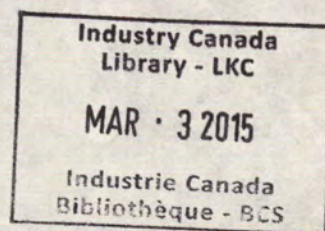
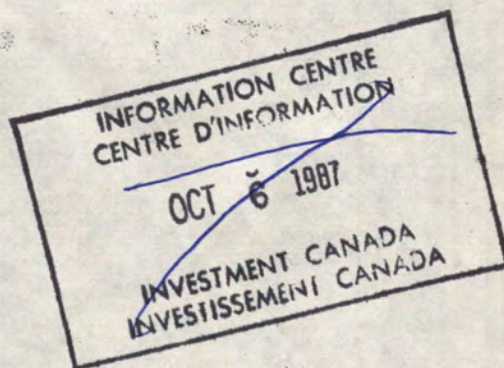


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# THE CANADIAN EDGE



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THE INVESTMENT FACTOR

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The Canadian economy, the seventh largest in the western industrial world, is one of the most dynamic and occupies a strategic location in the North American market. This market of more than 250 million affluent consumers continuously creates new business opportunities.

Canadians enjoy a standard of living and a quality of life, which is envied around the world. Canadians have universal access to extremely high-quality education, health care and a social security system that ensures consistently high standards throughout the country. Canadians live without fear of crime; Canada has low crime rates, relative to other industrialized countries. Canada is a multi-cultural society which supports and encourages its residents to retain and develop their linguistic and cultural heritage. Additionally, an abundance of open land, mountains and lakes offers numerous outdoor activities in all four seasons.

Non-Canadian investors, who gain access to the North American market through Canada, cite many reasons for establishing a base in Canada. Canada has a strong and diversified industrial base, which is characterized by the production of a wide range of manufactured products, using the latest technology. Canada has a well-trained and committed pool of human resources, with a large number of scientific and engineering graduates. The Canadian labour force has developed and produced many sophisticated products, such as cellular telephones and digital PABX systems and the Canadarm, the remote manipulator arm used in the NASA space program.

Canada also has a technical infrastructure, specifically oriented toward high-technology industries. Canadian universities are working in close cooperation with industry to ensure that basic

research on advanced technologies is undertaken and diffused. Close to many universities, critical mass areas - geographic centres of scientific, technical and business expertise - have emerged across Canada.

Another competitive advantage of a Canadian location is our sophisticated and efficient transportation system and our communications network, which is second to none. Canada, also offers sophisticated and competitive capital markets and stable financial institutions with operations world-wide. The favourable exchange rate between the Canadian and American dollars has opened more markets for Canadian goods in the United States. Labour costs in Canada are often lower than in the United States. In many cases, corporate tax rates in Canada are lower than in the United States. (However, the field of taxation is complex and varies from province to province in Canada, and from state to state in the United States.)

The advantages of the Canadian economy are reflected in the high level of exports from Canada. Canada is one of the world's great trading nations. In 1984, Canadians exported over \$110 billion, representing some 30% of Canada's gross domestic product (GDP). The vast majority of Canadian exports are destined for the American market. Canadians know this market well. They compete in it and they are successful in it. Canada and the United States have similar business practices, market structures and consumer habits. Many foreign companies have effectively utilized Canada's unique knowledge, experience and presence in the U.S. market to develop a base for North American operations.

The oil and gas industry is a dynamic and an important part of the Canadian economy. The industry's share of Canadian GDP has risen substantially during the last decade to approximately 4.5% in 1983. The sector accounts for 20% of provincial output in Alberta and for 8% in Saskatchewan. It directly employs 47,600 persons nationally, 42,600 of which are located in Alberta. The sector also represents some 9.4% of new investment in the country and 9.2% of the total merchandise exports. In 1984, the trade balance in oil and gas was \$5.6 billion in Canada's favour. Among the seven major western industrial nations, only Britain and Canada are net exporters of oil, and only Canada is a net exporter of natural gas.

The important role of the oil and gas industry is further demonstrated by the new government initiatives affecting the sector. The Progressive Conservative Government has dramatically changed Canada's energy policy. After extensive consultations with industry representatives, including IPAC, the National Energy Program (NEP) established in October 1980, has been dismantled, thus removing many of the regulations, taxes and fiscal policies which were inhibiting industry's growth. The government's initiatives are guided by market-driven pricing and profit-sensitive taxation regimes rather than regulated prices and revenue-based taxation.

Canada welcomes investment and the Canadian government is committed to work with the business community to ensure that Canadian-based businesses are positioned to prosper.

For additional information please contact the nearest Canadian Embassy or:

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235 Queen Street  
5th Floor West  
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## THE INVESTMENT FACTOR

### 1.1 CANADA: THE REALITY

To much of the world, Canada presents an image of a rugged, arctic land, populated by fishermen and farmers. Natural resources, while important, now play an increasingly smaller part in Canada's industrial economy. In reality, Canada's diversified export-oriented economic base has transformed the country into a modern trading nation.

