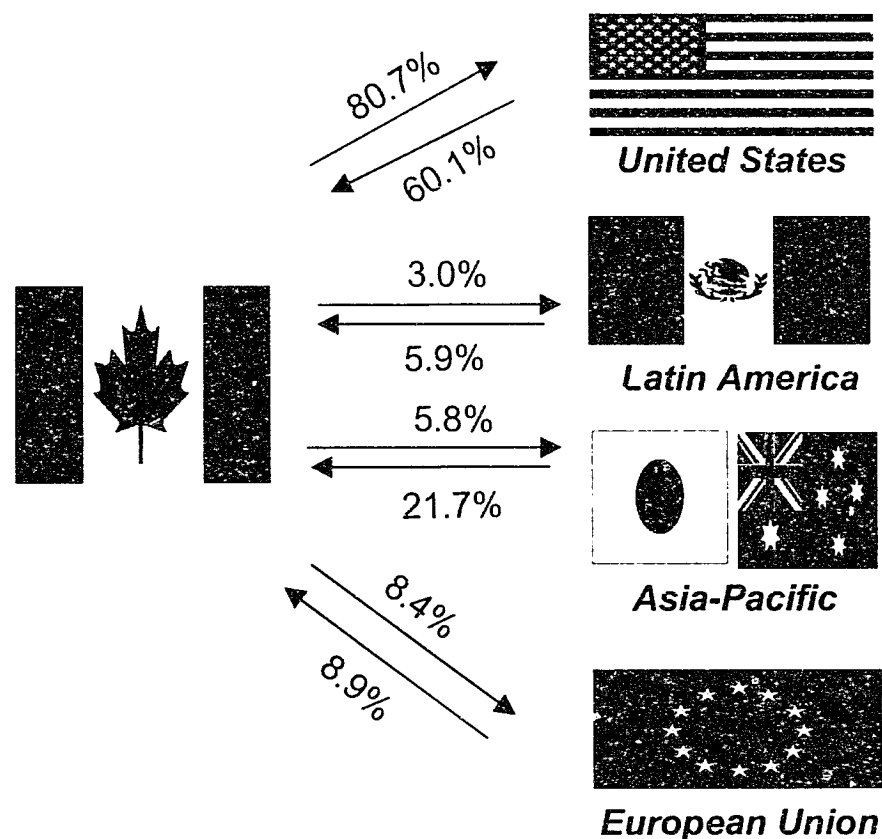
ICT Trade by Product Group and Region

Trade in Telecom. & Other Communication Eqpt, 1993-99



Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

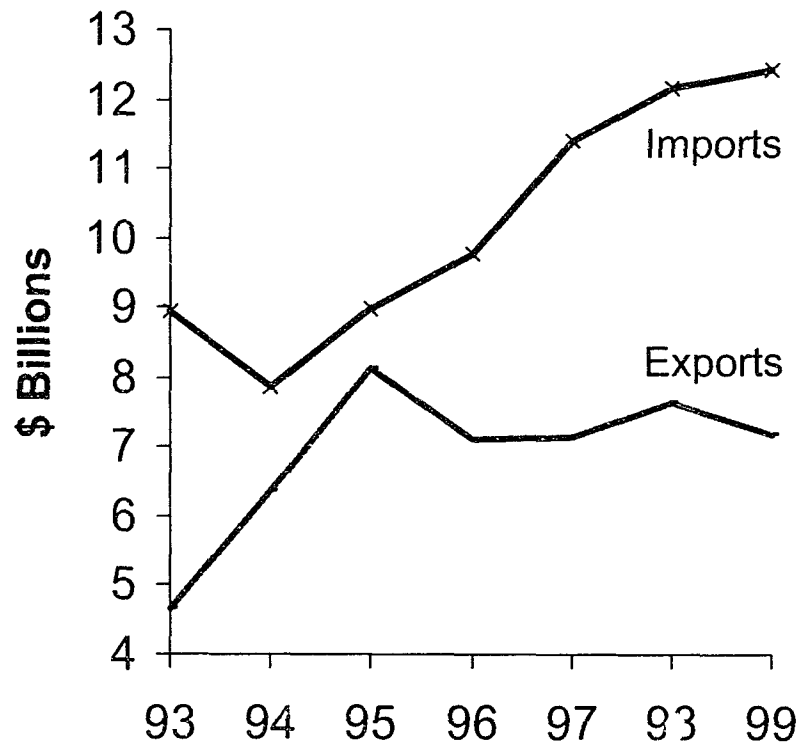
Trade in Telecom. & Other Communication Equipment, Share by Region, 1999



