

2. A STATISTICAL OVERVIEW OF THE
COMMUNICATIONS SECTOR

IN
CANADA

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Development Branch
Telecommunications and
Informatics Sector

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INTRODUCTION

The economic importance of the communications field has grown rapidly in recent years in Canada and worldwide, leading some to predict that the most prosperous nations in the 21st century will be those that make the greatest use of labour-saving advances in communications and information processing technologies.

Development and convergence in the telecommunications and computer fields is dramatically changing the way voice, data and images are moved between places and stored. Distances between cities are disappearing as digital signal transmission speeds communications between people and computers. In the same way satellite technology is reducing communication barriers between continents. Just as the Industrial Revolution improved efficiency through the mechanization of production, the 'information revolution' is improving productivity through wider access to labour-saving technology for use in industry and better information handling capabilities for the services sector. It has been suggested that the nations which quickly absorb, adapt and develop these new information processing and communications technologies will be in the competitive positions as the world economy approaches the 21st century.

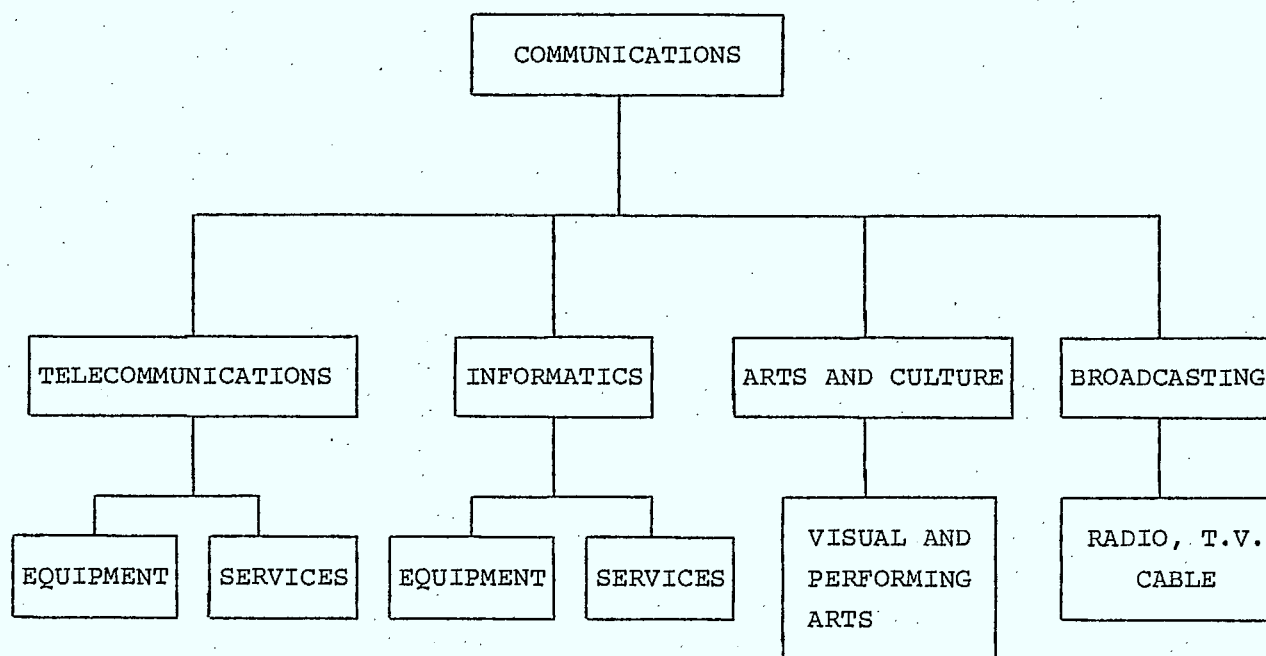
The communications sector is an important part of the Canadian economy. The activities of its four main economic subsectors - arts and culture, broadcasting, telecommunications and informatics - are quantitatively extensive and qualitatively diverse.

The hardware side of the telecommunications and computer sectors alone made shipments worth \$5 billion in 1984 while the services side of these sectors including telephone, other telecommunications carriers, and computer services had revenues of \$ 10 billion in 1983. Broadcasting revenues totalled \$ 9.1 billion in 1983. The Canada Council estimates Canadians spent \$ 10.3 billion on arts, culture and related activities in 1982. Taken all together these figures indicate the significant economic impact of the communications sector on Canada.

In addition to generating significant employment, investment and export opportunities for Canada, the communications sector also provides important linkages between many other sectors of the economy. They affect the way business is conducted, the nature of information design, creation, storage and communication, and the way people share knowledge. All of these influence Canada's social and economic development and indicate the importance of the communications field to Canada.

This report looks at the following communications sub-sectors: arts and culture, broadcasting, telecommunications and informatics, with particular attention to the last two of these sectors. A statistical appendix is included.

For the purposes of this report the communications field has been separated into four general areas of economic activity as indicated below:



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ARTS & CULTURE

The field of arts and cultural activities is traditionally defined to include performing arts - music, dance, theatre, opera; visual arts - fine arts, photography, commercial art; crafts, literature, heritage, galleries, museums and libraries and the cultural industries - radio, television, film, video, sound recording and publishing.

The economic impact of these activities has escaped precise measurement in the past partly because no universal definition of the sector exists. This definitional problem can make certain regional studies or studies of specific activities incompatible with others. The problem of choosing an appropriate multiplier to be applied to direct expenditures also exists.

While no precise estimate has been established for the impact of arts and culture on the Canadian economy some figures are cited in the literature which indicate the order of magnitude of this impact.

A Canada Council report in 1983 suggested culture was the nation's 11th largest revenue industry, 4th largest job provider and the 6th largest paymaster¹. A Statistics Canada report estimates the sector's labour force is growing at nearly twice the rate of the total labour force².

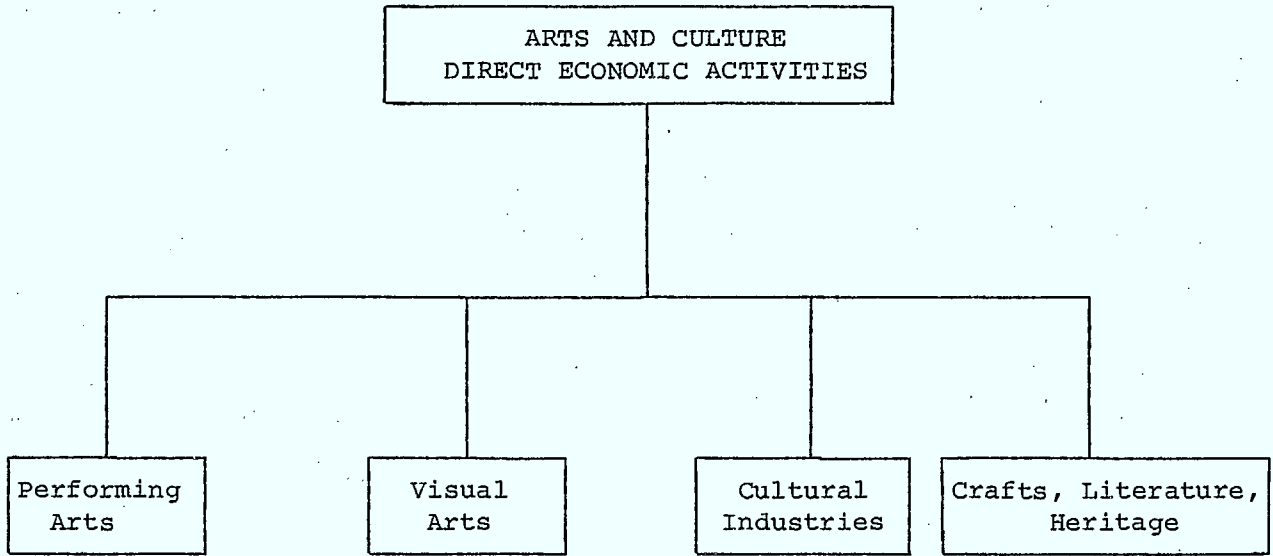
In 1981-82 federal government expenditures on arts and culture totalled \$1.2 billion³, about 1.8% of total federal spending. This included funding of wages, salaries, capital and operating budgets and grants for museums, archives, films, broadcasting, and the performing arts. Provincial expenditures in this field were \$809.7 million in 1981-82. About half this figure was for libraries.

The performing arts alone - theatre, music, dance, opera - had an income of over \$90 million in 1979, according to Statistics Canada figures⁵ with about one third of this coming from public finances, the rest from paid attendance (8.6 million attendees in 1979) and private donations.

These revenues entered the economy through salaries to artistic personnel (48%), technical personnel (25%) and other expenditures on administration (27%).

Consumer expenditures on cultural products and services were estimated at \$10.3 billion⁶ by a recent Canada Council report. This figure includes expenditures for museum visits, publications, film/broadcasting, live performances and the like.

COMPONENTS OF THE ARTS AND CULTURE SECTOR



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NOTES

1. Research and Evaluation (The Canada Council), Selected Arts Research Studies, 3rd Edition, The Canada Council, 1983.
2. Graser, Gail, Manpower and The Arts: A Growth Area in Canada, Statistics Canada, 1984.
3. See: Statistics Canada catalogue 87-660.
4. See: Statistics Canada catalogue 87-610
5. Ibid.
6. Chartrand, Harry, An Economic Impact Assessment of the Canadian Fine Arts, Canada Council, 1984.

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BROADCASTING

Radio and television broadcasting is an important component of the communications sector's economic impact. Radio, television and cable industry revenues totalled \$1.3 billion in 1982, having more than doubled since the late 1970s. Nearly 29,000 people were employed by 510 radio and 67 television stations in 1982, not to mention those industries which are largely supported by the sale of commercial airtime - ad, promotion and public relations firms for example. Table 13 in the Appendix shows the path of industry revenue growth since the early 70's. It suggests the growing impact of broadcasting on the communications field and on the Canadian economy.

TELECOMMUNICATIONS

It has been said that Canada is fortunate to have been faced with the challenge of linking together communities from north to south and west to east, often long distances apart, because out of this grew the need to develop unique and reliable communications systems. The result has been the development of Canada's capability for designing and putting in place national communications systems which are now in demand in many countries of the world giving Canada opportunities to export, worldwide, sophisticated information-communications technology and expertise.

TELECOMMUNICATIONS SERVICES:

Sector Description

The telecommunications services industry includes firms which emit, receive, switch or transfer, on a commercial basis, electro-magnetic or optical signals. This industry maintains Canada's local and long distance communications network via cable, microwave and satellite links. Voice telephony, public messaging (telegram), telex, electronic message, mail and text services, public data networks and private leased circuits are all part of the telecommunications services field. Traditionally a division is made between telephone services, local and long distance, and the other telecommunications services - telegraph, telex, satellite.

The Telephone Carriers

The telephone carrier component of the telecommunications services industry had revenues of \$8.5 billion in 1983 representing 94 per cent of all telecommunications industry revenues in that year. The industry includes all local telephone service providers in Canada, mainly large companies serving an entire province with some of them owned by the provinces themselves. In addition there are another 110 smaller municipally owned telephone companies across Canada. The larger companies all belong to Telecom Canada, an unincorporated association responsible for long distance telecommunications traffic crossing the territories of any of its members. Telecom Canada also negotiates rates and revenue sharing arrangements with Teleglobe Canada for overseas traffic, with U.S. carriers for telephone traffic south of the border and with CN Telecommunications for traffic to Northern Canada and Newfoundland.

Regulation of the telephone carriers is divided in Canada among federal, provincial and municipal authorities making Telecom Canada rates subject to approval by eight regulating agencies, each acting independently. The regulatory bodies hand down decisions affecting competition, rate structure and the nature and quality of services offered by the telephone carriers.

Economic Trends

The telephone industry has enjoyed steady growth in revenues over the past ten years with total revenue more than quadrupling since 1973 growing from \$2.1 billion that year to \$8.5 billion in 1983. This represents a compound annual growth rate of 13.3 per cent. About half this revenue traditionally comes from long distance 'toll' services: the remainder from local services. Recent revenue growth has slowed however to 4.9 per cent over 1982-83 down from 13.4 per cent over 1981-82 and 17.7 per cent over 1980-81.

Since 1973 the number of telephone calls made in Canada has grown by 50 per cent surpassing 29 billion in 1982, up from 19 billion in 1973. Calls per capita grew from 854 per capita in 1973 to 1,173 in 1982, a 30 per cent increase. The number of installed telephones has increased 43 per cent from 11.7 million in 1973 to 16.8 million in 1982.

Employment in the telephone industry has actually increased 39.7 per cent since 1973 rising from 75,407 in that year to 105,354 in 1983.

OTHER TELECOMMUNICATIONS CARRIERS

The telecommunications sector, excluding the telephone carriers, includes CNCP Telecommunications, Teleglobe Canada and Telesat Canada. CNCP Telecommunications, the second national telecommunications network, offers public message services (telegram, overseas cable, telex) and other data, voice and broadcast services through its own national microwave relay system and switching centres.

Telesat Canada, the national satellite carrier, is a member of Telecom Canada. It has the sole responsibility of providing domestic satellite services as well as transborder satellite services to the U.S., subject to regulatory requirements in both countries.

Teleglobe Canada, a federal crown corporation, offers international telecommunications services. In 1984, eighty per cent of Teleglobe's revenues were generated from telephone and telex services. The company links 70 per cent of Canadian telephones to destinations in 87 countries around the world and offers telegraph services to 250 other countries. In the course of service diversification, Teleglobe has begun offering satellite links between Canadian based multinationals and their overseas offices through its Globesat service using small dish technology.

Economic Trends

The non-telephone telecommunications carriers had revenues of \$530.3 million in 1982 representing 6.4 per cent of all telecommunications industry revenues. Despite the fact this represents triple the revenue of the industry in 1973, employment has fallen over the last decade by over one thousand, from 7,047 in 1973 to 6,027 in 1982.

Telesat is responsible for 11 per cent of the non-telephone telecommunications carriers revenues; Teleglobe Canada 32.4 per cent and CNCP Telecommunications with the largest portion at 56.3 per cent of all revenues. The largest proportion of the group's revenue by type of service is from leased circuit services (26.8 %) followed by private telephone services (25.6 %), leased plant (19.4 %) and other non-transmission services (6.4%) These proportions of 1982 total revenue for the group have changed little since the mid 1970s suggesting that their traditional services remain in demand in the marketplace.

TELECOMMUNICATIONS EQUIPMENT:

Sector Description

The telecommunications equipment industry is composed of establishments primarily engaged in manufacturing telephone, telegraph, and transmission systems and equipment along with related communications products. Product and equipment areas include: telephone and telegraph carrier equipment, central office switching systems, telephone sets, private branch exchanges, satellite communication systems and components; transmission systems (cable, microwave and optical fibre); mobile radio, radio telephones and paging systems, and other terminal attachment equipment. Prior to January 1985, Statistics Canada also included security and alarm systems, TV equipment and parts and other products associated with telecommunications under their Communications Equipment Manufacturing Industry survey. The data in this study reflects Statistics Canada sector definition prior to January, 1985.

Structure and Characteristics

The Canadian telecommunications equipment industry is dominated by large firms with the capacity for adequate R&D expenditures to keep their technology internationally competitive. International marketing is also important for developing a customer base large enough to support sufficient financial and managerial resources to be a competitive firm.

The dominant Canadian telecommunications equipment manufacturer is Northern Telecom, a subsidiary of Bell Canada Enterprises which owns 50% of Northern Telecom's shares. Northern Telecom is the second largest telecommunications equipment manufacturer in North America and the seventh largest in the world. The company operates subsidiaries for manufacturing in Canada and the U.S. and international subsidiaries for marketing and equipment maintenance, based in Canada and the U.S.

Five other Canadian based companies, besides Northern Telecom, have annual sales exceeding \$100 million. Microtel Ltd., Mitel Corporation, Electrohome Ltd., Canadian Marconi Ltd., and Spar Aerospace had 1984 revenues of \$1.2 billion, about one third of Northern Telecom's revenue for the same year.

These firms design and manufacture a wide variety of telecommunication and satellite transmission equipment from traditional switching systems and private branch exchanges to satellite earth stations and military radar technology.

There are nine establishments with over 100 employees that account for 47% of total shipments. Fifty-nine establishments employing 100 to 1,000 represent another 41% of total shipment. The remaining 375 establishments with less than 100 employees account for 12% of shipments.

The industry is based largely in Ontario and Quebec. Ontario has 54% of the establishments with 60% of total shipments and employment. Quebec has 23% of establishments in the industry with 27% of employment and 29% of shipments.

Economic Trends

Telecommunications equipment is contained in the communications equipment classification, SIC 335. As with the electronics sector as a whole, communications equipment experienced strong recovery in 1984 with shipments reaching \$3.5 billion. If present trends continue the next few years could see a return to pre-recession growth levels in the communications equipment sector.

Throughout the 1970s shipments of communications equipment rose every year although sometimes fluctuating dramatically from year to year. The 1980-81 recession reduced shipments in 1982-83 but growth began to rebound in 1984, approaching pre-recession levels. From 1974-84 the compound annual growth rate for shipments of communications equipment was 11.1 per cent. This represents an increase from shipments of \$1.2 billion in 1974 to \$3.5 billion in 1984. The largest period of growth was from 1979-84, despite the recession.

Exports of communications equipment grew from 36 per cent of shipments in 1973 to 73 per cent in 1984. Annual growth of exports again was stronger in the latter half of the 1974-84 period averaging 27.3 per cent between a year from 1974 and 1979 compared to 15.0 per cent annual growth from 1974 to 1979. Exports totalling \$408 million in 1974 grew to \$2.7 billion by 1984. Imports declined during the recession but still maintained 17.5 per cent annual growth helping reduce the trade deficit in communications equipment from \$571 million in 1981 to \$444 million in 1984 although the trade deficit remains substantial compared to 1974 when it was \$222 million.

The Apparent Domestic Market for communications equipment has grown more slowly than total shipments and exports by Canadian producers. The compound annual growth rate from 1974 to 1984 was 10.6 per cent. Canada's ADM was \$837 million in 1974 and rose to \$4.6 billion in 1984. Imports grew as a share of the ADM from 44 per cent in 1974 to 81 per cent in 1984. While domestic production increased over this period it appears to have been export rather domestically oriented.

INFORMATICS SERVICES:

Sector Description

The informatics services industry includes firms providing information processing, computer consulting, and software development services. Three sub-categories are generally used to describe this industry. First, processing services which includes input preparation and data entry, data processing and information retrieval. Second, professional or consulting services including systems development, custom programming, hardware and software maintenance, education, training and research services. Finally, software products which includes the sale, lease and rental of systems and applications software.

Two types of software traditionally identified are systems and applications. Systems software directs the fundamental operation of the computer providing instructions for hardware control, computer memory, allocation and management of computer resources. Applications software, in contrast, instructs the computer's processor as to how end-user tasks are to be performed. Applications software in packaged or custom form performs functions such as word processing and financial spread sheets.

Structure and Characteristics

The computer services industry in Canada can be divided into three general areas: processing or 'machine-based' services, provided largely by the service bureaux; custom systems development and computer consulting - the 'people based' sector; and finally, the software sector including systems and applications software.