In 1983, exports accounted for 27.8% of Canada's gross domestic product. Comparative Exports/GDP figures for other industrial nations are: USA - 10.1%, Japan - 15.8%, France - 22.2%, Italy - 23.5%, United Kingdom - 26.5%, Federal Republic of Germany - 32.2%. Canada's major exports are not unprocessed raw materials, but manufactured goods, primarily transportation equipment. Resource-based products such as wood and paper, ores and agricultural products continue to contribute to the overall economy, but it is manufactured goods and services that are experiencing the fastest growth and creating jobs in Canada. This section dispels the more widespread myths about the Canadian economy and provides information on the Canadian and North American markets.

#### 1.1.1 The Facts

##### (a) Population

Canada has a population of 25.3 million (April 1985 estimate). From 1980 to 1985, the rate of population increase averaged 1.1 percent. The population is distributed unevenly across the country, with 36 percent in Ontario, 26 percent in Quebec, 18 percent on the Prairies, 11 percent in B.C. and 9 percent in the Atlantic area. Less than one-half of 1 percent resides in the two Territories.

With a population of 25.3 million and an area of 10 million square kilometers (3.6 million square miles), Canada appears at first glance to be vastly underpopulated. However, the fact is that more than 75% of the population reside in urban areas which, by and large, are located below the fiftieth parallel (see Figure 1). Within this narrow band, Canada is principally an urban society with a moderate population density. Ottawa, the capital of Canada lies further south than London, Paris, Bern, Bonn, Prague, Vienna, Budapest and Seattle. The vast majority of Canadians live further south than almost all of the inhabitants of the United Kingdom.