Rest of the World: Exports (2.1%), Imports (3.4%)

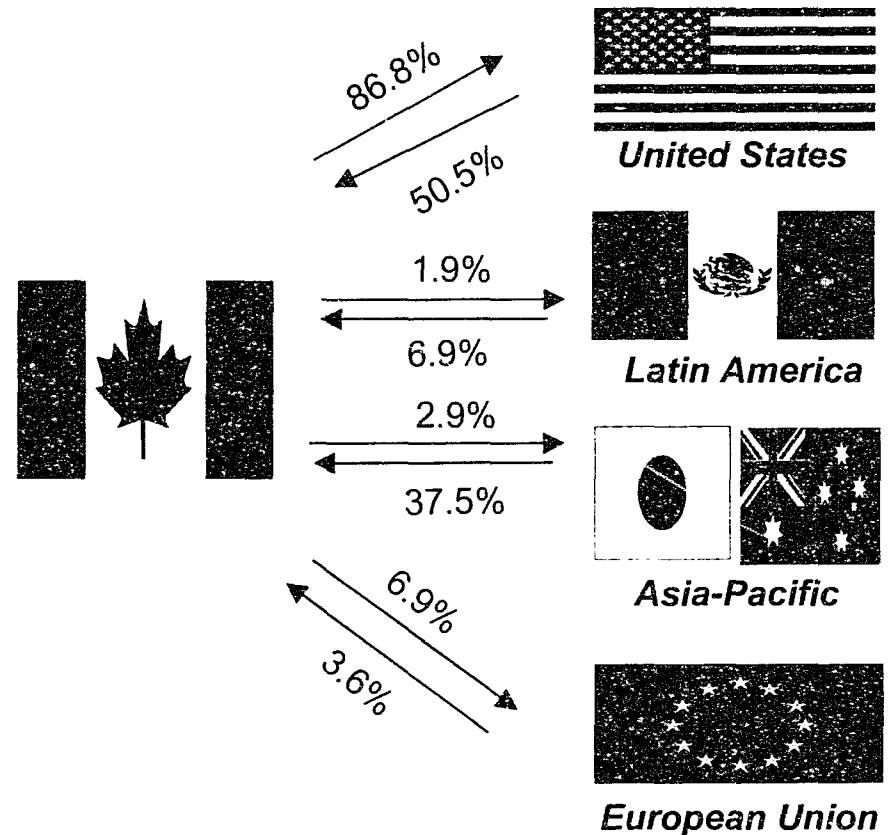
ICT Trade by Product Group and Region

Trade in Computer Equipment, 1993-1999



Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

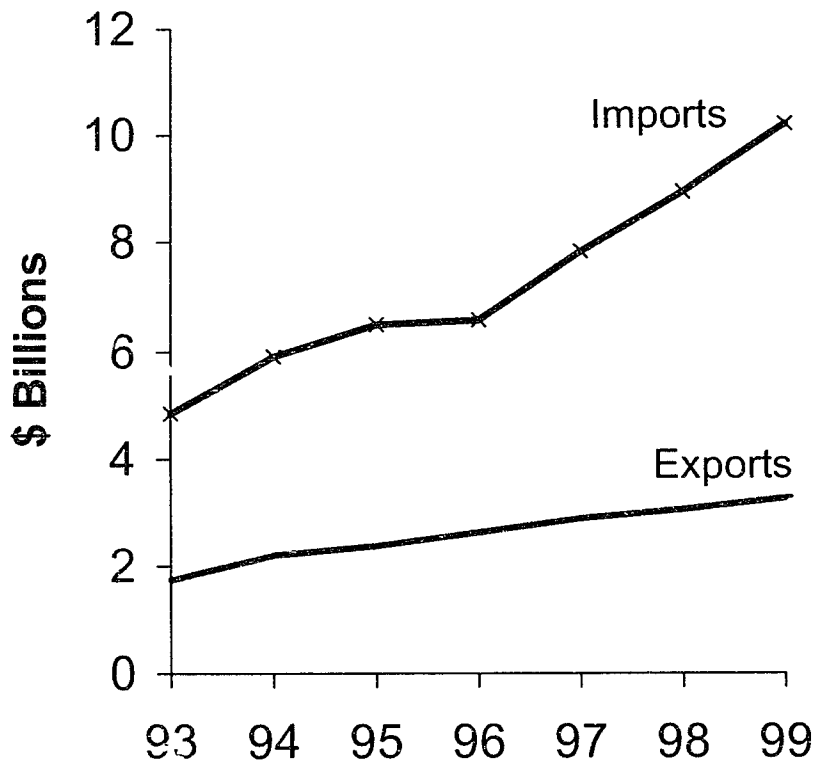
Trade in Computer Equipment, Share by Region, 1999