The second largest source of computer services revenue in Canada is custom systems development and computer consulting. It accounted for 25.6 per cent of industry revenues in 1983. Some firms in the computer services field offer EDP hardware for lease or rental. According to Statistics Canada, in 1983, 12.2 per cent of total computer services revenue was from hardware lease and rental.

The fourth source of revenue for the computer services industry is software sales, lease and rental. \$178.6 million in revenue was generated in the software field in 1983, according to Statistics Canada. This is about 12.3 per cent of all industry revenues.

Economic Trends

Canada's computer service industry has experienced tremendous growth in the past ten years. Revenues were \$131 million in 1972. These reached \$638 million by 1979 then doubled to \$1.4 billion by 1983. The industry's strongest growth occurred from 1974 to 1979 when the compound annual growth rate was 24.8 per cent. This rate slowed to 17.7 per cent a year from 1979 to 1983. Revenue from outside Canada, while not substantial, has grown from 2.0 per cent of total revenues in 1973 to 5.7 per cent in 1983.

The number of firms in the industry has also grown dramatically. There were 331 computer service firms in 1971: in 1983 there were 1836. Employment has grown nearly 10 per cent a year in the industry through the 1970s increasing from 8,956 in 1974 to 21,973 in 1983.

Since the early 1970's demand for computer services as a whole has shifted somewhat, towards the services sectors of the economy. Financial institutions, health services and the service trades (doctors, lawyers) have increased their share of total computer usage while primary and manufacturing sectors now use a lower proportion of all computer services provided in Canada than they did in the early 1970s. In-house computer capabilities may partly explain the lower use of outside services by these sectors.

INFORMATICS EQUIPMENT:

Structure and Characteristics

The Canadian informatics equipment industry consists largely of subsidiaries of the major multinational computer corporations and a group of smaller, mostly Canadian-controlled firms. The multinational subsidiaries undertake development and production of hardware for the domestic market to differing degrees. Some of their activity is part of a world product mandates which may partly explain the high export orientation of Canadian production, with the domestic market supplied largely imports.

IBM dominates the informatics equipment manufacturing industry in Canada. IBM revenues from EDP equipment totalled \$2.8 billion in 1984, up 29% from 1983 and accounting for 43% of the EDP revenues of Canada's top 100 hardware supply firms.

After IBM, there were 13 firms with EDP revenues exceeding \$100 million in 1984. Together they accounted for 40.6 of top company EDP revenues. The remaining 10 firms ranging from \$1 to \$98 million in revenues. Eighty-one per cent of the top 100 firms, represent only 15.5% of total EDP revenues, according to Evans Research estimates.

Economic Indicators

Informatics equipment - computers, peripherals, etc. - is contained in the Office and Store Machinery Classification, SIC 318. Shipments of office and store machinery grew more quickly than the electronics sector as a whole in both the periods 1974-79 and 1979-84. Shipments grew at an annual rate of 11.6 per cent from 1974-79 starting at a level of \$346 million in 1974. By 1984 total shipments were \$2.7 billion.

Exports slowed in their rate of growth during the recessionary early 1980s dropping from annual growth of 23.6% from 1974-79 to 17.4% during 1979-84. Total exports were \$1.8 billion in 1984 having grown from \$281 million in 1974. Canada's export performance was strong over this period. In 1974 exports were 63 per cent of shipments: by 1984, 88 per cent of shipments were exported.

Imports grew more quickly from 1979-84 than from 1974-79 despite recessionary effects on demand. Annual growth was 26.0 per cent between 1979 and 1984, and 14.7 per cent from 1974-79. The trade balance was adversely affected as import growth outpaced export growth. Imports totalled \$772 million in 1974 when the trade deficit was \$491 million. In 1984 total imports were \$4.8 billion and the trade deficit reached \$3.0 billion.

The Apparent Domestic Market for office and store machinery, including computers, grew 18.6 per cent a year from 1974 to 1984. The ADM was \$837 million in 1974. This tripled to \$2.1 billion by 1980 then doubled again to \$4.6 billion by 1984.

WORLD AND CANADIAN DEVELOPMENTS

The following briefs are from current market research by A.D. Little:

- Total free world revenues from information processing products grew to \$112 billion in 1984, up 16% from 1983;
- Desktop computers, software and 'general-purpose' computers experienced high growth in shipments but software is expected to be the highest growth sector doubling from 10% of worldwide information processing revenues now to 20% by 1994;
- An increased need for central 'general-purpose' computer power and file storage has been identified as interactive and office automation markets grow;
- IBM continues to outpace growth of the second largest company, Digital Equipment;
- By 1994, storage peripherals will be the largest' equipment market by far. The next largest markets in 1994 will be systems/utilities software, application software and special-purpose computers;
- U.S. industry revenue growth is expected to be 8-9% a year during 1989-1994;

- . Western Europe, because of its slight lag behind the U.S. in technology use, is expected to move more quickly through the intermediate step in the evolution of integrated office systems - i.e. the desktop computer proliferation - towards multifunction workstations; and
- . Western Europe's information processing product revenue grown only 7% in 1984.

Meanwhile, Evans Research Corporation reports that:

- . While revenue of Canada's information processing industry is recovering from the 1981-1983 recession, the short-term industry outlook is not certain;
- . Information processing equipment manufacturing is 'becoming a two horse race' between IBM and the Pacific Rim forcing other U.S. and Canadian suppliers to fight hard for market share;
- . The market for computers has become saturated in recent years, with IBM leading the way leaving its competitors to find market niches or areas of the market to which IBM has not addressed itself;
- . IBM is competing on price with makers of plug compatible equipment. It now has about 40 per cent of the total revenue from the fastest growing micro-market;
- . By 1990 IBM could have 70 per cent of the Canadian hardware micro-market;
- . The Pacific Rim suppliers of personal and home computers have posed little threat to IBM's dominance of the Canadian market but they have been successful in markets for printers, low and mid-range Direct Access Storage Devices (DASD), monitors and soon in modem and multiplexor markets;
- . The market for applications software packages is expected to grow at 28 per cent a year through 1989 and 27 per cent for systems packages and related maintenance;

- Hardware manufacturers such as IBM are moving more and more into the microcomputer software packages market; and
- Some growth is expected in the processing services market to 1988-89.

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Table 1

SUMMARY STATISTICS

Communications Equipment and Components - SIC 335

| | Communications Equipment and Components - SIC 335 | | | | | | | | | | | | | Compound Annual Growth Rates (%) | | |
|----------------------------|---|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------------------|-----------|--|
| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1974-1979 | 1979-1984 | 1974-1984 | |
| \$ million | | | | | | | | | | | | | | | | |
| ADM ¹ | 1082 | 1453 | 1529 | 1628 | 1828 | 1967 | 2404 | 2881 | 3357 | 3280 | 3413 | 3961 | 10.6 | 10.5 | 10.6 | |
| SHIPMENTS | 889 | 1225 | 1368 | 1383 | 1441 | 1532 | 1814 | 2329 | 2786 | 2947 | 2834 | 3517 | 8.2 | 14.2 | 11.1 | |
| TRADE BALANCE | -193 | -228 | -161 | -245 | -387 | -435 | -590 | -552 | -571 | -333 | -479 | -444 | 8.5 | -5.9 | 6.9 | |
| TOTAL EXPORTS ² | 351 | 408 | 433 | 468 | 437 | 572 | 821 | 1139 | 1467 | 1542 | 1805 | 2749 | 15.0 | 27.3 | 31.0 | |
| RE-EXPORTS | 27 | 33 | 44 | 47 | 39 | 45 | 71 | 97 | 99 | 119 | 149 | 198 | 16.6 | 27.5 | 19.6 | |
| IMPORTS | 544 | 636 | 594 | 713 | 824 | 1007 | 1411 | 1691 | 2038 | 1875 | 2284 | 3193 | 17.3 | 17.7 | 17.5 | |

NOTES:

¹ADM, Apparent Domestic Market includes total shipments less export plus imports.

²Includes re-exports, which are goods imported to Canada and exported without Canadian value-added.

SOURCE:

Shipments, Exports, Imports from Department of Regional Industrial Expansion, Sector Analysis Division, Electronics and Aerospace, Statistical Unit.

ADM, Trade Balance derived from DRIE data.

Table 2

SUMMARY STATISTICS

Office and Store Machinery and Equipment - SIC 318

| | Office and Store Machinery and Equipment - SIC 318 | | | | | | | | | | | | | Compound Annual Growth Rates (%) | | |
|----------------------------|--|------|------|------|------|------|------|-------|-------|-------|-------|-------|-----------|----------------------------------|-----------|--|
| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1974-1979 | 1979-1984 | 1974-1984 | |
| \$ MILLION | | | | | | | | | | | | | | | | |
| ADM ¹ | 620 | 837 | 816 | 846 | 924 | 1216 | 1445 | 2101 | 2919 | 3203 | 3166 | 4619 | 11.6 | 26.2 | 18.6 | |
| SHIPMENTS | 287 | 346 | 373 | 412 | 417 | 547 | 725 | 889 | 1147 | 1246 | 1170 | 1558 | 16.0 | 16.5 | 16.2 | |
| TRADE BALANCE | -333 | -491 | -443 | -434 | -507 | -669 | -720 | -1212 | -1772 | -1957 | -1996 | -3061 | 8.0 | 33.6 | 20.0 | |
| TOTAL EXPORTS ² | 245 | 281 | 317 | 379 | 4414 | 574 | 810 | 926 | 1111 | 1187 | 1379 | 1805 | 23.6 | 17.4 | 20.4 | |
| RE-EXPORTS | 39 | 64 | 45 | 48 | 67 | 99 | 168 | 187 | 237 | 1260 | 310 | 428 | 21.3 | 20.1 | 20.9 | |
| IMPORTS | 578 | 772 | 760 | 813 | 921 | 1243 | 1530 | 2138 | 2883 | 3144 | 3375 | 4866 | 14.7 | 26.0 | 20.2 | |

NOTES: ¹ADM, Apparent Domestic Market includes total shipments less exports plus imports.

²Includes re-exports, which are goods imported to Canada and exported without Canadian value-added.

SOURCE: Shipments, Exports, Imports from Department of Regional Industrial Expansion, Sector Analysis Division, Electronics and Aerospace, Statistical Unit.

ADM, Trade Balance derived from DRIE data.

Table 3

SUMMARY STATISTICS

Consumer Electronics - SIC 334

| | Consumer Electronics - SIC 334 | | | | | | | | | | | Compound Annual Growth Rates (%) | | | |
|----------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|----------------------------------|-----------|-----------|-----------|
| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1974-1979 | 1979-1984 | 1974-1984 |
| \$ MILLION | 584 | 588 | 494 | 606 | 530 | 588 | 695 | 815 | 1024 | 972 | 1276 | 1694 | 3.4 | 19.5 | 11.1 |
| ADM ¹ | 352 | 315 | 274 | 254 | 166 | 172 | 258 | 352 | 416 | 405 | 473 | 492 | -2.5 | 13.8 | 4.6 |
| SHIPMENTS | -232 | -273 | -220 | -352 | -364 | -416 | -437 | -463 | -608 | -567 | -803 | -1202 | 9.9 | 22.4 | 16.0 |
| TRADE BALANCE | 33 | 36 | 32 | 32 | 57 | 97 | 107 | 73 | 90 | 113 | 145 | 176 | 24.3 | 10.5 | 17.2 |
| TOTAL EXPORTS ² | 1 | 3 | 5 | 1 | 2 | 1 | 3 | 5 | 4 | 5 | 5 | 5 | 0 | 10.8 | 5.2 |
| RE-EXPORTS | 265 | 309 | 252 | 394 | 421 | 513 | 544 | 536 | 698 | 680 | 948 | 1378 | 12.0 | 20.4 | 16.1 |
| IMPORTS | | | | | | | | | | | | | | | |

NOTES:¹ADM, Apparent Domestic Market includes total shipments less exports plus imports.²Includes re-exports, which are goods imported to Canada and exported without Canadian value-added.SOURCE: Shipments, Exports, Imports from Department of Regional Industrial Expansion Sector Analysis Division, Electronics and Aerospace, Statistical Unit.

ADM, Trade Balance derived from DRIE data.

Table 4

SUMMARY STATISTICS

Electronic Instruments and Related Products - SIC 3911

| | Electronic Instruments and Related Products - SIC 3911 | | | | | | | | | | | | Compound Annual Growth Rates (%) | | | |
|---------------|--|------|------|------|------|------|------|------|------|------|------|------|----------------------------------|-----------|-----------|--|
| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1974-1979 | 1979-1984 | 1974-1984 | |
| \$ MILLION | | | | | | | | | | | | | | | | |
| ADM | 408 | 468 | 526 | 597 | 662 | 819 | 965 | 1188 | 1370 | 1422 | 1444 | 1627 | 15.6 | 17.6 | 13.2 | |
| SHIPMENTS | 316 | 358 | 414 | 473 | 507 | 618 | 722 | 880 | 988 | 1013 | 1010 | 1024 | 15.0 | 7.2 | 11.0 | |
| TRADE BALANCE | -92 | -110 | -112 | -124 | -155 | -201 | -243 | -308 | -382 | -409 | -434 | -603 | 17.1 | 19.9 | 18.5 | |
| TOTAL EXPORTS | 54 | 56 | 64 | 73 | 79 | 102 | 147 | 180 | 193 | 178 | 177 | 204 | 21.3 | 6.8 | 13.8 | |
| RE-EXPORTS | 1 | 3 | 5 | 1 | 2 | 1 | 3 | 5 | 4 | 5 | 5 | 5 | 0 | 7.6 | 5.2 | |
| IMPORTS | 146 | 166 | 176 | 197 | 234 | 303 | 390 | 488 | 575 | 587 | 611 | 807 | 18.6 | 15.7 | 17.1 | |

NOTES: ADM, Apparent Domestic Market includes shipments less exports plus imports.

SOURCE: Department of Regional Industrial Expansion, Sector Analysis Division, Electronics and Areospace, Statistical Unit, 1984.

Import and export data taken from DRIE data, as noted above, which is based on Statistics Canada data.

Table 5

SUMMARY STATISTICS

Total Electronics Sector

| | Total Electronics Sector | | | | | | | | | | | | | Compound Annual Growth Rates (%) | | |
|------------------|--------------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|----------------------------------|-----------|--|
| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1974-1979 | 1979-1984 | 1974-1984 | |
| \$ MILLION | 2694 | 3346 | 3365 | 3677 | 3944 | 4590 | 5509 | 6985 | 8670 | 8877 | 9299 | 11901 | 10.5 | 16.7 | 13.5 | |
| ADM ¹ | 1844 | 2244 | 2429 | 2522 | 2531 | 2869 | 3519 | 4450 | 5337 | 5611 | 5587 | 6591 | 9.4 | 13.4 | 11.4 | |
| SHIPMENTS | -850 | -1102 | -936 | -1155 | -1413 | -1721 | -1990 | -2517 | -3333 | -3266 | -3712 | -5310 | 12.6 | 21.7 | 17.0 | |
| TRADE BALANCE | 683 | 781 | 846 | 952 | 987 | 1345 | 1885 | 2318 | 2861 | 3020 | 3506 | 4934 | 19.2 | 21.2 | 20.2 | |
| TOTAL EXPORTS | 68 | 103 | 99 | 97 | 111 | 146 | 245 | 294 | 344 | 1389 | 469 | 636 | 18.9 | 21.0 | 20.0 | |
| RE-EXPORTS | 1533 | 1883 | 1782 | 2107 | 2400 | 3066 | 3875 | 4835 | 6194 | 6286 | 7218 | 10244 | 15.5 | 21.5 | 18.5 | |
| IMPORTS | | | | | | | | | | | | | | | | |

NOTES: ¹ADM, Apparent Domestic Market includes total shipments less exports plus imports.

SOURCE: Department of Regional Industrial Expansion, Sector Analysis Division, Electronics and Aerospace, Statistical Unit, 1984.

Import and export data taken from DRIE data, as noted above, which is based on Statistics Canada figures.

Table 6

SHARE OF TOTAL ELECTRONICS ADM

By Subsector (%)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|
| COMMUNICATIONS EQUIPMENT, COMPONENTS (SIC 335) | 40 | 43 | 45 | 44 | 46 | 43 | 44 | 41 | 39 | 37 | 37 | 33 |
| OFFICE AND STORE MACHINERY AND COMPUTER (SIC 334) | 23 | 25 | 24 | 23 | 23 | 27 | 26 | 30 | 34 | 36 | 34 | 39 |
| HOUSEHOLD RADIO AND TELEVISION (SIC 334) | 22 | 18 | 15 | 17 | 13 | 13 | 13 | 12 | 12 | 11 | 14 | 14 |
| INSTRUMENTS AND RELATED PRODUCTS (SIC 3911) | 15 | 14 | 16 | 16 | 17 | 18 | 18 | 17 | 16 | 16 | 16 | 14 |

SOURCE: Figures derived from tables 1 to 4.

Table 7

SHARE OF TOTAL ELECTRONIC SHIPMENTS

By Subsector (%)

| | 1984 | 1983 | 1982 | 1981 | 1980 | 1979 | 1978 | 1977 | 1976 | 1975 | 1974 | 1973 |
|--|------|------|------|------|------|------|------|------|------|------|------|------|
| COMMUNICATION EQUIPMENT AND COMPONENTS | 53 | 53 | 53 | 52 | 52 | 52 | 53 | 57 | 55 | 56 | 55 | 48 |
| OFFICE & STORE MACHINERY | 24 | 21 | 22 | 22 | 20 | 21 | 19 | 17 | 16 | 15 | 15 | 16 |
| HOUSEHOLD RADIO AND TELEVISION | 8 | 7 | 7 | 8 | 8 | 7 | 6 | 7 | 11 | 11 | 14 | 19 |
| ELECTRONIC | 16 | 18 | 18 | 17 | 20 | 21 | 22 | 20 | 19 | 17 | 16 | 17 |

SOURCE: Figures derived from Tables 1 to 4.

Table 8

SHARE OF TOTAL ELECTRONICS IMPORTS

By Subsector (%)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Communications Equipment | 31 | 32 | 30 | 33 | 36 | 36 | 33 | 34 | 34 | 33 | 34 | 36 |
| Office and Store Machinery | 48 | 47 | 50 | 47 | 45 | 40 | 41 | 38 | 39 | 43 | 41 | 38 |
| Consumer Electronics | 14 | 13 | 11 | 11 | 11 | 14 | 17 | 18 | 18 | 14 | 16 | 17 |
| Electronic Instruments | 8 | 9 | 9 | 9 | 10 | 10 | 10 | 10 | 9 | 10 | 9 | 10 |

SOURCE: Percentages, derived from DRIE figures on shipments and imports as shown in tables 1 to 4.

Table 9

SHARE OF TOTAL ELECTRONICS EXPORTS

By Subsector (%)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Communications Equipment | 48 | 55 | 56 | 55 | 57 | 53 | 52 | 52 | 52 | 53 | 53 | 53 |
| Office and Store Machinery | 16 | 15 | 15 | 16 | 17 | 19 | 21 | 20 | 22 | 22 | 21 | 24 |
| Consumer Electronics | 19 | 14 | 11 | 11 | 7 | 6 | 7 | 8 | 8 | 7 | 7 | 8 |
| Electronic Instruments | 17 | 16 | 17 | 19 | 20 | 22 | 21 | 20 | 17 | 18 | 18 | 16 |

SOURCE: Figures derived from tables 1 to 4.

Table 10

IMPORT PENETRATION¹

By Subsector (%)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Communications Equipment | 50 | 44 | 39 | 44 | 45 | 51 | 59 | 59 | 61 | 57 | 67 | 81 |
| Office and Store Machinery | 93 | 92 | 93 | 96 | 100 | 102 | 106 | 102 | 98 | 98 | 106 | 105 |
| Consumer Electronics | 45 | 53 | 51 | 63 | 79 | 87 | 78 | 66 | 68 | 70 | 74 | 81 |
| Electronic Instruments | 36 | 36 | 34 | 33 | 35 | 37 | 40 | 41 | 42 | 41 | 42 | 50 |

NOTES: ¹Share of ADM held by imports, in percentage.

SOURCE: Figures derived from tables 1 to 4.

Table 11

EXPORT PERFORMANCE¹

By Subsector (%)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Communications Equipment | 36 | 27 | 28 | 30 | 28 | 35 | 41 | 45 | 49 | 48 | 56 | 73 |
| Office and Store Machinery | 59 | 63 | 73 | 80 | 83 | 87 | 89 | 83 | 76 | 74 | 91 | 88 |
| Electronic Consumer Products | 9 | 11 | 10 | 12 | 33 | 55 | 40 | 19 | 21 | 26 | 30 | 35 |
| Electronic Instruments | 13 | 12 | 12 | 13 | 13 | 14 | 17 | 17 | 16 | 14 | 14 | 16 |

NOTES: ¹Share of domestic shipments exported, in percentages.

SOURCE: Derived from DRIE figures on Shipments and Exports, as shown in tables 1 to 4.

Table 12

NET DOMESTIC SHIPMENTS

By Subsector (\$ million)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|-------------------------------|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Communications Equipment | 565 (64) ¹ | 850 (70) | 979 (72) | 962 (70) | 1044 (73) | 1004 (66) | 1064 (59) | 1288 (55) | 2418 (87) | 1523 (52) | 278 (44) | 966 (28) |
| Office and Store Machinery | 82 (29) | 129 (37) | 101 (27) | 81 (20) | 70 (17) | 72 (13) | 83 (12) | 150 (17) | 273 (24) | 319 (26) | 102 (9) | 181 (12) |
| Consumer Electronics | 320 (91) | 282 (90) | 247 (90) | 223 (88) | 111 (67) | 77 (45) | 154 (60) | 284 (81) | 330 (79) | 298 (74) | 333 (70) | 321 (65) |
| Electronic Instruments | 274 (87) | 314 (88) | 363 (88) | 414 (88) | 442 (87) | 529 (86) | 598 (83) | 732 (83) | 830 (84) | 873 (86) | 872 (86) | 865 (85) |
| TOTAL ELECTRONICS | 2333 (67) | 2585 (70) | 3013 (70) | 3851 (67) | 2454 (66) | 1899 (59) | 1182 (54) | 1667 (55) | 1680 (72) | 1690 (54) | 1575 (46) | 1241 (35) |

NOTES: ¹number in brackets are share of total shipments shipped domestically including: total shipments less total exports (excluding re-exports).

SOURCE: Figures derived from tables 1 to 4.

Table 13

RADIO AND TELEVISION BROADCASTING

SUMMARY STATISTICS

| \$ MILLION | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| OPERATING REVENUE: PRIVATE RADIO | 160 | 183 | 208 | 244 | 272 | 309 | 356 | 397 | 445 | 476 | 492 | 559 |
| PRIVATE TELEVISION | 171 | 194 | 234 | 282 | 331 | 404 | 473 | 562 | 652 | 746 | 786 | 899 |
| CBC (RADIO-CANADA): FEDERAL EXPENDITURE ¹ | 205 | 239 | 299 | 342 | 409 | 467 | 562 | 522 | 783 | 665 | 745 | N/A |
| OPERATING REVENUE | 46 | 50 | 64 | 78 | 69 | 76 | 90 | 104 | 109 | 111 | 131 | 161 |
| CABLE TV REVENUE | 107 | 133 | 162 | 199 | 233 | 273 | 314 | 352 | 405 | 472 | 544 | N/A |
| TOTAL REVENUE | 377 | 427 | 506 | 605 | 671 | 788 | 919 | 1,063 | 1,206 | 1,333 | 1,953 | - |
| TOTAL EMPLOYEES | | | | | | | | | | | | |
| PRIVATE RADIO | 6,998 | 7,296 | 7,530 | 7,920 | 8,286 | 8,674 | 9,069 | 9,547 | 9,693 | 9,737 | 9,666 | 10,025 |
| PRIVATE TELEVISION | 4,687 | 5,019 | 5,396 | 5,338 | 5,682 | 5,944 | 6,365 | 6,685 | 6,841 | 6,840 | 6,892 | 7,215 |
| CBC (RADIO-CANADA) | 9,487 | 9,946 | 10,571 | 11,422 | 11,683 | 12,233 | 12,241 | 12,104 | 12,258 | 12,129 | 12,334 | 12,473 |
| TOTAL | 21,172 | 22,261 | 23,497 | 24,680 | 25,651 | 26,851 | 27,675 | 28,336 | 28,792 | 28,706 | 28,892 | 29,713 |
| TOTAL STATIONS: RADIO | 348 | 385 | 392 | 402 | 419 | 440 | 476 | 492 | 496 | 510 | 475 | 484 |
| TELEVISION | 60 | 59 | 59 | 59 | N/A | 59 | 67 | 69 | 69 | 67 | 81 | 81 |

NOTES: ¹From Public Accounts, Minister of Finance, Years as Indicated.

SOURCE: Statistics Canada Catalogue 56-204, 56-205.

Table 14

FIRMS SUPPLYING COMPUTER SERVICES

Summary Statistics

| | 1973 ¹ | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | CAG 1974- 1983 |
|--|----------------------------|---------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------------|
| ESTABLISHMENTS | 331 | 345 | 397 | 489 | 596 | 698 | 689 | 1,036 | 1,392 | 1,752 | 1,836 | 18.1 |
| EMPLOYEES | 14,173 | 8,965 | 8,737 | 10,288 | 11,879 | 13,196 | 14,400 | 17,599 | 20,596 | 22,317 | 22,191 | 9.5 |
| TOTAL OPERATING REVENUE (\$ MILLION) | 589.7 | 211.0 | 285.7 | 327.5 | 416.0 | 531.8 | 638.0 | 819.8 | 1,102.2 | 1,347.0 | 1,441.6 | 21.1 |
| TOTAL REVENUE FROM OUTSIDE CANADA (\$ MILLION) | 11.7 (2.0) ² | 10.7 (5.0) | 7.9 (2.8) | 8.9 (2.7) | 10.1 (2.4) | 17.9 (3.4) | 38.1 (6.0) | 48.9 (6.0) | 58.8 (5.3) | 75.5 (5.6) | 83.4 (5.7) | 22.7 |

NOTES: ¹After 1973, firms engaged in sale, rental and leasing of EDP hardware were separated out of this classification.

²Figures in brackets show share of total revenue earned outside Canada, in percentages.

SOURCE: Statistics Canada, Catalogue 63-222

Table 15

Computer Services Industry Revenue

By Class of Customer (%)

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|
| CONSTRUCTION | 1.2 | 1.9 | 1.8 | 1.5 | 1.5 | 1.3 | 1.5 | 1.9 | 1.3 | 1.4 | 1.4 | |
| EDUCATION | 9.8 | 2.1 | 4.4 | 3.2 | 2.7 | 2.3 | 2.4 | 2.0 | 2.2 | 2.6 | 2.3 | |
| FINANCIAL INSTITUTIONS (BANKS, STOCK BROKERS, ETC.) | 16.6 | 15.5 | 12.3 | 14.1 | 17.0 | 17.9 | 17.8 | 17.4 | 18.2 | 20.0 | 21.0 | |
| GOVERNMENTS | 16.7 | 18.9 | 20.6 | 20.6 | 21.9 | 19.8 | 19.0 | 18.7 | 18.0 | 18.8 | 16.0 | |
| HEALTH SERVICES (HOSPITALS, ETC.) | 2.2 | 1.6 | 1.8 | 2.0 | 2.5 | 2.7 | 2.7 | 4.3 | 4.3 | 3.5 | 4.6 | |
| MANUFACTURING | 13.7 | 20.3 | 14.8 | 11.9 | 8.8 | 8.4 | 9.8 | 9.8 | 8.8 | | 8.6 | |
| PRIMARY INDUSTRY (FISHING, MINING, LOGGING) | 11.1 | 9.3 | 10.7 | 11.1 | 12.0 | 13.2 | 12.9 | 13.0 | 12.2 | 12.8 | 10.7 | |
| SERVICES TRADES (DOCTORS, LAWYERS, HOTELS, RESTAURANTS) | 4.7 | 3.8 | 7.7 | 11.1 | 11.3 | 12.5 | 11.8 | 12.5 | 10.8 | 10.1 | 12.9 | |
| TRANSPORTATION AND COMMUNICATION | 8.3 | 6.9 | 8.0 | 7.9 | .8 | 7.2 | 7.3 | 6.7 | 7.9 | 5.7 | 7.6 | |
| WHOLESALEERS, RETAILERS | 8.0 | 15.7 | 14.9 | 13.7 | 14.2 | 13.5 | 13.1 | 12.6 | 12.9 | 11.2 | 12.2 | |
| OTHER | 6.7 | 4.0 | 3.0 | 1.7 | 1.3 | 1.2 | 1.7 | 1.1 | 3.4 | 4.5 | 2.7 | |

SOURCE: Statistics Canada, Catalogue 63-222

Table 16 a

Firms Engaged in Sales, Lease, Rental

of EDP Hardware

| | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|-----------------|-------|-------|-------|-------|-------|---------|---------|---------|---------|---------|
| ESTABLISHMENTS | 35 | 50 | 27 | 26 | 32 | 30 | 29 | 28 | 56 | 82 |
| EMPLOYEES | 9,462 | 9,501 | 8,927 | 8,341 | 8,855 | 9,468 | 9,765 | 10,055 | 10,065 | 6,232 |
| REVENUE (\$000) | 612.0 | 648.8 | 720.7 | 797.1 | 929.9 | 929,911 | 1,110.7 | 1,441.3 | 1,845.9 | 1,091.5 |

SOURCE: Statistics Canada, Catalogue 63-222

Table 16 b
Principal Statistics Reported by the Statistics Canada Computer Service Industry Survey, 1972-1983

| Item | Group | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | CAG | CAG |
|---|----------------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|--------|---------|-------|-------|
| | | (4) | (4) | | | | | | | | | | | 74-79 | 79-83 |
| 1. Establishments | Services | 309 | 331 | 345 | 397 | 489 | 596 | 698 | 689 | 1,036 | 1,392 | 1,752 | 1,836 | 14.8 | 21.7 |
| | Hardware (1) | | | 35 | 50 | 47 | 26 | 32 | 30 | 29 | 28 | 56 | 82 | -3.1 | 22.2 |
| | Sec. Supp. (2) | 329 | 405 | 381 | 284 | 502 | 454 | - | - | - | - | - | - | - | - |
| | Total | 638 | 736 | 761 | 731 | 1,038 | 1,076 | 730 | 719 | 1,065 | 1,420 | 1,808 | 1,918 | -1.1 | 17.7 |
| 2. Total Operating Revenues (\$ M) | Services | 131. | 166.6 | 210.9 | 285.7 | 327.5 | 416.0 | 531.8 | 638.0 | 819.8 | 1,102 | 1,348 | 1,442 | 24.8 | 17.7 |
| | Hardware | 403. | 423.1 | 612.0 | 648.8 | 803.1 | 797.1 | 879.8 | 929.9 | 1,111 | 1,411 | 1,846 | 1,092 | 8.7 | 3.3 |
| | Sec. Supp. | 37. | 60.6 | 100.1 | 97.2 | 116.9 | 148.7 | - | - | - | - | - | - | 11.1 | 10.0 |
| | Total | 572. | 650.3 | 923.0 | 1,031.7 | 1,247.5 | 1,361.8 | 1,411.6 | 1,567.9 | 1,930.8 | 2,513.0 | 3,194 | 2,534 | 28.9 | 27.0 |
| 3. Revenue Generate Outside Canada (\$ M) | Services | 10. | 11.7 | 10.7 | 7.9 | 8.9 | 10.1 | 17.9 | 38.1 | 48.9 | 58.8 | 75.5 | 83.4 | - | - |
| | Hardware (3) | | | (15.2) | (17.4) | (8.9) | - | - | - | - | - | - | - | - | - |
| 4. Paid Employees | Services | | | 8,956 | 9,693 | 10,245 | 11,831 | 13,148 | 14,370 | 17,538 | 20,495 | 22,137 | 21,973 | 9.9 | 8.9 |
| | Hardware | | | 9,462 | 9,501 | 10,276 | 8,341 | 8,855 | 9,468 | 9,765 | 10,055 | 10,080 | 6,276 | 1.0 | 8.9 |
| | Total | 14,364 | 14,119 | 18,418 | 19,194 | 20,521 | 20,172 | 22,003 | 23,838 | 27,303 | 30,550 | 32,217 | 28,249 | 5.2 | 3.5 |
| 5. Salaries, Wages and Benefits (\$ M) | Services | | | 89.5 | 120.6 | 139.8 | 160.7 | 199.0 | 242.5 | 315.1 | 426.1 | 567.3 | 579.0 | 22.0 | 19.0 |
| | Hardware | | | 154.9 | 175.1 | 199.3 | 168.1 | 192.4 | 228.5 | 258.9 | 295.6 | 340.7 | 220.6 | 8.0 | -0.7 |
| | Total | 165. | 180.1 | 244.4 | 295.7 | 339.1 | 328.8 | 391.4 | 471.0 | 574.0 | 721.7 | 908.0 | 799.6 | 14.0 | 11.1 |
| 6. Total Operating Expenses (\$ M) | Services | | | 201.6 | 274.8 | 308.5 | 382.3 | 456.8 | 560.8 | 728.4 | 953.5 | 1,232 | 1,401.1 | 22.7 | 20.0 |
| | Hardware | | | 465.7 | 477.5 | 581.4 | 570.7 | - | - | - | - | - | - | - | - |
| 7. Operating Ratio | Services | | | 0.956 | 0.962 | 0.942 | 0.919 | 0.859 | 0.879 | 0.889 | 0.865 | 0.914 | 0.972 | - | - |
| | Hardware | | | 0.761 | 0.736 | 0.724 | 0.716 | - | - | - | - | - | - | - | - |

Source: Statistics Canada, Catalogue 63-222.

Table 17

TELECOMMUNICATIONS CARRIER REVENUE
(Excluding Telephone Carriers)

BY MAJOR FIRMS

| | |
|------------------------------|--------------------|
| 1) TOTAL REVENUE (1974) (\$) | 55,304,691 (100) |
| CN | 30,980,701 (56.0) |
| CP | 24,317,419 (43.9) |
| Others | 6,571 |
| 2) TOTAL REVENUE (1979) | 411,759,372 (100) |
| CN | 153,486,434 (37.2) |
| CP | 90,973,498 (22.0) |
| Teleglobe | 110,370,000 (26.8) |
| Telesat | 49,842,000 (17.2) |
| 3) TOTAL REVENUE (1982) | 536,331,796 (100) |
| CNCP Telecommunications | 302,203,000 (56.3) |
| Teleglobe | 173,951,000 (32.4) |
| Telesat | 59,007,000 (11.0) |
| Others | 1,170,796 (2.0) |

SOURCE: Statistics Canada, Catalogue 56-201

Table 18

Telecommunications Carriers¹

Sources of Revenue (%)

| | 1974 | 1979 | 1982 |
|-------------------------------|-------------|-------------|-------------|
| Total Operating Revenue | 230,078,500 | 411,759,372 | 536,332,796 |
| Transmission: | | | |
| Public and Gov't Messages | 4.0 | 2.6 | 1.8 |
| Telephone Service | 21.1 | 26.1 | 25.6 |
| Cable, Wireless Radio Message | 8.0 | 6.5 | 5.1 |
| Non-Transmission | | | |
| Leased Circuits | 28.2 | 26.3 | 26.8 |
| Other Leased Plant | 16.9 | 19.6 | 19.4 |
| Other Non-Transmission | 15.0 | 14.4 | 14.9 |
| Other Revenue ² | 6.8 | 4.5 | 6.4 |

NOTES: ¹Includes CNCP Tel, Teleglobe, Telesat.

²Includes broadcast, facsimile and other transmission services; money order and other non-transmission services.

SOURCE: Statistics Canada, Catalogue 56-201.

Table 19

SUMMARY STATISTICS - TELECOMMUNICATIONS SERVICES

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | CAG 1973- 1983 (%) |
|--|------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------|-----------------------------|
| TELEPHONE ¹ INDUSTRY REVENUE (\$ MILLION) | 1,050 | 1,167 | 1,341 | 1,568 | 1,796 | 2,043 | 2,268 | 2,532 | 2,981 | 3,398 | 3,564 | 11.6 |
| LOCAL SERVICES | 1,013 | 1,195 | 1,435 | 1,689 | 1,930 | 2,285 | 2,667 | 3,083 | 3,701 | 4,140 | 4,497 | 14.4 |
| TOLL SERVICES | 74 | 87 | 104 | 127 | 151 | 196 | 247 | 271 | 355 | 402 | 519 | 19.1 |
| OTHER | 2,127 (91.7) ² | 2,436 (91.3) | 2,861 (91.7) | 3,364 (92.3) | 3,854 (92.7) | 4,472 (92.8) | 5,151 (92.6) | 5,848 (93.0) | 6,987 (93.4) | 7,865 (93.6) | 8,533 | 13.3 |
| OTHER TELECOMMU- NICATIONS CARRIERS ³ REVENUE (\$ MILLION) | 190.7 | 230.0 | 259.0 | 278.3 | 302.0 | 348.3 | 411.8 | 439.1 | 492.0 | 536.3 | N/A | 10.9 |
| TOTAL OPERATING REVENUE | 2,318 | 2,666 | 3,120 | 3,642 | 4,156 | 4,820 | 5,563 | 6,287 | 7,479 | 8,401 | - | 13.7 |
| EMPLOYEES - TELEPHONE | 75,407 | 81,225 | 82,866 | 83,864 | 87,546 | 92,873 | 96,539 | 100,059 | 102,625 | 105,061 | 105,354 | 3.0 |
| EMPLOYEES- TELE- COMMUNICATIONS | 7,047 | 7,163 | 7,162 | 6,973 | 6,863 | 7,150 | 7,247 | 6,055 | 6,118 | 6,027 | N/A | -1.6 |

NOTES: ¹Includes all telephone companies in Canada as surveyed in Catalogue 56-201.