Rest of the World: Exports (1.5%), Imports (1.5%)

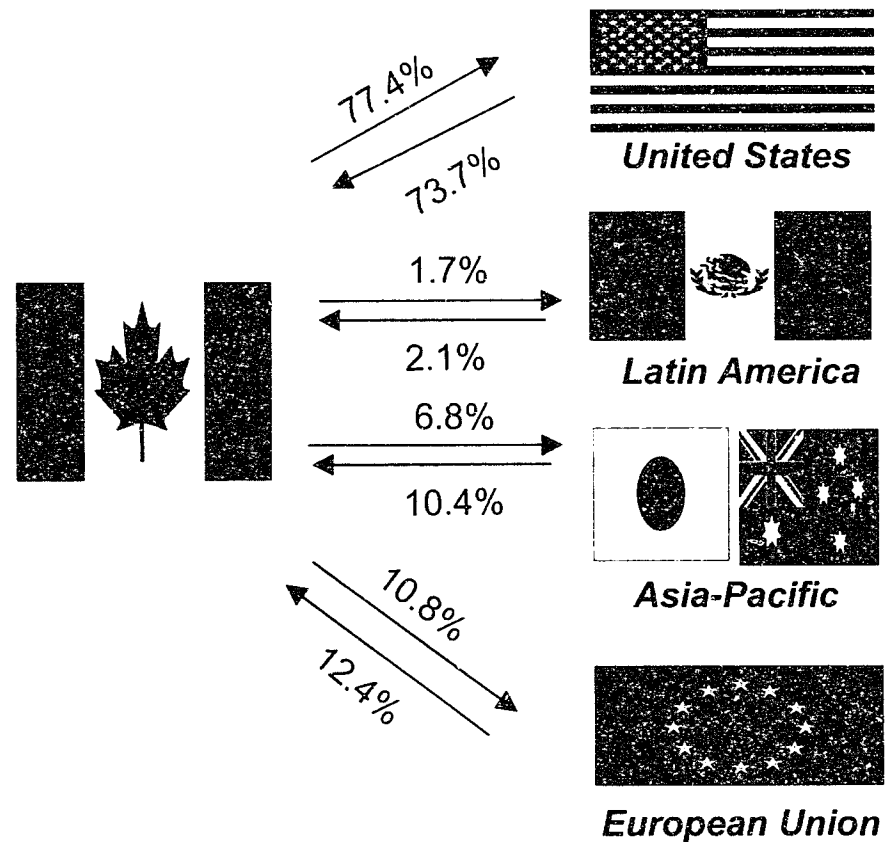
ICT Trade by Product Group and Region

**Trade in Instrumentation,
1993-1999**



Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

**Trade in Instrumentation,
Share by Region, 1999**



Rest of the World: Exports (3.3%), Imports (1.4%)

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ICT Exports by Product

Canadian ICT Exports, Top 15 Products, 1999

Rank	HS ⁽¹⁾	Product Description	Value (\$'000)
1	8517	Electrical apparatus for line telephony, incl. current line phone sets	6,269,018
2	8473	Parts and accessories of ADP ⁽²⁾ machines (incl. power supplies, PCBs)	4,206,351
3	8542	Electronic integrated circuits and microassemblies	3,901,998
4	8471	ADP ⁽²⁾ machines, incl. computers, peripherals, storage units, controller cards	2,578,013
5	8525	Transmission apparatus for radio-telephony, radio-broadcasting, television	2,063,493
6	9013	Optical devices, appliances and instruments (incl. lasers) and parts thereof	639,219
7	8544	Insulated wire/cable and insulated electronic conductors	626,743
8	8529	Parts suitable for transmission/reception apparatus	620,910
9	9032	Automatic regulating or controlling instruments and apparatus	595,559
10	8805	Flight simulators and parts thereof (8805.20)	578,637
11	8534	Printed circuits	478,524
12	9001	Optical fibres	432,377
13	9031	Measuring or checking instruments, appliances and machines & parts thereof	392,170
14	8531	Electric sound or visual signaling apparatus (fire alarm/burglar) & parts thereof	361,528
15	9027	Instruments and apparatus for physical or chemical analysis	349,515
		Total Top 15 Products (account for 87% of all ICT products exports)	24,094,056
		Total all ICT Products ⁽³⁾	27,662,419