²Figures in brackets are telephone industry's share of all telecommunications revenue.

³Industry CNCP Tel, Teleglobe, Telesat.

SOURCE: Statistics Canada, Catalogue 56-203, 56-201.

Table 20

Telephone Statistics

| | Telephones Calls ¹ (\$000') | Calls Per Capita | Telephones ² (\$000') | Cost of Plant (\$000') |
|------|---|---------------------|-------------------------------------|---------------------------|
| 1973 | 19,054,890 | 854 | 11,677 | 8,791,434 |
| 1974 | 20,701,006 | 914 | 12,454 | 10,039,662 |
| 1975 | 21,194,109 | 922 | 13,165 | 11,426,333 |
| 1976 | 22,219,161 | 953 | 13,885 | 12,936,322 |
| 1977 | 23,240,844 | 991 | 14,488 | 14,531,598 |
| 1978 | 24,069,407 | 1,020 | 15,172 | 16,029,996 |
| 1979 | 25,096,523 | 1,054 | 15,839 | 17,754,852 |
| 1980 | 26,841,326 | 1,114 | 16,531 | 19,742,479 |
| 1981 | 28,639,394 | 1,176 | 16,944 | 22,297,544 |
| 1982 | 29,029,507 | 1,173 | 16,802 | 24,467,219 |

NOTES: ¹Approximately 95 per cent of all calls are local with the remainder long-distance 'toll' calls.

²Approximately 70 per cent of all telephones are residential: 30 per cent are business.

SOURCE: Statistics Canada Catalogue 56-203.

Table 21
Revenues of the Top Service Bureaux
In Canada

| COMPANY NAME | OWNER-SHIP | EDP SERVICE REVENUES | | | % SAMPLE TOTAL | | | % ANNUAL GROWTH | | SOURCE CODE |
|---|------------|----------------------|--------------|--------------|----------------|------|------|-----------------|----------|-------------|
| | | 1982 | 1983 | 1984 | 1982 | 1983 | 1984 | 82-83 | 83-84 | |
| 1. CANADA SYSTEMS GROUP | CAN. | | 127.9 | 132.4 | | 16.5 | 16.3 | | 4 | C |
| 2. CROWNTEK INC. | CAN. | | 115.4 | 131.6 | | 14.9 | 16.2 | | 14 | A |
| 3. BRITISH COLUMBIA SYSTEMS CORPORATION | CAN. | | 75.6 | 65.0 | | 9.8 | 8.0 | | -14 | C |
| 4. INDUSTRIELLE-SERVICES TECHNIQUES INC. | CAN. | | 51.0 | 58.0 | | 6.6 | 7.2 | | 14 | B |
| 5. I.P. SHARP ASSOCIATES LTD. | CAN. | | 47.5 | 49.5 | | 6.1 | 6.1 | | 4 | B |
| 6. IBM CANADA LTD. | U.S. | | 44.0 | 46.0 | | 5.7 | 5.7 | | 5 | C |
| 7. CONTROL DATA CANADA, LTD. | U.S. | | 34.8 | 36.0 | | 4.5 | 4.4 | | 3 | C |
| 8. CO-OPERATORS DATA SERVICES LIMITED | CAN. | | 29.1 | 31.5 | | 3.8 | 3.9 | | 8 | B |
| 9. SASKATCHEWAN COMPUTER UTILITY CORP. | CAN. | | 22.2 | 22.1 | | 2.9 | 2.7 | | 0 | A |
| 10. MANITOBA DATA SERVICES | CAN. | | 18.9 | 19.5 | | 2.4 | 2.4 | | 3 | C |
| 11. DATALINE INC. | CAN. | | 13.8 | 17.2 | | 1.8 | 2.1 | | 25 | A |
| 12. CANADIAN GENERAL ELECTRIC CO. LTD. | U.S. | | 16.0 | 16.0 | | 2.1 | 2.0 | | 0 | C |
| 13. ADP CANADA | U.S. | | 17.2 | 15.0 | | 2.2 | 1.8 | | -13 | B |
| 14. REAL TIME DATAPRO LTD. | CAN. | | 12.3 | 13.6 | | 1.6 | 1.7 | | 11 | A |
| 15. COMPUTER SCIENCES CANADA, LTD. | U.S. | | 11.3 | 13.1 | | 1.5 | 1.6 | | 16 | C |
| 16. REYNOLDS & REYNOLDS (CANADA) LTD. | U.S. | | 11.6 | 12.2 | | 1.5 | 1.5 | | 5 | C |
| 17. ALPHATEXT, A DIVISION OF RONALDS-FEDERATED LTD. | CAN. | | 10.0 | 11.6 | | 1.3 | 1.4 | | 16 | A |
| 18. NEWFOUNDLAND & LABRODOR COMPUTER SERVICES LTD. | CAN. | | 10.4 | 11.0 | | 1.3 | 1.4 | | 6 | B |
| 19. CABLESHARE INC. | CAN. | | 11.3 | 9.0 | | 1.5 | 1.1 | | -20 | B |
| 20. THORNE RIDDELL | CAN. | | 8.9 | 8.9 | | 1.1 | 1.1 | | 0 | C |
| 21. COMSHARE LTD. | CAN. | | 9.2 | 8.6 | | 1.2 | 1.1 | | -7 | B |
| 22. COMCHEQ SERVICES LTD. | CAN. | | 6.4 | 8.5 | | .8 | 1.0 | | 33 | C |
| 23. M.I.C.R. SYSTEMS LTD. | CAN. | | 5.9 | 8.0 | | .8 | 1.0 | | 36 | A |
| 24. NCR CANADA LTD. | U.S. | | 8.0 | 8.0 | | 1.0 | 1.0 | | 0 | C |
| 25. ACO GROUP LTD. | CAN. | | 6.2 | 7.5 | | .8 | .9 | | 21 | B |
| 26. ACT COMPUTER SERVICES LTD. | CAN. | | 7.8 | 7.5 | | 1.0 | .9 | | -4 | B |
| 27. POLYCOM SYSTEMS LTD. | CAN. | | 4.8 | 6.9 | | .6 | .9 | | 44 | A |
| 28. DIGITECH LTD. | CAN. | | 7.6 | 6.8 | | 1.0 | .8 | | -11 | A |
| 29. COMTECH GROUP INTERNATIONAL LTD. | CAN. | | 5.7 | 5.7 | | .7 | .7 | | 0 | A |
| 30. RILEY'S DATASHARE INTERNATIONAL LTD. | CAN. | | 5.2 | 5.7 | | .7 | .7 | | 8 | A |
| 31. CYBERHSARE LTD. | CAN. | | 4.4 | 4.5 | | .6 | .6 | | 2 | B |
| 32. ELAN DATA MAKERS LTD. | CAN. | | 3.3 | 3.4 | | .4 | .4 | | 3 | B |
| 33. BOEING COMPUTER SERVICES CANADA LTD. | U.S. | | 3.0 | 3.0 | | .4 | .4 | | 0 | C |
| 34. BUSINESS DATA PROCESSING LTD. | CAN. | | 2.1 | 2.5 | | .3 | .3 | | 19 | B |
| 35. NDC COMPUTER SERVICES LTD. | CAN. | | 1.2 | 2.0 | | .2 | .2 | | 67 | B |
| 36. COMPUTREX CENTRES LTD. | CAN. | | 3.0 | 1.7 | | .4 | .2 | | -43 | C |
| 37. NOVATRON INFORMATION CORPORATION | CAN. | | 1.3 | 1.5 | | .2 | .2 | | 15 | B |
| <u>TOTAL</u> | | | <u>774.4</u> | <u>811.0</u> | | | | | <u>5</u> | |

TOTAL U.S. CONTROLLED: 21.6% Firms, 18.4% of 1984 Revenues, 18.9% of 1983 Revenues.

SOURCE CODE: A - Published by Company, B - Confirmed by Company Officer, C - Estimated by Evans Research Corporation.

SOURCE: Evans Research Corporation, August, 1985

Table 22
Revenue of Top 50 EDP Hardware
Firms in Canada¹

| COMPANY NAME | OWNER-SHIP | EDP SERVICE REVENUES | | | % SAMPLE TOTAL | | | % ANNUAL GROWTH | | SOURCE CODE |
|---|------------|----------------------|---------|---------|----------------|------|------|-----------------|-------|-------------|
| | | 1982 | 1983 | 1984 | 1982 | 1983 | 1984 | 82-83 | 83-84 | |
| 1. IBM CANADA LTD. | U.S. | 1846.0 | 2,193.0 | 2,821.0 | 41.4 | 42.1 | 43.9 | 15 | 29 | C |
| 2. DIGITAL EQUIPMENT OF CANADA LTD. | U.S. | 294.9 | 308.5 | 419.7 | 6.6 | 5.9 | 6.5 | 5 | 36 | A |
| 3. CONTROL DATA CANADA LTD. | U.S. | 206.0 | 205.9 | 224.5 | 4.6 | 4.0 | 3.5 | 5 | 9 | C |
| 4. BURROUGHS MEMOREX INC. | U.S. | 111.7 | 203.3 | 217.0 | 2.5 | 3.9 | 3.4 | 28 | 7 | B |
| 5. PHILIPS INFORMATION SYSTEMS LTD. | U.S. | 108.5 | 187.5 | 190.1 | 4.5 | 3.6 | 3.0 | -6 | 1 | B |
| 6. NCR CANADA LTD. | U.S. | 154.0 | 175.0 | 188.0 | 3.5 | 3.4 | 2.9 | 7 | 7 | C |
| 7. SPERRY INC. | U.S. | 140.4 | 144.0 | 185.0 | 3.1 | 2.8 | 2.9 | 3 | 28 | C |
| 8. HEWLETT-PACKARD (CANADA) LTD. | U.S. | 104.9 | 11.20 | 154.6 | 2.4 | 2.2 | 2.4 | 7 | 38 | C |
| 9. AES DATA INC. | CAN. | 188.2 | 134.0 | 145.0 | 4.2 | 2.6 | 2.3 | -29 | 8 | B |
| 10. HONEYWELL LTD. | U.S. | 110.0 | 115.5 | 120.0 | 2.5 | 2.2 | 1.9 | 2 | 4 | C |
| 11. COMMODORE BUSINESS MACHINES LTD. | | 23.5 | 110.0 | 112.7 | 0.5 | 2.1 | 1.8 | 374 | 2 | B |
| 12. XEROX CANADA INC. | U.S. | 47.7 | 81.4 | 107.5 | 1.1 | 1.6 | 1.7 | 19 | 32 | A |
| 13. WANG CANADA LTD. | U.S. | 65.9 | 65.9 | 105.8 | 1.5 | 1.3 | 1.6 | 2 | 61 | B |
| 14. AMDAHL LTD. | U.S. | 65.0 | 104.2 | 100.1 | 1.5 | 2.0 | 1.6 | 60 | -4 | B |
| 15. APPLE CANADA INC. | U.S. | 29.9 | 62.5 | 98.0 | .7 | 1.2 | 1.5 | 100 | 57 | B |
| 16. RADIO SHACK | U.S. | 64.3 | 82.4 | 90.0 | 1.4 | 1.6 | 1.4 | 21 | 9 | C |
| 17. GEAC COMPUTER CORP. LTD. | CAN. | 48.0 | 62.4 | 70.0 | 1.1 | 1.2 | 1.1 | 30 | 12 | C |
| 18. GANDALF TECHNOLOGIES INC. | CAN. | 53.3 | 58.6 | 69.1 | 1.2 | 1.1 | 1.1 | 10 | 18 | A |
| 19. MOTOROLA INFORMATION SYSTEMS LTD. | U.S. | 43.2 | 48.7 | 61.1 | 1.0 | .9 | .9 | 12 | 25 | B |
| 20. MAI CANADA LTD. | BAH. | 52.0 | 49.7 | 59.4 | 1.2 | 1.0 | .9 | 0 | 20 | A |
| 21. OLIVETTI CANADA LTD. | U.S. | 19.0 | 28.0 | 55.5 | .4 | .5 | .9 | -11 | 98 | B |
| 22. STC CANADA INC. | CAN. | 73.9 | 56.0 | 54.0 | 1.7 | 1.1 | .8 | -23 | -4 | B |
| 23. NORTHERN TELECOM LTD. | CAN. | 29.0 | 40.4 | 50.0 | .6 | .8 | .8 | 39 | 24 | C |
| 24. EPSON CANADA LTD. | CAN. | 10.4 | 26.6 | 46.0 | .2 | .5 | .7 | 156 | 73 | B |
| 25. DATA GENERAL (CANADA) INC. | U.S. | 32.4 | 30.7 | 45.7 | .7 | .6 | .7 | -5 | 49 | B |
| 26. NATIONAL SEMICONDUCTOR CANADA LTD. | U.S. | 22.0 | 28.0 | 40.0 | .5 | .5 | .6 | 27 | 43 | C |
| 27. AMDAHL COMMUNICATIONS INC. | U.S. | - | 27.0 | 35.0 | - | .5 | .5 | - | 30 | B |
| 28. MOHAWK DATA SCIENCES - CANADA LTD. | U.S. | 34.2 | 37.0 | 35.0 | .8 | .7 | .5 | 8 | -5 | B |
| 29. GENERAL DATACOMM LTD. | U.S. | 16.5 | 13.2 | 33.0 | .4 | .3 | .5 | -16 | 150 | B |
| 30. TANDEM COMPUTERS CANADA LTD. | U.S. | 20.5 | 18.0 | 33.0 | .5 | .3 | .5 | -12 | 83 | C |
| 31. DATAPOINT CANADA INC. | U.S. | 13.2 | 23.5 | 29.9 | .3 | .5 | .5 | 95 | 27 | B |
| 32. PRIME COMPUTER OF CANADA LTD. | U.S. | 16.0 | 19.5 | 26.9 | .4 | .4 | .4 | 24 | 38 | B |
| 33. INTERGRAPH SYSTEMS LTD. | U.S. | 14.4 | 16.8 | 25.5 | .3 | .3 | .4 | 17 | 52 | B |
| 34. MATROX ELECTRONIC SYSTEMS LTD. | CAN. | 11.1 | 15.0 | 24.6 | .2 | .3 | .4 | 35 | 64 | B |
| 35. ELECTROHOME LTD. | CAN. | 25.0 | 25.0 | 22.9 | .6 | .5 | .4 | 0 | -8 | C |
| 36. TULSA COMPUTER PRODUCTS LTD. | U.S. | 13.9 | 17.0 | 20.4 | .3 | .3 | .3 | 22 | 20 | C |
| 37. DEVELCON ELECTRONICS LTD. | CAN. | 9.7 | 16.2 | 20.3 | .2 | .3 | .3 | 67 | 25 | A |
| 38. COMTERM INC. | CAN. | - | 44.4 | 19.2 | - | .9 | .3 | - | -57 | A |
| 39. ICL COMPUTERS CANADA LTD. | U.S. | 14.0 | 12.9 | 15.4 | .3 | .2 | .2 | 0 | 19 | A |
| 40. COMPUTERVISION CANADA INC. | U.S. | 6.9 | 8.7 | 15.1 | .2 | .2 | .2 | 26 | 74 | B |
| 41. NCR COMTEN INC. | U.S. | 10.4 | 12.4 | 13.6 | .2 | .2 | .2 | 19 | 10 | C |
| 42. REXON BUSINESS MACHINES CANADA LTD. | CAN. | - | 11.0 | 13.4 | - | .2 | .2 | - | 22 | B |
| 43. GRAY CANADA INC. | U.S. | - | 12.0 | 13.0 | - | .2 | .2 | - | 8 | C |
| 44. TEXAS INSTRUMENTS CANADA | U.S. | 10.0 | 11.3 | 13.0 | .2 | .2 | .2 | 13 | 15 | C |
| 45. ITT COURIER | U.S. | 12.7 | 12.7 | 12.7 | .3 | .2 | .2 | 0 | 0 | C |
| 46. PARADYNE CANADA LTD. | U.S. | - | 11.0 | 12.0 | - | .2 | .2 | - | 9 | C |
| 47. CENTRONICS CANADA INC. | U.S. | 9.2 | 9.8 | 11.7 | .2 | .2 | .2 | 7 | 19 | C |
| 48. AUTO-TROL TECHNOLOGY LTD. | CAN. | - | 7.0 | 10.0 | - | .1 | .2 | - | 43 | C |
| 49. CYBERNEX LTD. | CAN. | 7.1 | 7.1 | 10.0 | .2 | .1 | .2 | 0 | 41 | B |
| 50. SANYO CANADA INC. | CAN. | - | 5.0 | 10.0 | - | .1 | .2 | - | 100 | C |

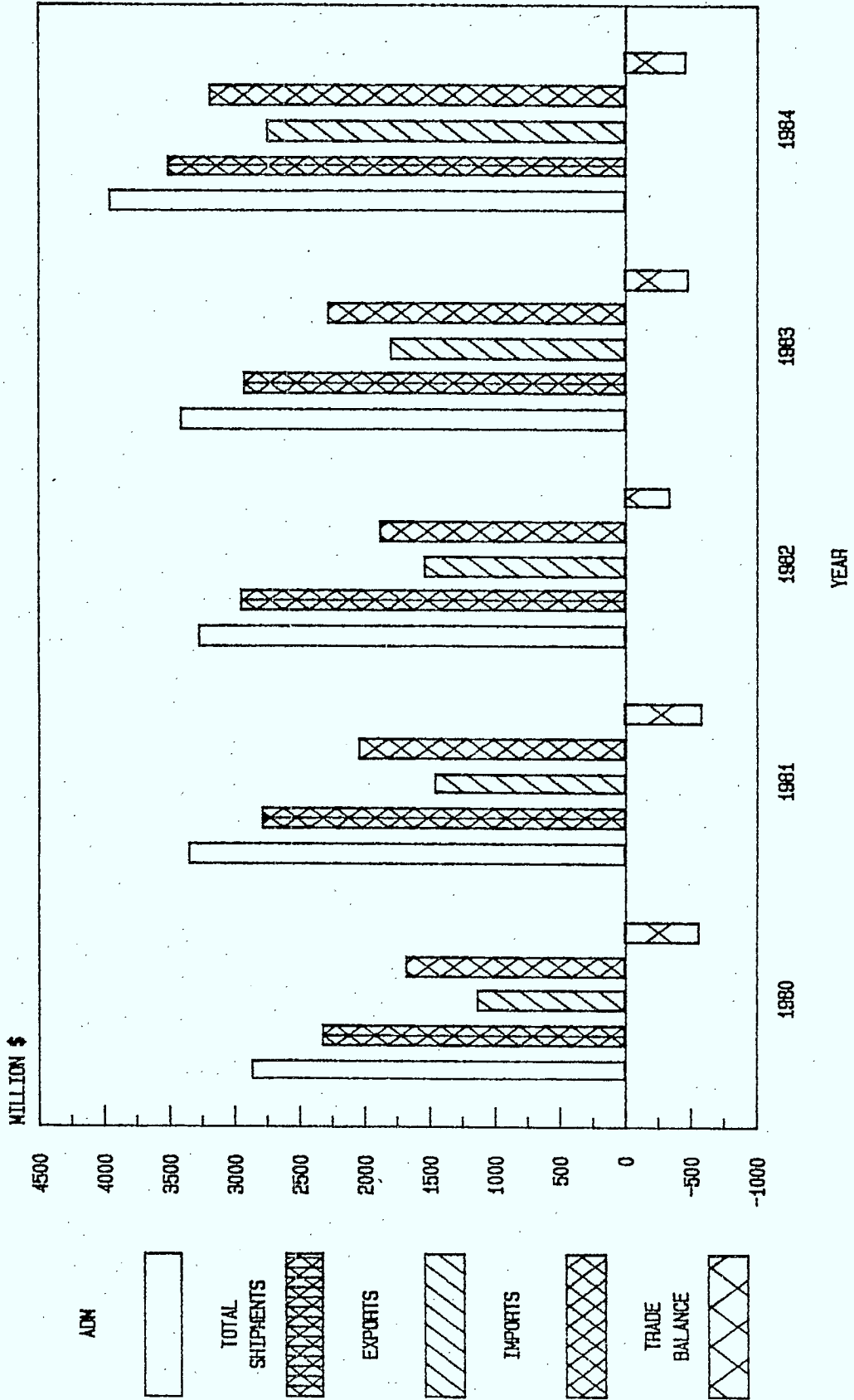
Notes: ¹ Firms include those primarily engaged in selling or leasing goods of own manufacture. The Top 10 firms account for 72.9% of total sample revenues; the top 50 represent 98.5% of sample revenues.

Source: SOFT A - Published as in table 21.

Source: Evans Research Corporation, 1985.

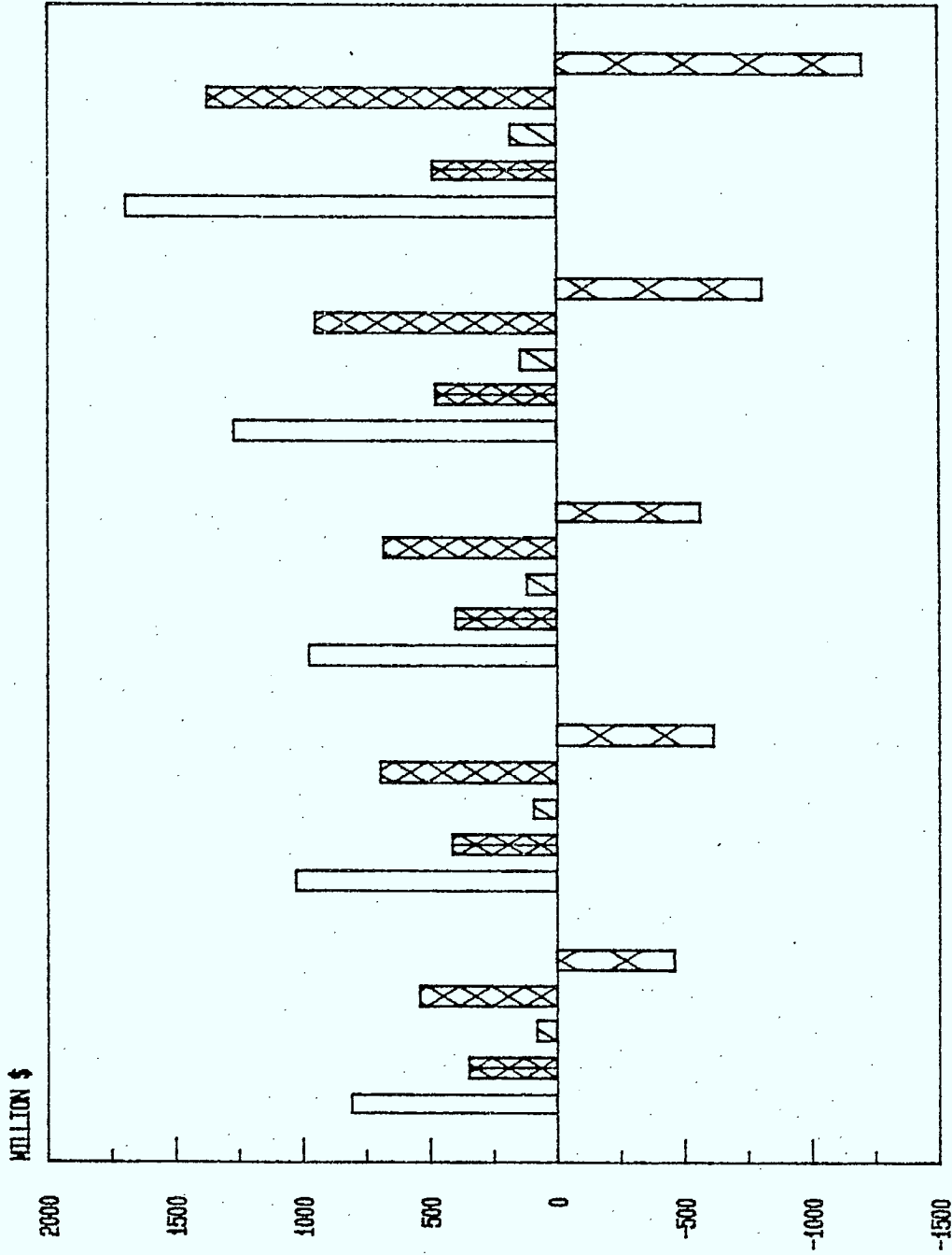
COMMUNICATIONS EQUIPMENT AND COMPONENTS

SIC 335



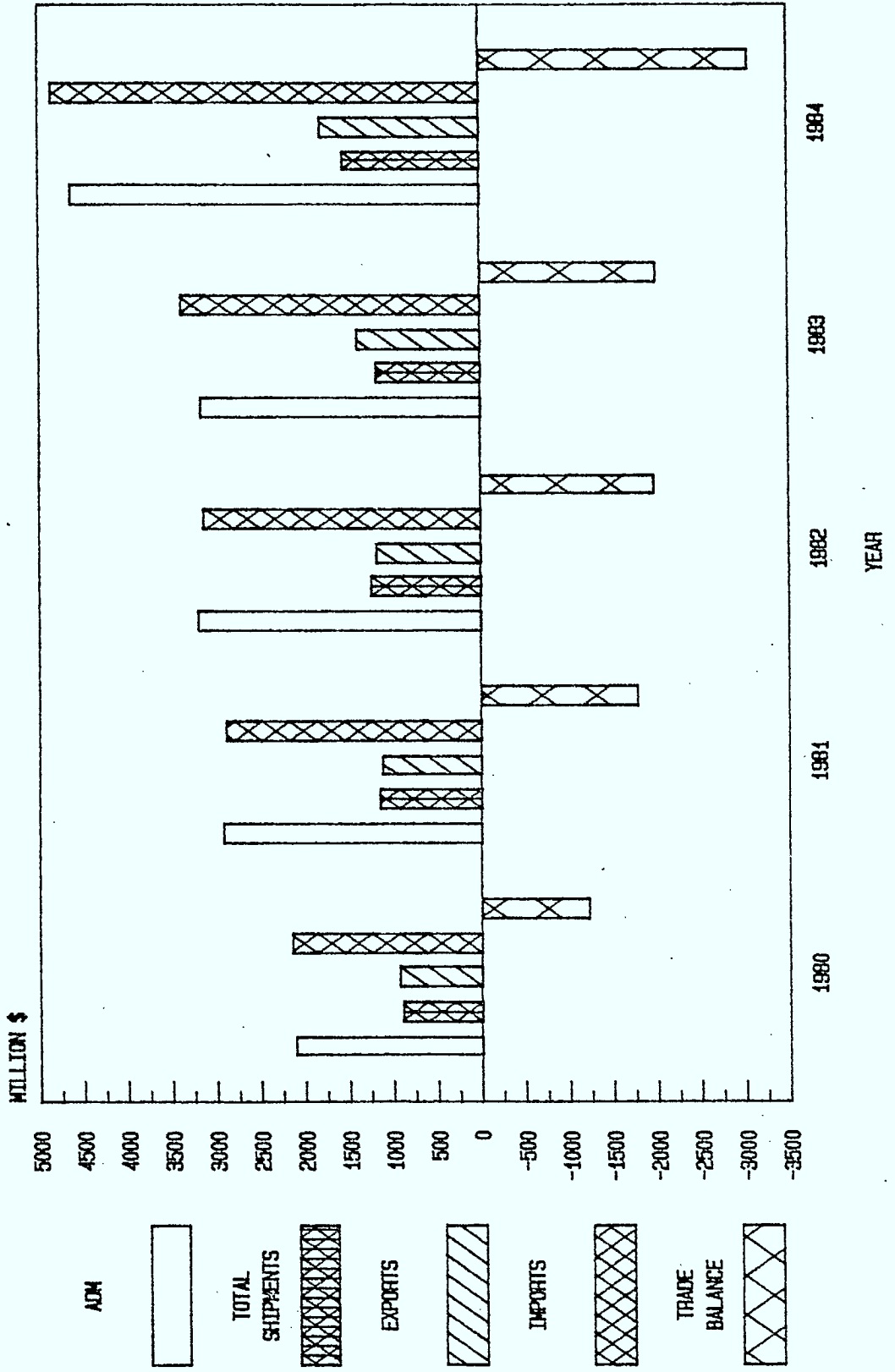
HOUSEHOLD RADIO AND TELEVISION

SIC 334



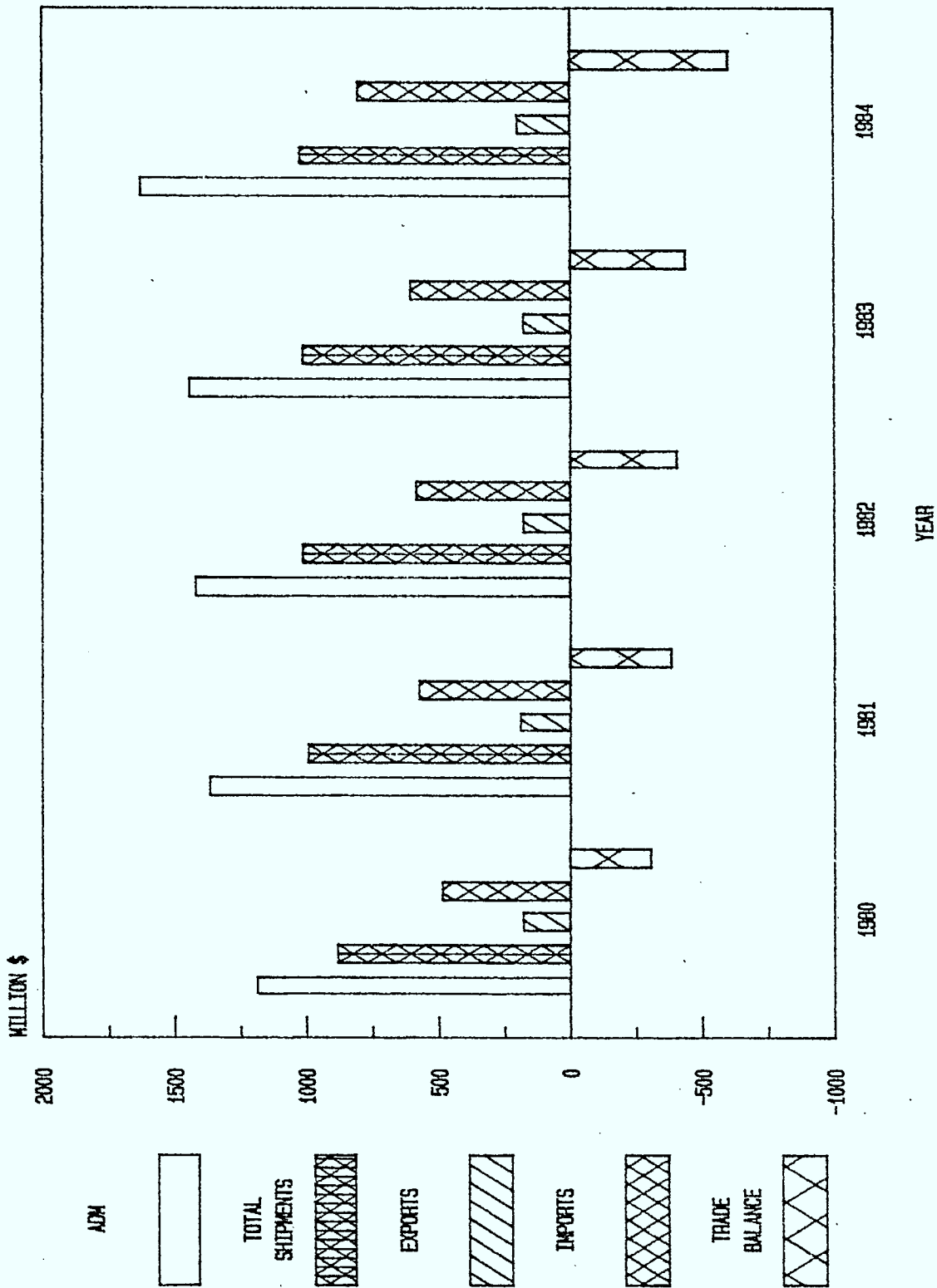
OFFICE AND STORE MACHINERY AND EQUIPMENT