(1) includes only the 6-digit HS codes specifically related to the ICT sector definition (which is based on SIC codes).

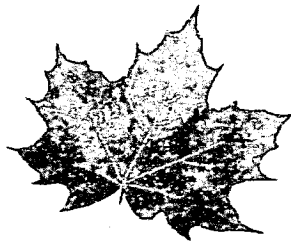
(2) ADP stands for Automatic Data Processing.

(3) slightly different from \$27.4B since the concordance between HS and SIC codes is not 100% compatible for the ICT sector.



Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

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ICT Imports by Product

Canadian ICT Imports, Top 15 Products, 1999

Rank	HS ⁽¹⁾	Product Description	Value (\$'000)
1	8471	ADP ⁽²⁾ machines, incl. computers, peripherals, storage units, controller cards	10,607,986
2	8542	Electronic integrated circuits and microassemblies	9,377,615
3	8473	Parts and accessories of ADP ⁽²⁾ machines (incl. power supplies, PCBs)	4,053,381
4	8517	Electrical apparatus for line telephony, incl. current line phone sets	3,724,634
5	9032	Automatic regulating or controlling instruments and apparatus	2,502,206
6	8525	Transmission apparatus for radio-telephony, radio-broadcasting, television	1,976,160
7	9018	Instruments and appliances used in vet/med/surg/dental	1,413,455
8	8527	Reception apparatus for radio-telephony or radio-broadcasting (incl. 8528)	1,332,993
9	8534	Printed circuits	1,292,562
10	8529	Parts suitable for transmission/reception apparatus	1,239,594
11	8528	Reception apparatus such as tv receivers, video monitors, video projectors	1,002,483
12	8541	Diodes/transistors and similar semicon devices	771,083
13	8544	Insulated wire/cable and insulated electronic conductors	748,499
14	9027	Instruments and apparatus for physical or chemical analysis	706,870
15	9009	Photo-copying apparatus incorporating an optical system	680,573
		Total Top 15 Products (account for 81% of all ICT products imports)	41,430,094
		Total all ICT Products ⁽³⁾	51,165,933

(1) includes only the 6-digit HS codes specifically related to the ICT sector definition (which is based on SIC codes).

(2) ADP stands for Automatic Data Processing.

(3) slightly different from \$51.176B since the concordance between HS and SIC codes is not 100% compatible for the ICT sector.