SIC 318

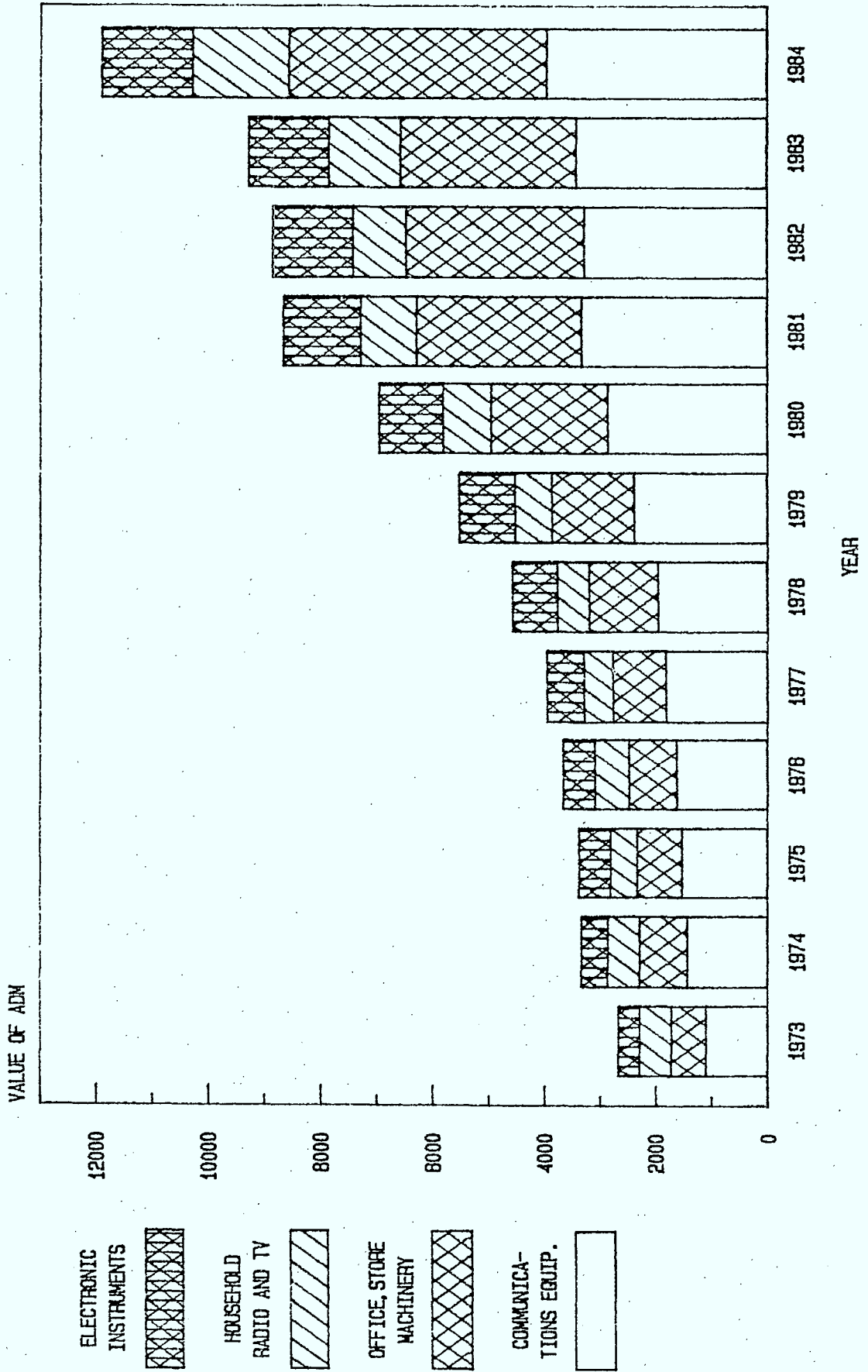


INSTRUMENTS AND RELATED PRODUCTS

SIC 3811

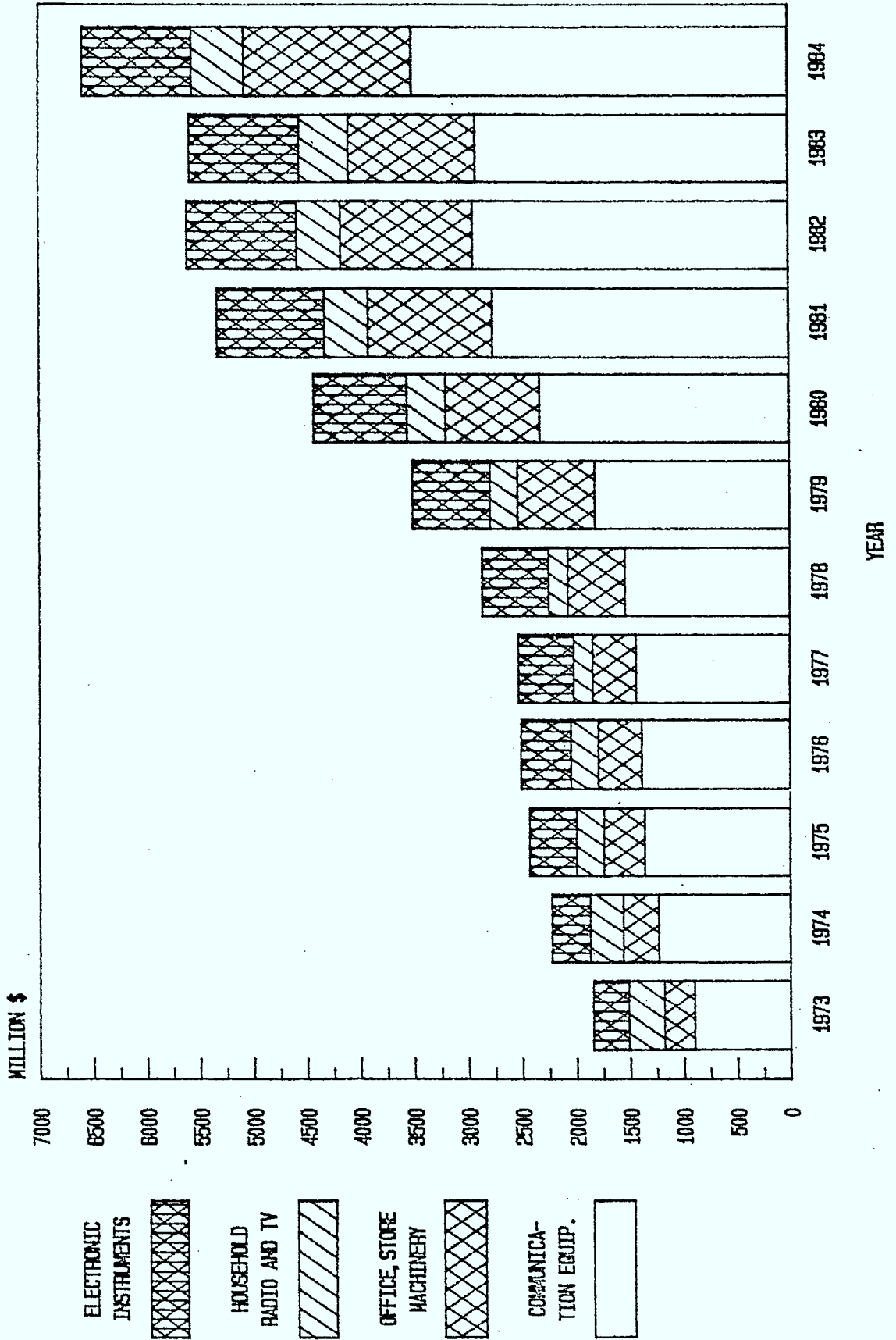


GROWTH IN ADM FOR ELECTRONICS SECTORS



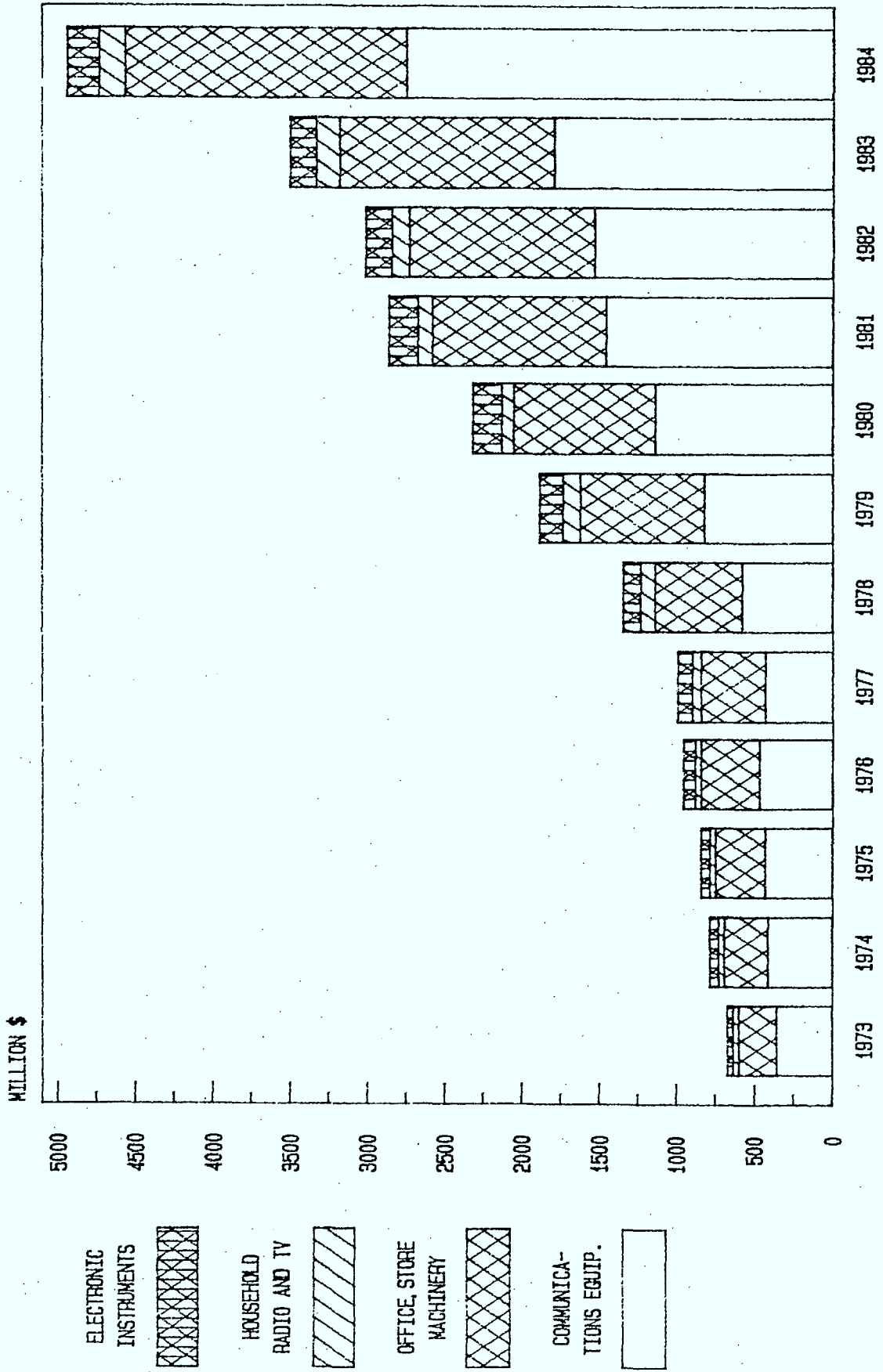
SHIPMENTS BY ELECTRONICS SECTORS

SIC 318, 334, 335, 3811



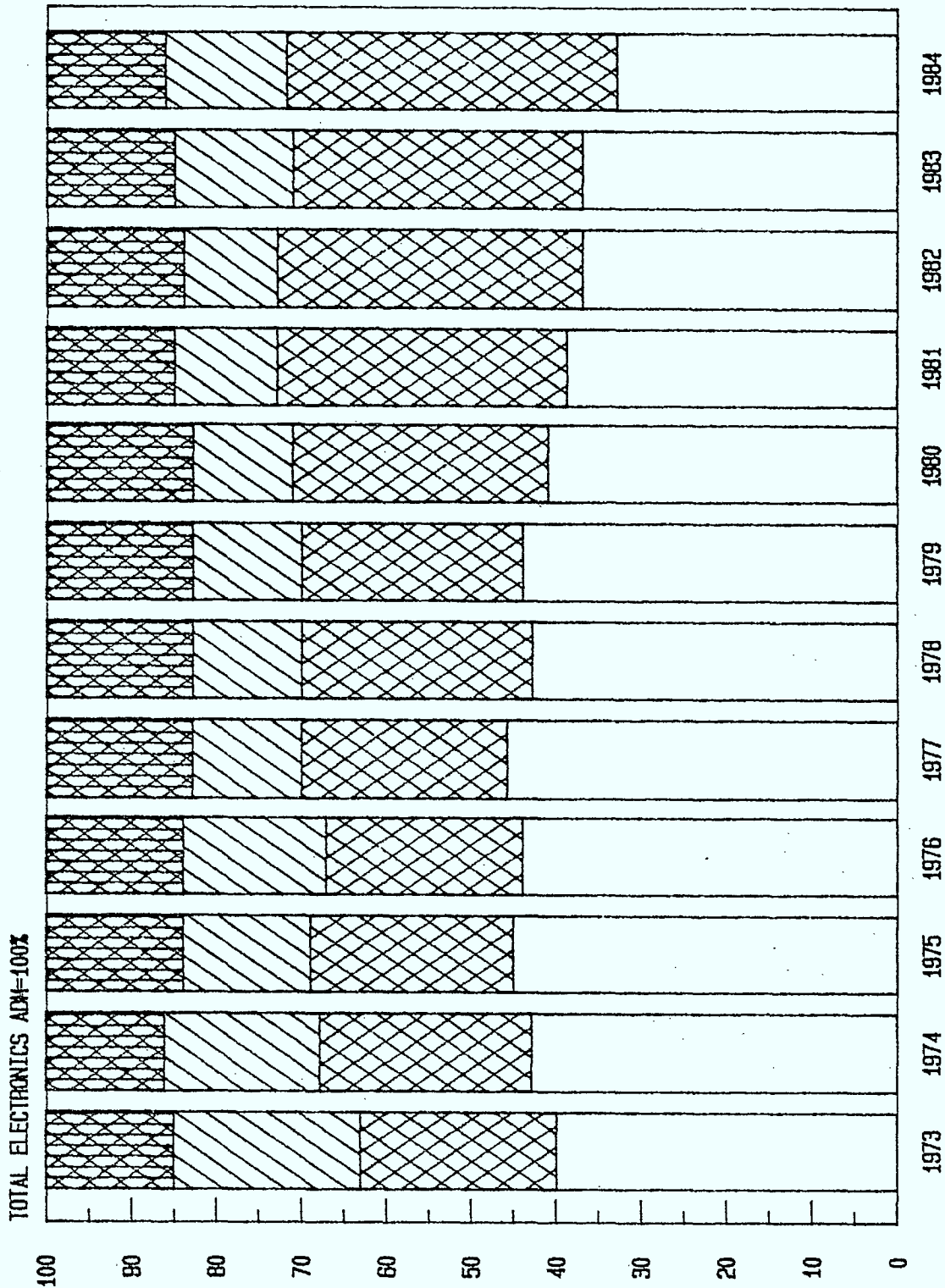
EXPORTS BY ELECTRONICS SECTORS

SIC 318, 334, 335, 3911



SHARE OF APPARENT DOMESTIC MARKET

ELECTRONICS SECTORS (percentages)



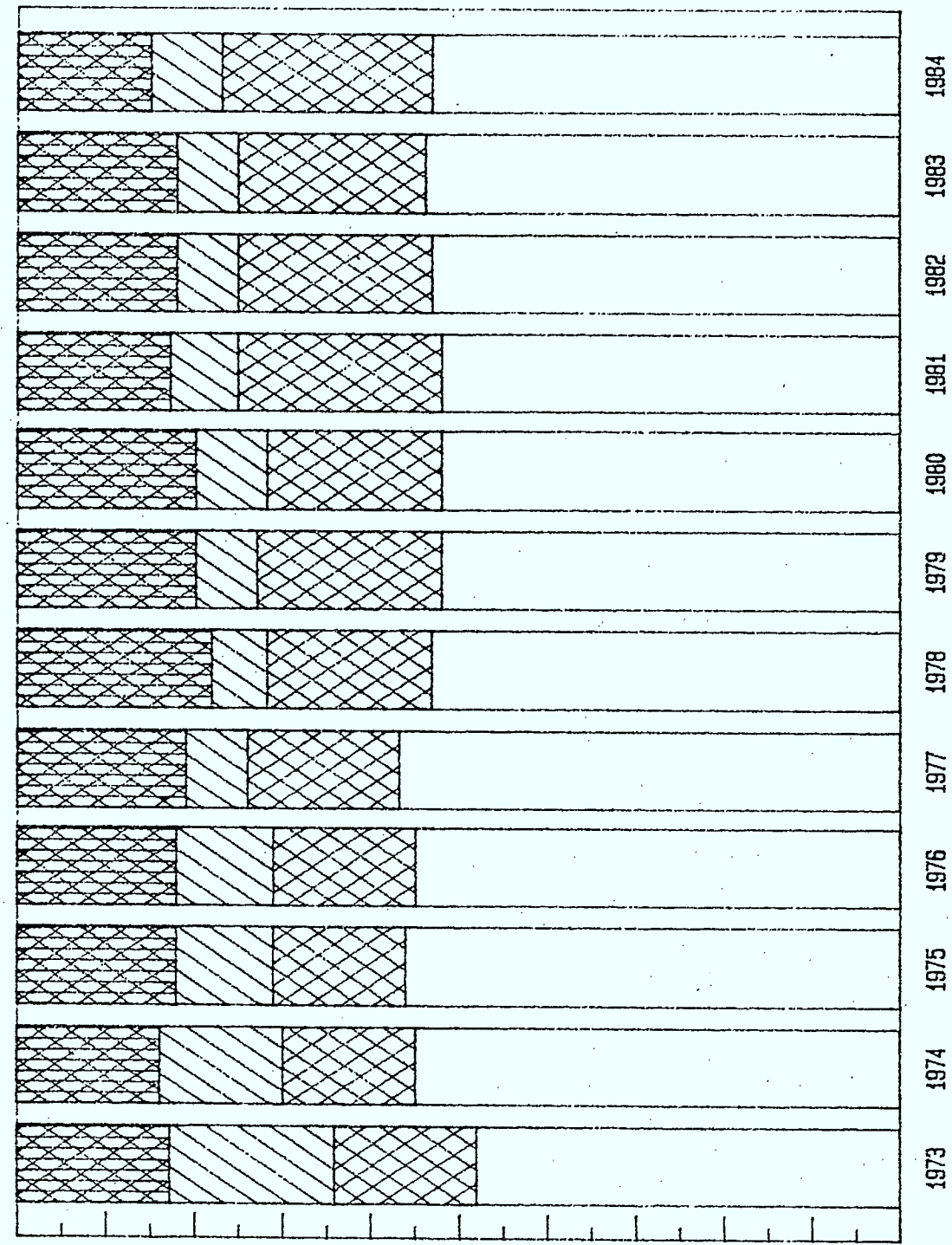
YEAR

- ELECTRONIC INSTRUMENTS
- HOUSEHOLD RADIO AND TV
- OFFICE, STORE MACHINERY
- COMMUNICATIONS EQUIP.

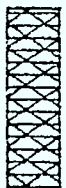
SHARE OF TOTAL ELECTRONICS SHIPMENTS

By Subsector (percentages)

TOTAL SHIPMENTS = 100%



ELECTRONIC INSTRUMENTS



HOUSEHOLD RADIO AND TV



OFFICE, STORE MACHINERY



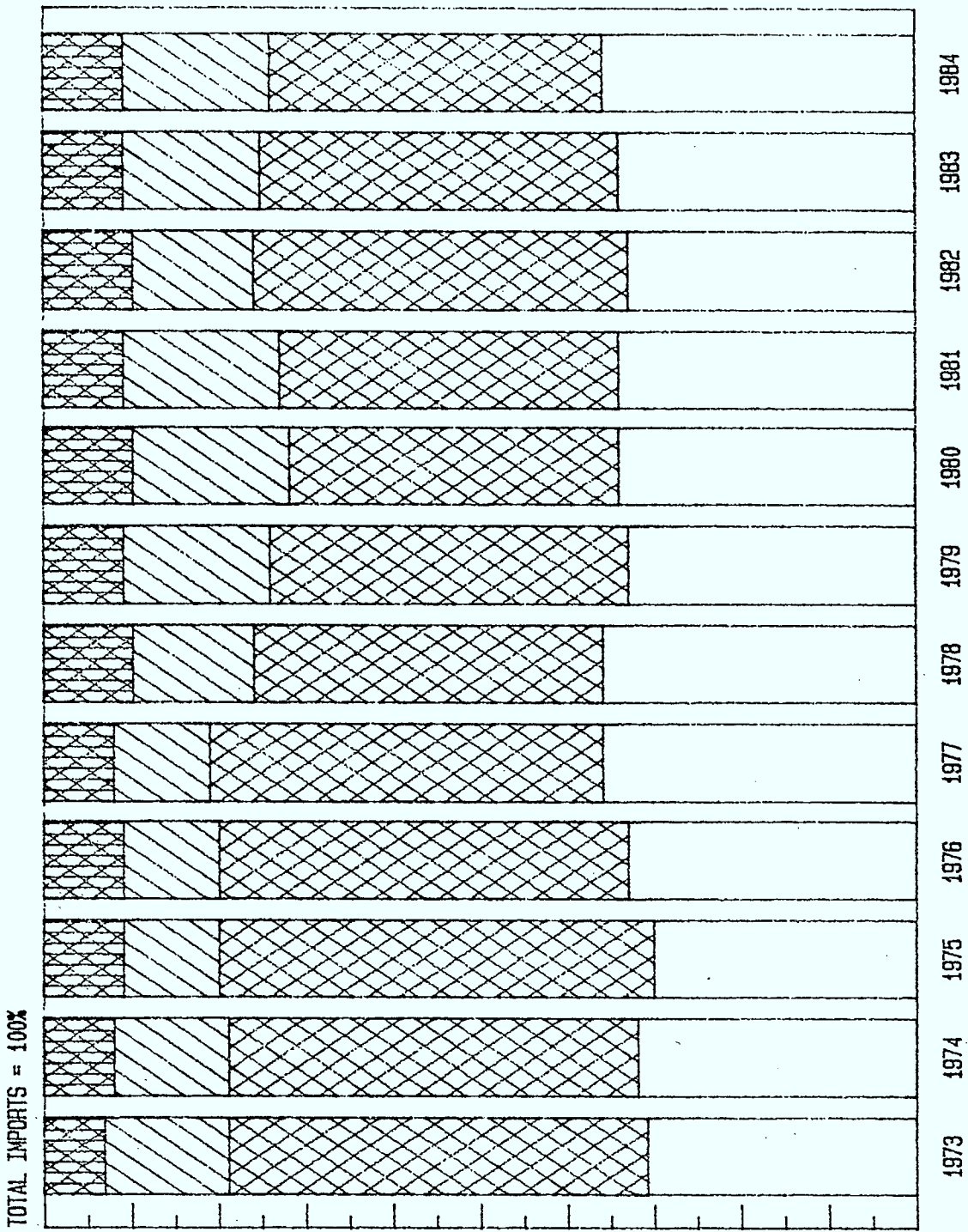
COMMUNICATIONS EQUIP.



YEAR

SHARE OF TOTAL ELECTRONICS IMPORTS

By Subsector (percentages)



TOTAL IMPORTS = 100%

100 90 80 70 60 50 40 30 20 10 0

- ELECTRONIC INSTRUMENTS
- HOUSEHOLD RADIO AND TV
- OFFICE, STORE MACHINERY
- COMMUNICATIONS EQUIP.

YEAR

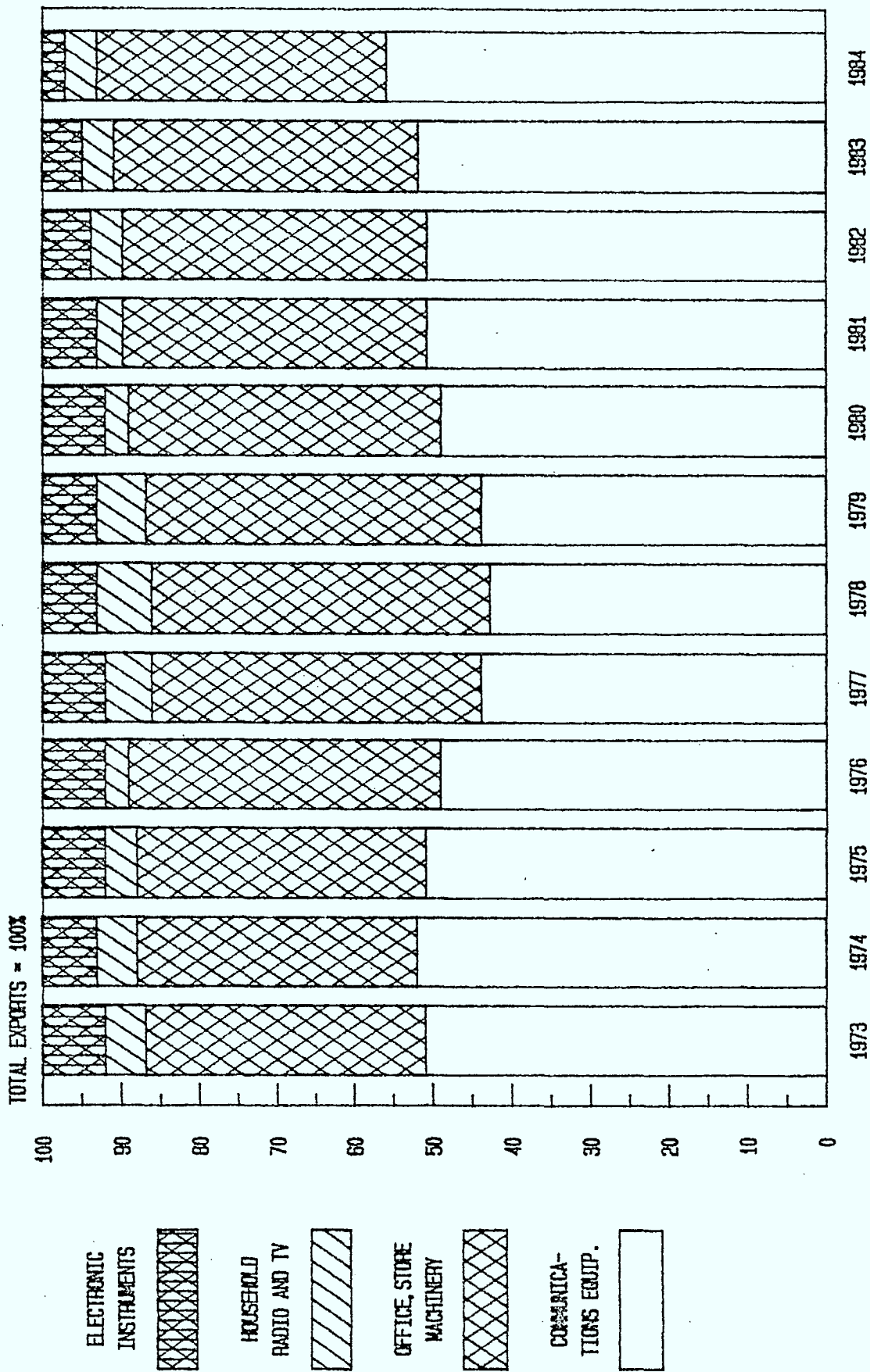
IMPORTS BY ELECTRONICS SECTORS

SIC 318, 334, 335, 3911



SHARE OF TOTAL ELECTRONICS EXPORTS

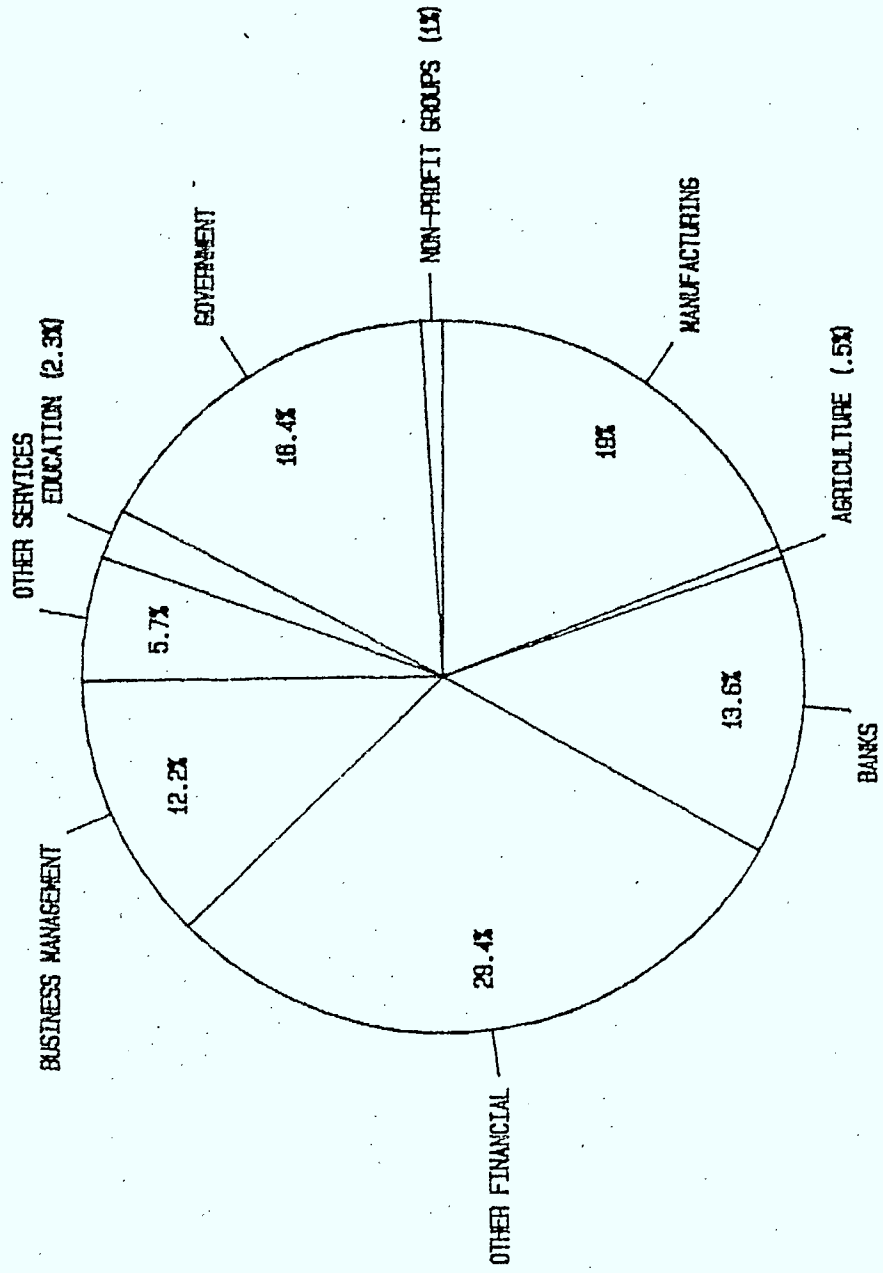
By Subsector (percentages)