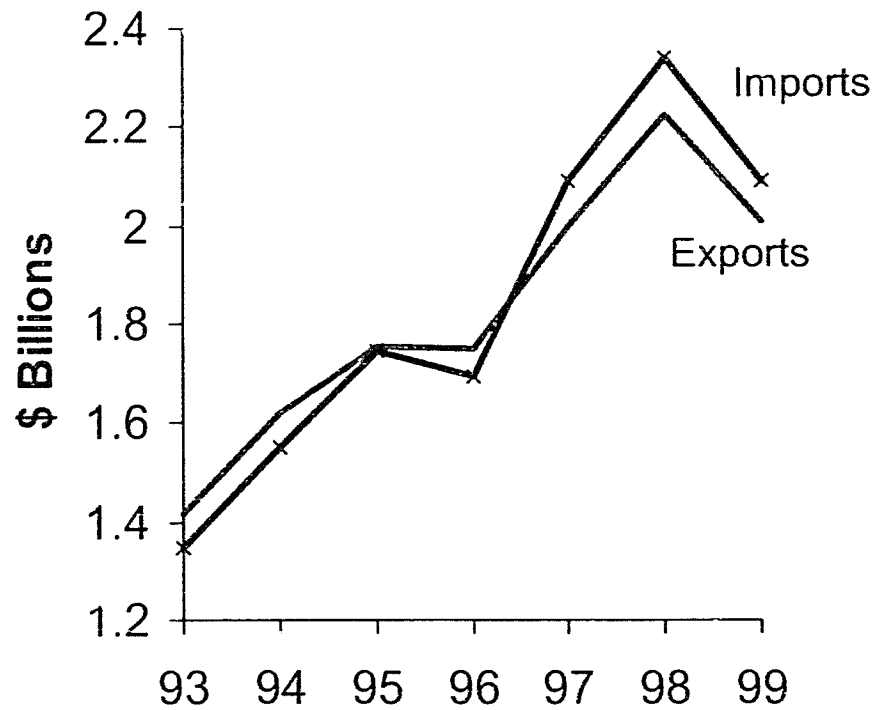


Source: Industry Canada compilations based on Trade Data Online, Statistics Canada.