YEAR

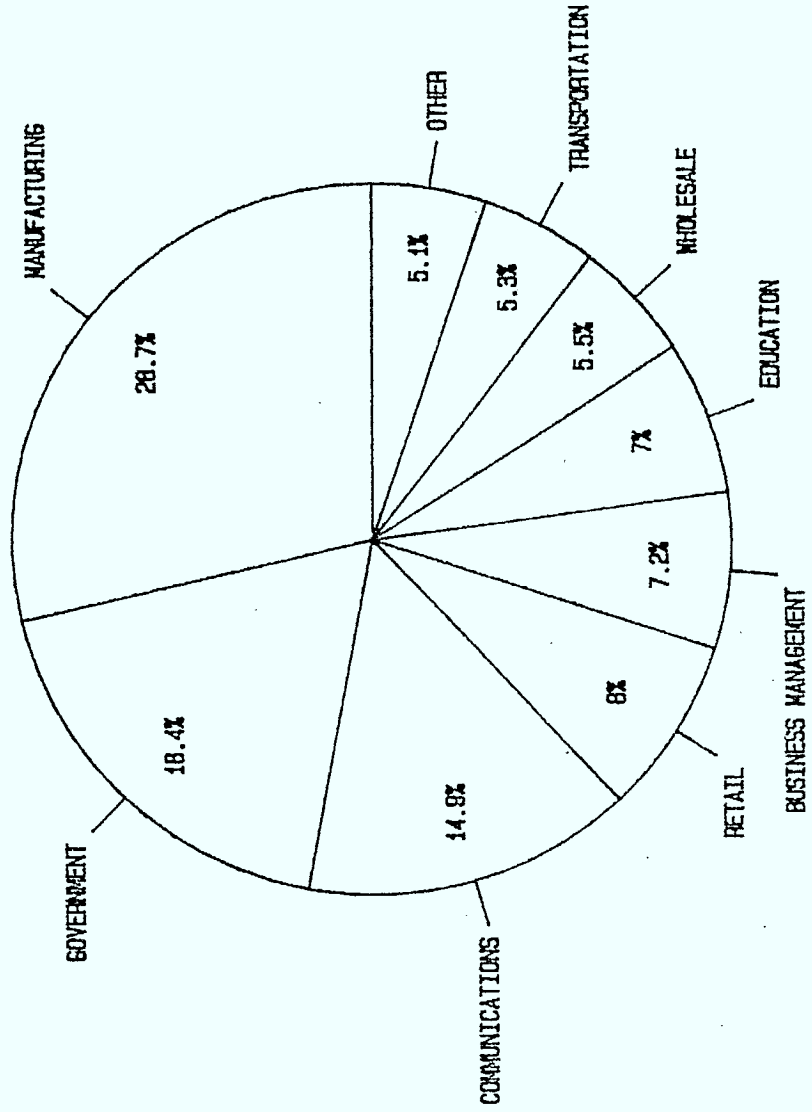
COMPUTER SERVICES REVENUE BY MAJOR USER

1983



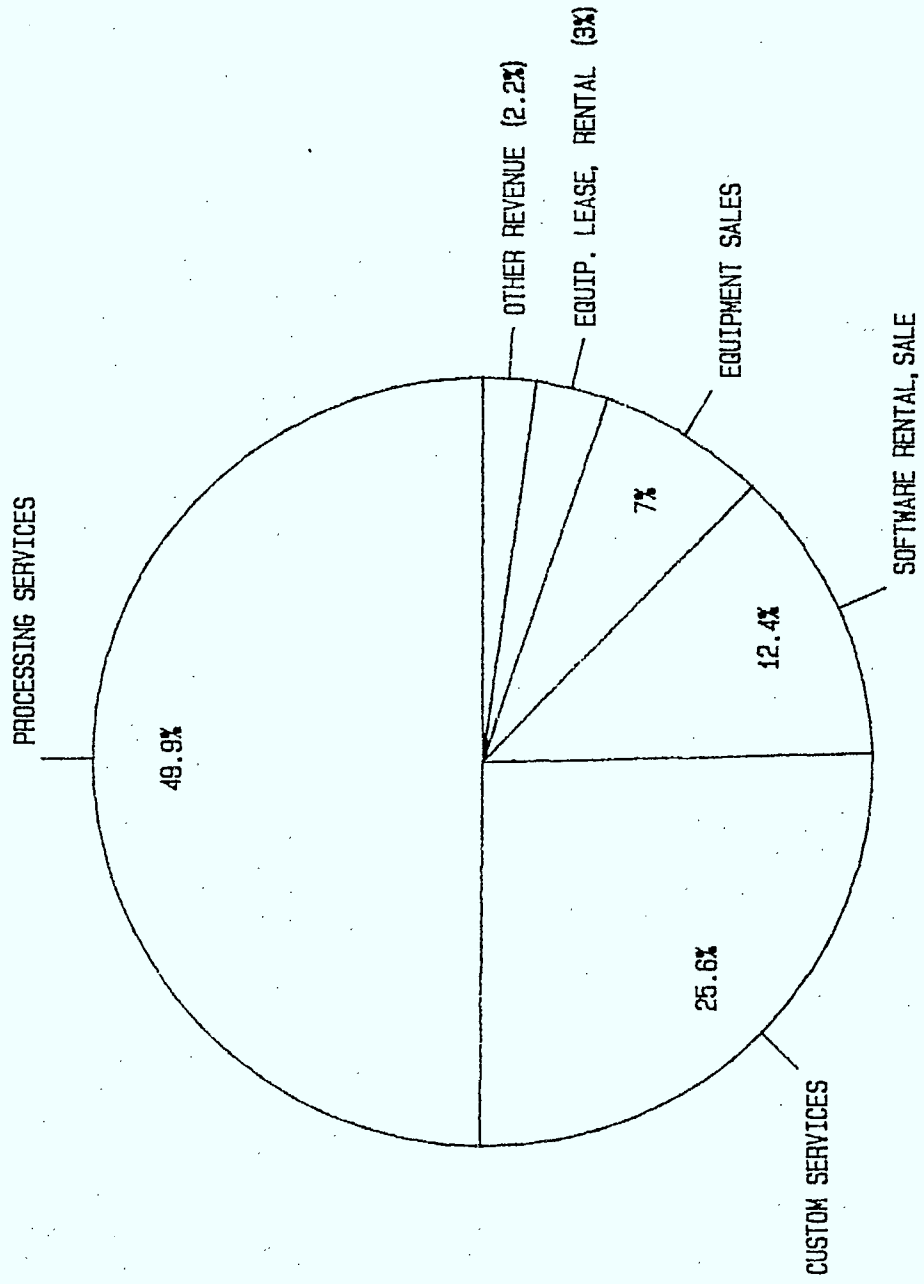
FIRMS LEASING HARDWARE- REVENUE SOURCES

1983



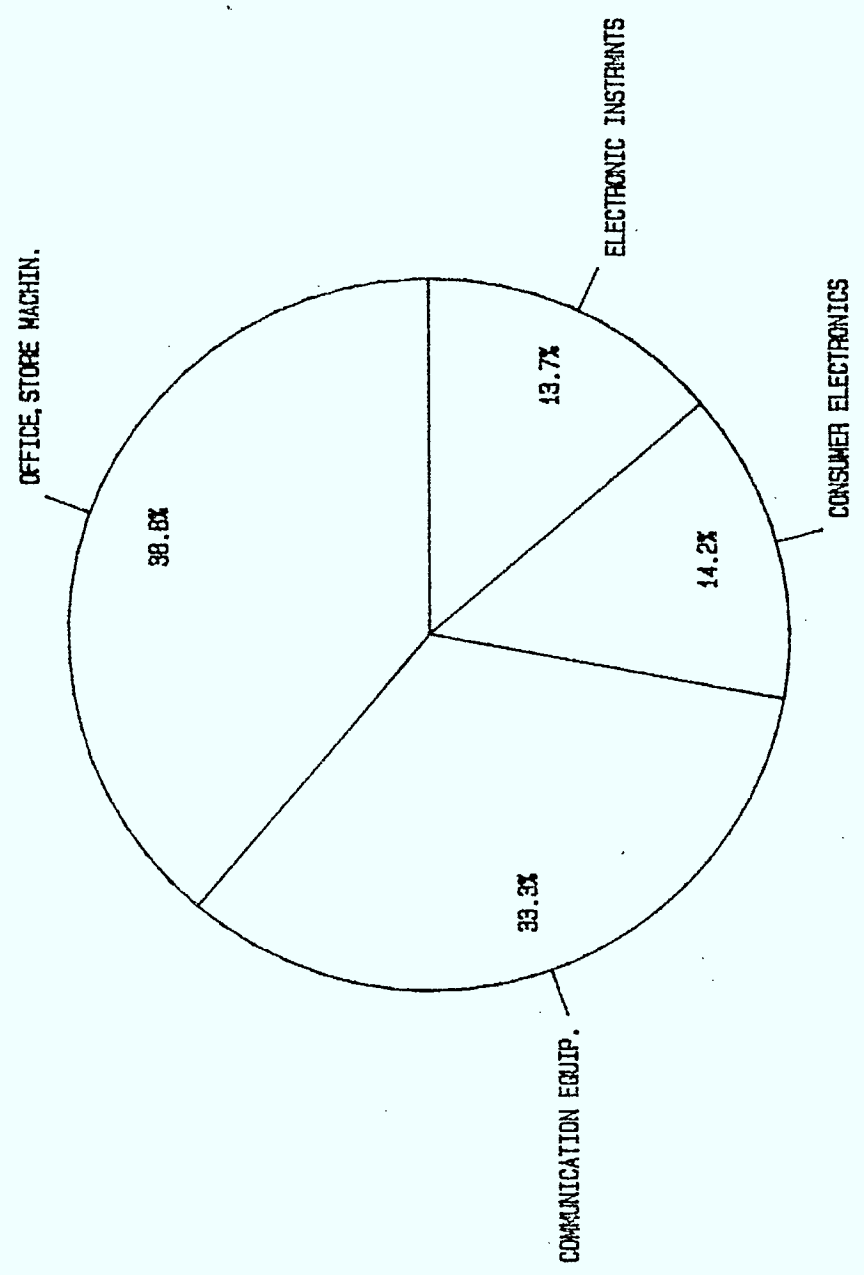
COMPUTER SERVICES REVENUE - BY CLASS

1983



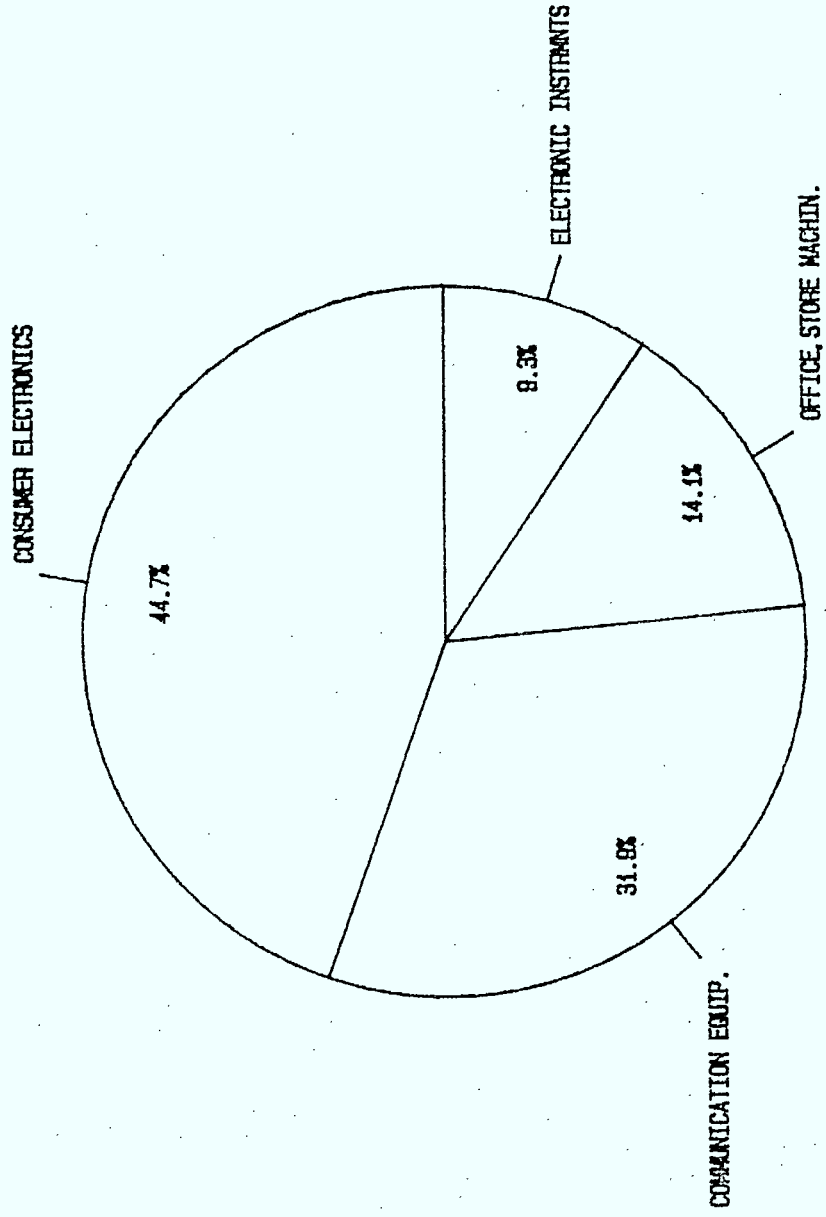
SHARE OF ADM FOR TOTAL ELECTRONICS

1984



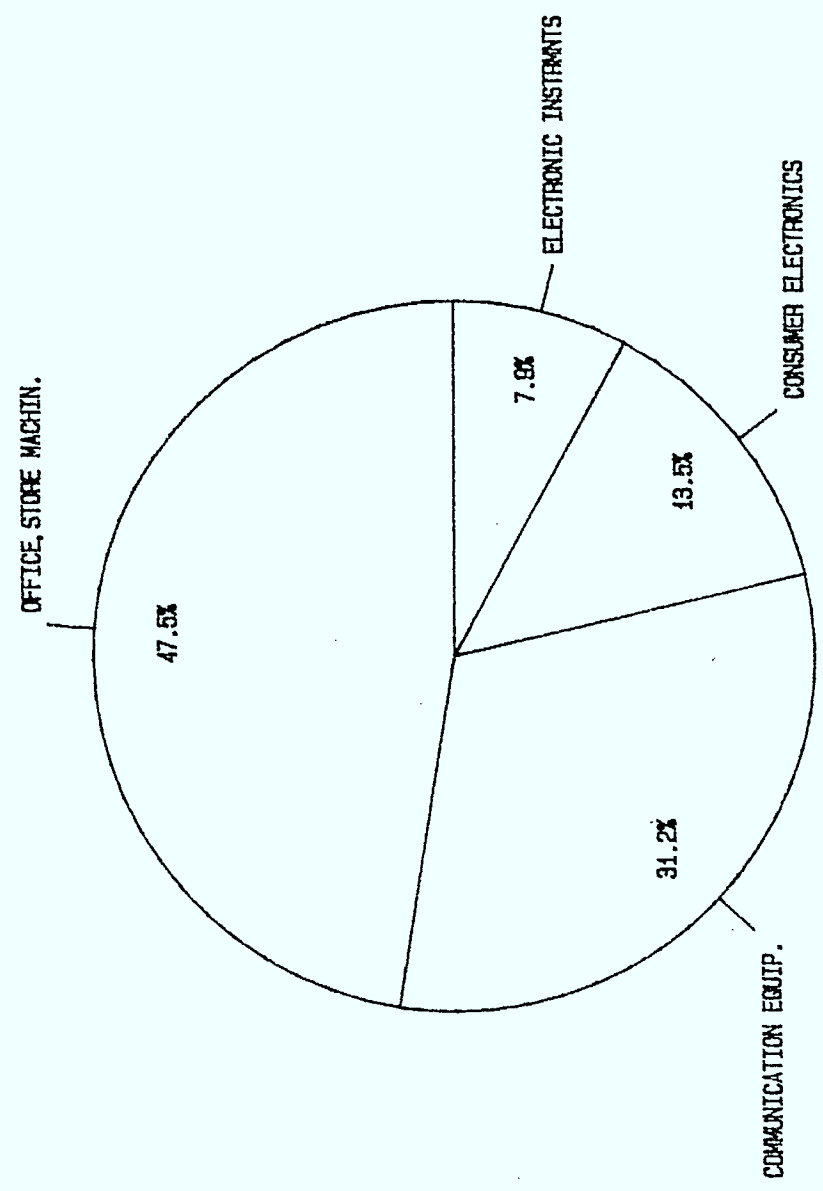
SHARE OF TOTAL ELECTRONICS SHIPMENTS

1984



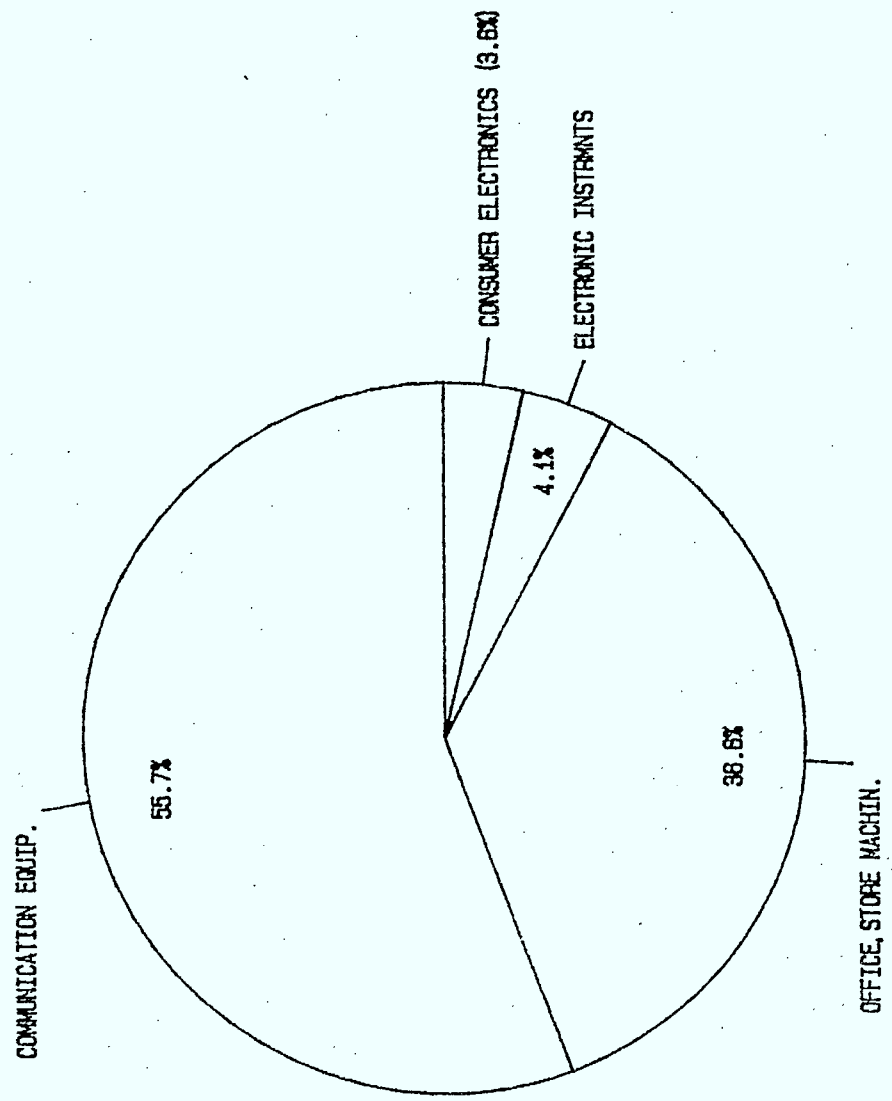
SHARE OF TOTAL ELECTRONICS IMPORTS

1984



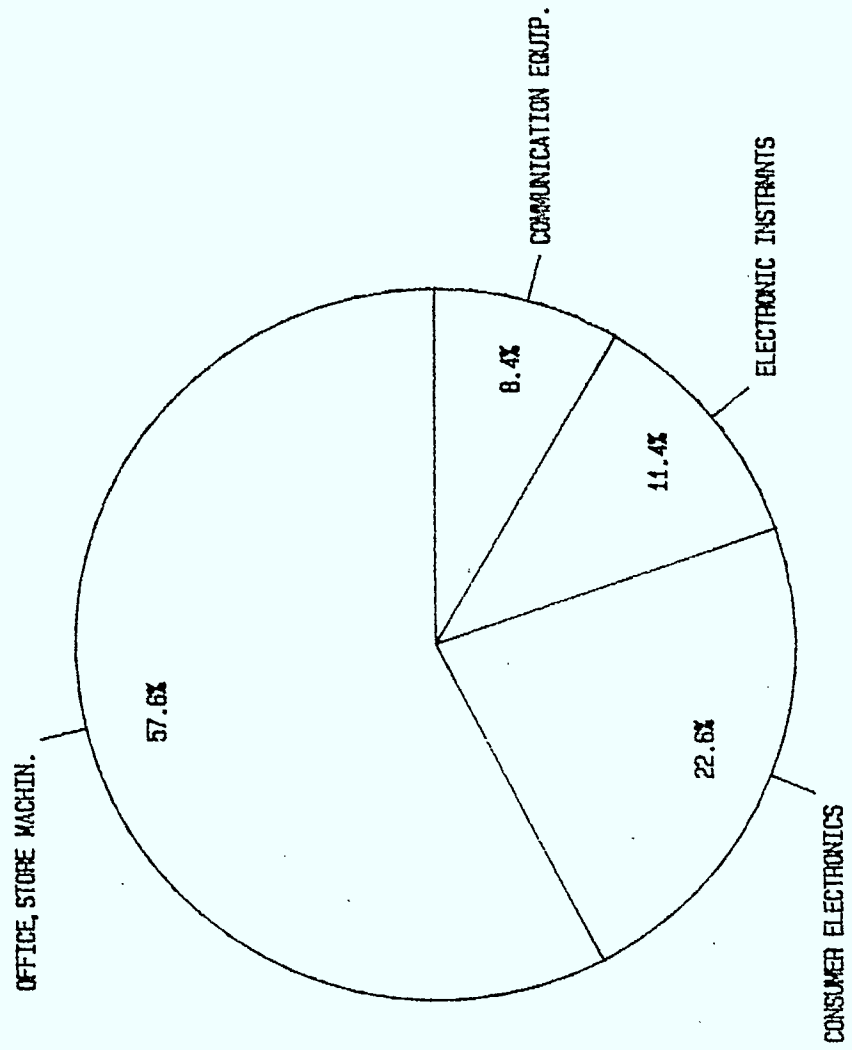
SHARE OF TOTAL ELECTRONICS EXPORTS

1984



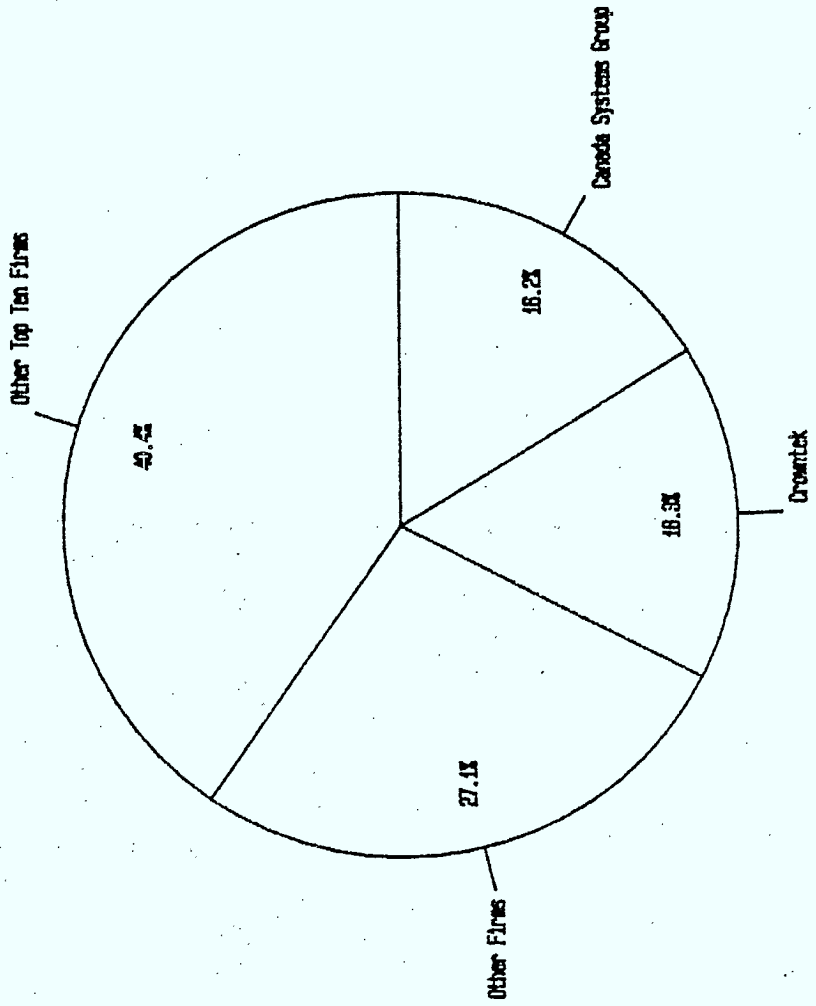
SHARE OF TOTAL ELECTRONICS TRADE DEFICIT

1984



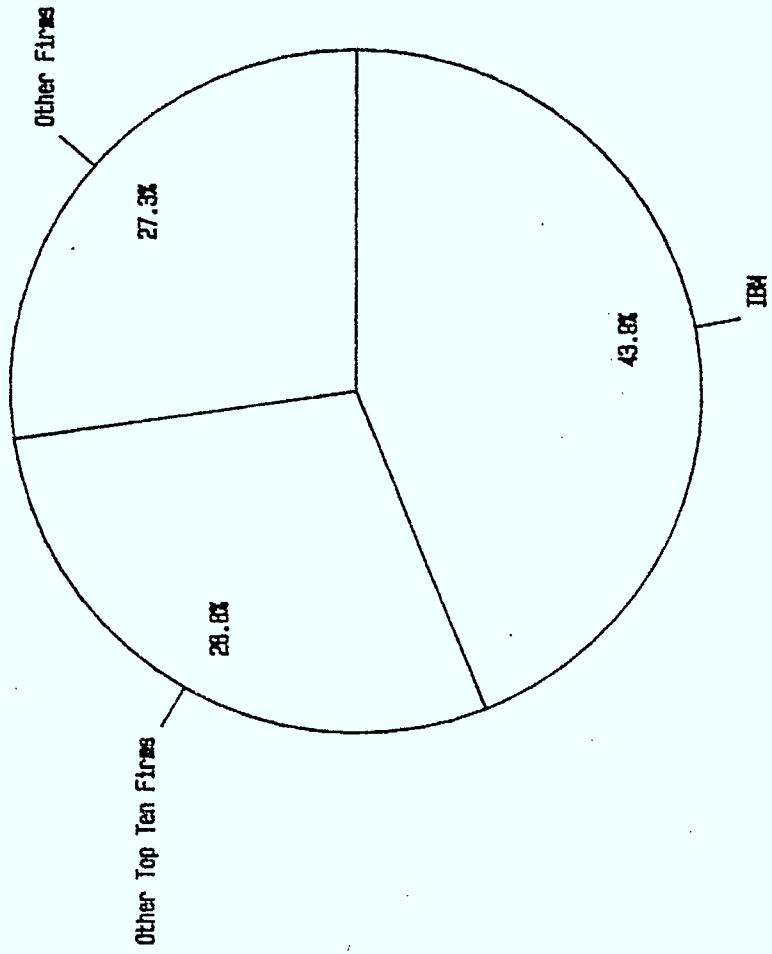
TOP SERVICE BUREAUX IN CANADA

Share of Total Industry Revenue, 1984



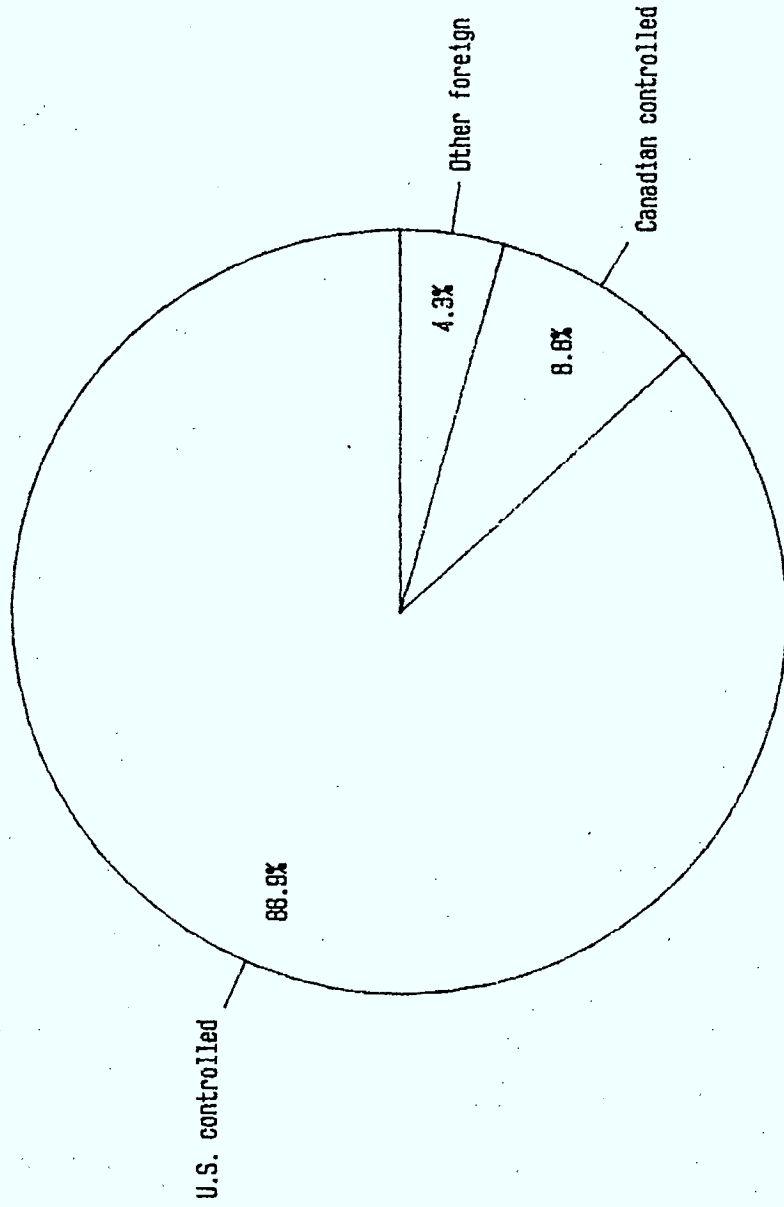
TOP EDP HARDWARE SUPPLIERS IN CANADA

Share of Total Industry Revenue, 1984



REVENUE OF TOP EDP HARDWARE FIRMS-CANADA

By Ownership of Firm, 1984



REVENUE OF TOP SERVICE BUREAUX IN CANADA

By Ownership of Firms, 1984