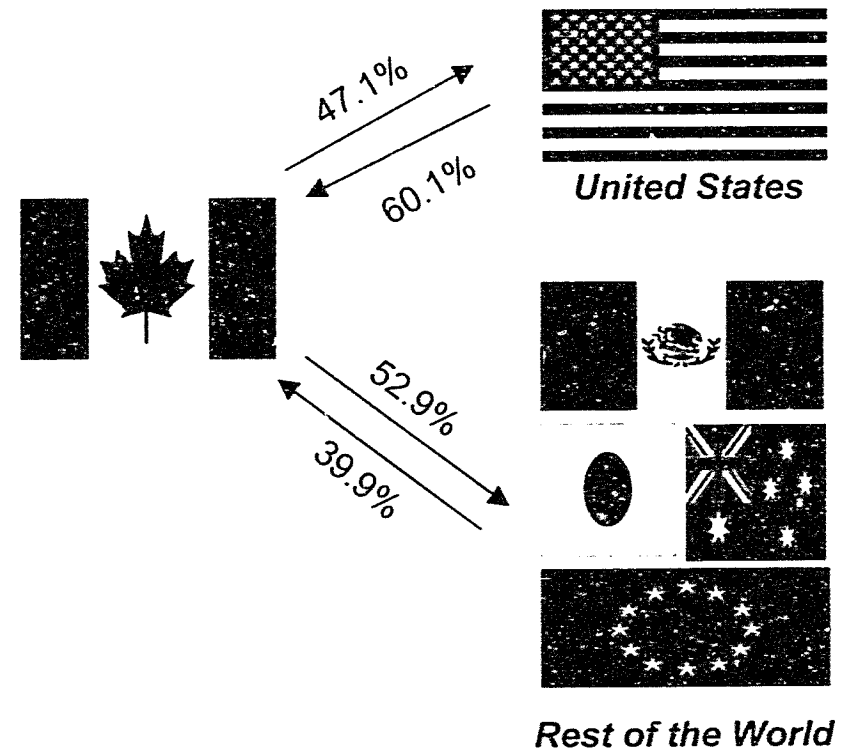
October 2000

ICT Trade by Type of Services and Region

Trade in Communications Services, 1993-1999



Trade in Communications Services, Share by Region, 1999

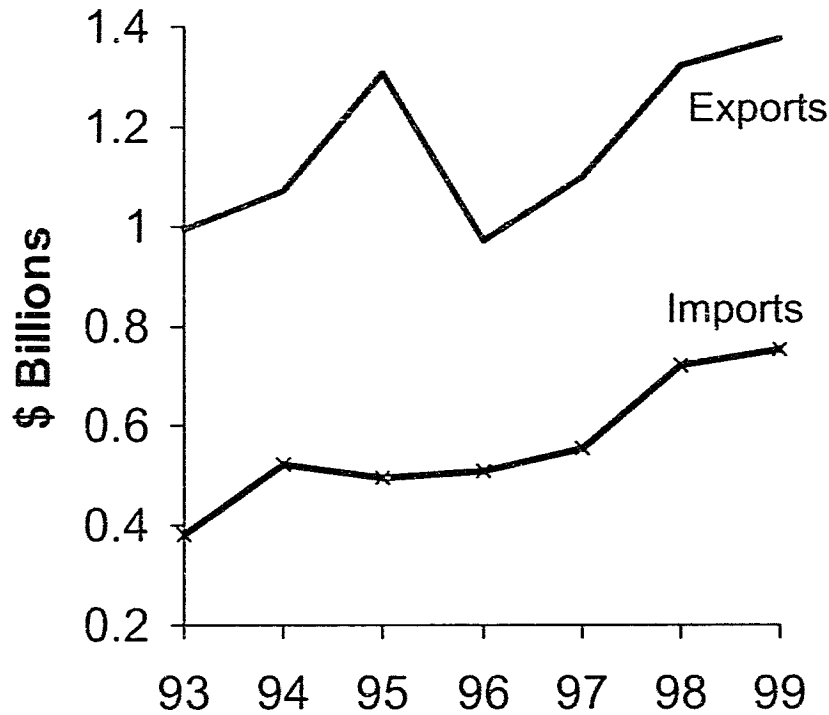


Source: Canada's International Transactions in Services (Cat. no. 67-203-XIB), Statistics Canada.

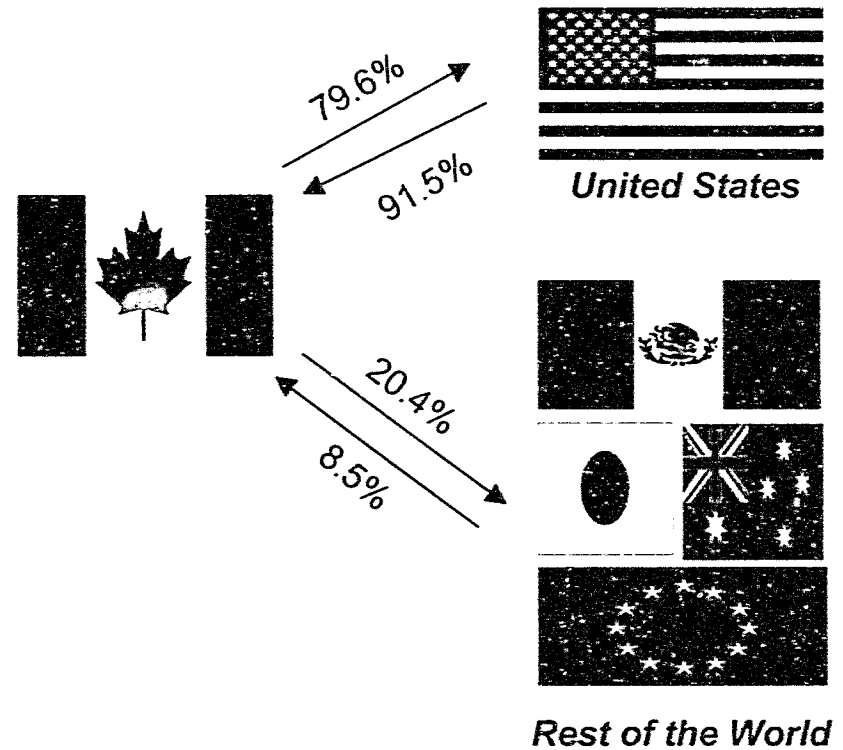


ICT Trade by Type of Services and Region

Trade in Computer Services, 1993-1999

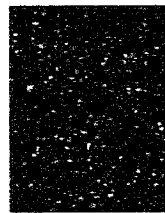


Trade in Computer Services, Share by Region, 1999



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





Conclusions

- The ICT sector is becoming increasingly important to the Canadian economy.
- Between 1993 and 1999, trade of ICT goods increased at a faster rate than other goods. As a result, exports and imports of ICT goods have increased their share of total Canadian merchandise trade to 7.7% and 16.0% respectively.
- Over the 1993-1999 period, the growth in trade of ICT services was slower than that of other commercial services. However, ICT services still represent a substantial share of Canadian trade of commercial services accounting for 12.9% of exports and 10.1% of imports.
- Exports are crucial to the ICT manufacturing sector. In fact, domestic exports accounted for 75.9% of ICT manufacturing shipments in 1998.
- The ICT goods face a growing trade deficit while the ICT services show a positive trade balance. Canada is aggressively seeking FDI in a semiconductor plant which should substantially reduce the trade deficit in ICT goods.

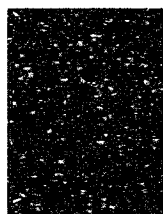




Conclusions (cont'd)

- Telecommunication & other communication equipment showed the strongest growth in exports with an increase of 33.9% from 1998 to 1999 and a CAGR of 22.5% over the 1993-1999 period.
- The U.S. is our major market, accounting for 84% and 56% of our exports and imports of ICT goods respectively in 1999.
- However, the Asia-Pacific region represents a substantial share of our ICT imports, reaching 28% last year.
- Canada went from 13th to 16th place in terms of global exports of ICT goods between 1993 and 1998.
- Over the 1993-1998 period, Canada has seen its share of U.S. imports increase from 6.69% to 7.20% but its share of worldwide imports remain stagnant at 1.7% since Canada lost shares in a number of countries.
- The strongest growing ICT markets are Asian countries such as China, Malaysia, Japan and Taiwan, with CAGR in imports ranging from 15.8% to 19.1% between 1993 and 1998.





ANNEX 1: Growth Rates in Trade by Product and Services Group

Product/Services Group	Exports		Imports	
	Growth 1998-99	CAGR 1993-99	Growth 1998-99	CAGR 1993-99
Telecom. and Other Communication Eqpt.	33.9%	22.5%	33.6%	17.0%
Communications Wires and Cables	17.6%	21.0%	20.1%	14.4%
Consumer Electronics	9.2%	11.7%	14.4%	13.4%
Instrumentation	7.3%	10.9%	14.0%	19.7%
Electronic Parts and Components	-1.5%	11.6%	6.5%	8.3%
Computer Equipment	-6.1%	7.5%	2.2%	5.6%
ICT Goods	9.3%	13.5%	11.5%	12.6%
Communications Services	3.9%	5.5%	4.5%	11.9%
Computer Services	-9.7%	6.0%	-10.7%	7.6%
ICT Services	-4.6%	5.8%	-7.1%	8.6%
Total ICT (Goods and Services)	7.6%	12.5%	10.4%	12.4%

Source: Data based on the ICT Statistical Overview, Industry Canada.

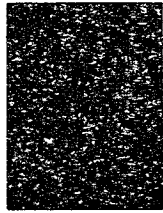




ANNEX 2: Technical Notes

- In this document, unless otherwise indicated, the term "exports" means "total exports" which include domestic exports and re-exports. Domestic exports include goods manufactured in Canada, including goods of foreign origin which have been 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 warehouse. Re-exports accounted for 12% of total ICT manufacturing exports in 1999.
- For trade of ICT goods, the following SIC codes are those used in Trade Data Online (Statistics Canada): 3341, 3351, 3352, 3359, 3361, 3368, 3381, 3911, 3912 (except for slides 19 and 20 where SITC codes were used and slides 25 and 26 where HS codes were used).
- For ICT services, computer and communications services are the only two services for which trade statistics are available.
- On slide 9, some ratios of domestic exports to manufacturing shipments may be higher than 100% since the methodologies used to collect data are different. Manufacturing shipments are collected on an industry (establishment) basis, while domestic exports are collected on a commodity basis and then associated to a specific industry using Statistics Canada internal concordances. In some cases, the commodity can be produced by another industry than the one being associated with.





ANNEX 2: Technical Notes

- The SITC codes used in World Trade Analyzer (Statistics Canada and United Nations) for ICT goods are:
 - 75 Office machines & automatic data processing machines
 - 76 Telecommunications & sound recording apparatus
 - 772 Electronic apparatus such as switches, relay, fuses
 - 774 Electronic apparatus for medical purposes
 - 776 Thermionic, cold and photo-cathode valves
 - 87 Professional, scientific & controlling instruments
 - 881 Photographic apparatus and equipment, n.e.s.

- Area Definitions:
 - Asia Pacific: Afghanistan, Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China (including Mongolia), Fiji, Hong Kong, India, Indonesia (including East Timor), Israel, Japan, Kiribati (including Tuvalu), North Korea, South Korea, Laos, Malaysia, Maldives, Nepal, New Caledonia, New Zealand, Pakistan, Papua New Guinea, Philippines, Singapore, S. non Islands, Sri Lanka, Taiwan, Thailand, and Vietnam.





ANNEX 2: Technical Notes

- Area Definitions (cont'd):
 - European Union (E.U.): Total for the 15 member states: France, Belgium, Luxembourg, Germany, Italy, Netherlands, Spain, Portugal, United Kingdom, Ireland, Greece, Denmark, and (since 1995) Austria, Sweden, and Finland.
 - Latin America: Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, El Salvador, Falkland Islands, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, St. Kitts-Nevis, Surinam, Trinidad and Tobago, Turks and Caicos Islands, Uruguay, and Venezuela.