# CANADIAN POPULATION DISTRIBUTION AND PROXIMITY TO MAJOR URBAN MARKETS OF NORTH AMERICA

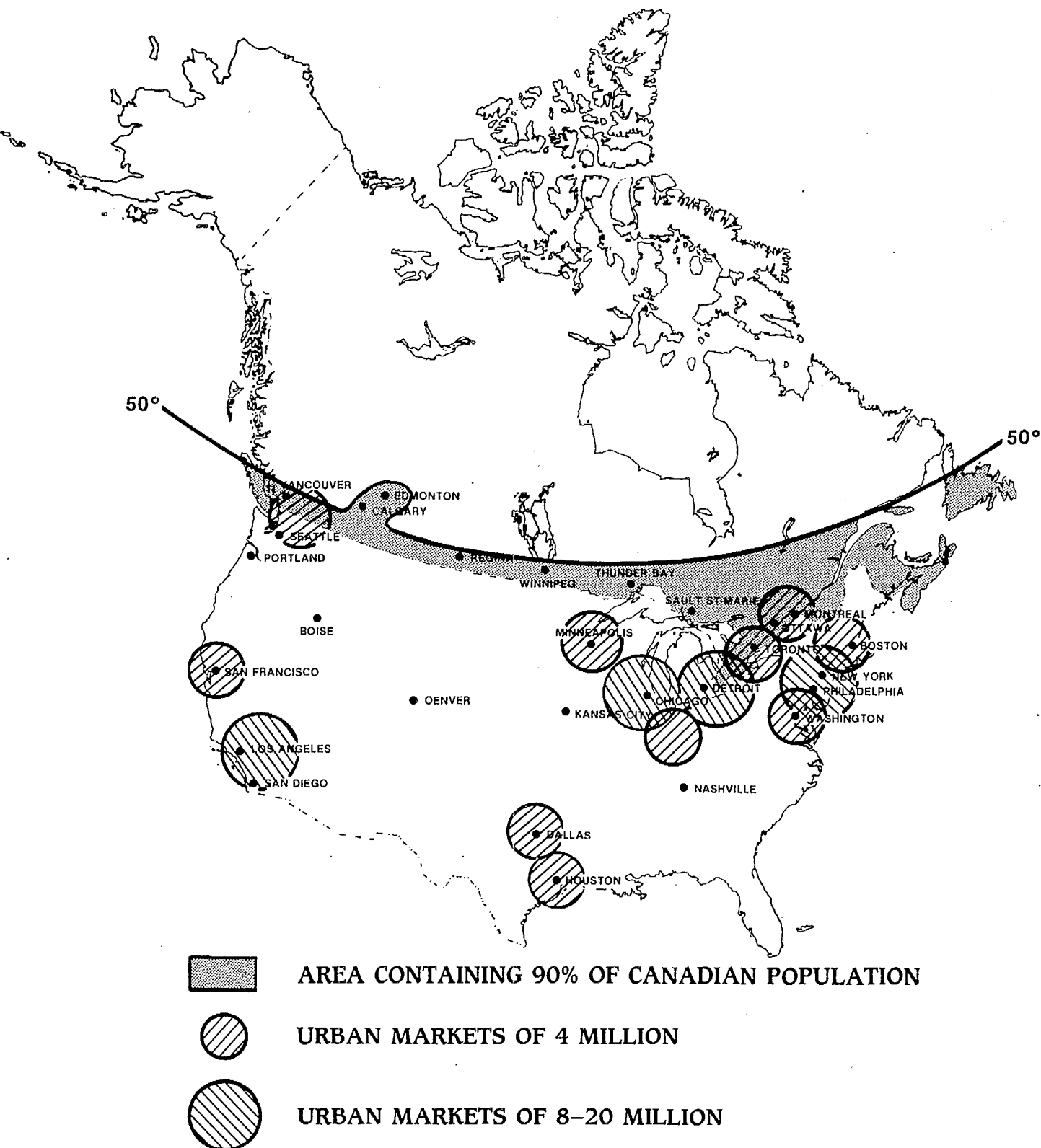


TABLE 1

POPULATION - CANADA AND REGIONS

	<u>1980*</u> (thousand)	<u>1985*</u>	<u>Average Annual Growth Rate</u> (%)	% of 1985 <u>Total</u> (%)
Canada	23912	25263	1.1	100.0
Atlantic	2225	2301	0.7	9.1
Quebec	6360	6562	0.6	26.0
Ontario	8540	9024	1.1	35.7
Prairies	4084	4419	1.6	17.5
British Columbia	2636	2883	1.8	11.4
Yukon and NWT	67	74	2.0	0.3

\*At start of period

Source: Bank of Canada Review.

TABLE 2

CIVILIAN LABOUR FORCE - CANADA AND REGIONS

	<u>1980*</u> (thousand)	<u>1984*</u>	<u>Average Annual Growth</u> (%)	% of 1984 <u>Total</u> (%)
Canada	11573	12399	1.7	100.0
Atlantic	894	955	1.7	7.7
Quebec	2988	3123	1.1	25.2
Ontario	4350	4666	1.8	37.6
Prairies**	2041	2246	2.4	18.1
British Columbia***	1301	1410	2.0	11.4

\* Annual Average

\*\* Includes NWT.

\*\*\* Includes Yukon.

Source: Bank of Canada Review.

(b) Labour Force

The Canadian labour force increased from 11.6 million in 1980 to 12.4 million in 1984. The annual growth rate averages 1.1 percent in Quebec, 1.8 percent in Ontario, 2.4 percent in the Prairies and 2.0 percent in B.C.

(c) Employment

Over the 1960 to 1981 period, the number of persons employed in Canada increased at an annual average rate of 3 percent. This record was the best in the western industrial world, and 50 percent better than the record of the U.S.A., which created employment at an annual average rate of 2 percent over the same period.

From 1970 to 1984, annual employment growth averaged 2.4 percent, second in the OECD membership. During this period, 3.2 million net jobs were created. From 1973 to 1984, Canada had the best record of job creation in the OECD, resulting in 28 percent more jobs compared to 25 percent in the U.S.A., 12 percent in Japan and zero percent in West Germany.

In 1984, the average number of employed persons in Canada was at an all-time high. Some 600,000 jobs have been created since the recession of 1982. Forecasters predict that Canadian employment will continue to grow by about 2 percent annually until 1990.

(d) Standard of Living and Income

Canada's overall standard of living ranks among the highest in the world. In terms of wealth, measured by gross domestic product per capita, Canada, in 1983, ranked fourth, behind only Switzerland, Norway and the U.S.A in that order. With a comparatively small population, Canada's gross domestic product ranked seventh in the world in size, ahead of many, more populous countries. Canadians are a mobile people. With fair distances between major centres, 77 percent of Canadian households own automobiles. This compares with the U.S. where 90 percent of households own automobiles. Other western industrial countries such as Japan, France, Germany, and the U.K. have household car ownership rates of between 60 percent and 70 percent. Canada ranks very high, if not at the top, in the percentage of households with other durable goods, such as refrigerators (99 percent), washing machines (77 percent), telephones (99 percent), televisions (98 percent), radios (99 percent) and video recorders (12.5 percent).

Some 60 percent of Canadian families own their homes, the quality and size of which is amongst the highest in the world.

From 1980 to 1984, the level of disposable income rose from some \$200 billion to \$290 billion, at an annual average rate of 9.8 percent. In 1971 dollars, the annual average increase was less pronounced, at 1.6 percent. The average disposable income per employed worker, in current dollars, rose to \$26,367 in 1984 at an annual average rate of 9 percent from 1980. Approximately 90 percent of all families earn in excess of \$15,000, and over 55 percent earn in excess of \$35,000.

(e) Climate

The Canadian climate is varied, ranging from a temperate climate on the west coast (cool winters and mild summers) to a continental-type climate on the Prairies (cold winters and hot summers). However, by and large, most populated areas of Canada experience the same climate as that encountered in the northern U.S.A. Table 3 compares average temperatures in major Canadian population centres with other major urban centres in the U.S.A. and Europe.

TABLE 3

AVERAGE TEMPERATURES

	<u>JANUARY</u>	<u>JULY</u>
HALIFAX, CANADA	-3°C (27°F)	18°C (64°F)
NEW YORK, U.S.A.	-1°C (30°F)	23°C (73°F)
TORONTO, CANADA	-5°C (23°F)	20°C (68°F)
CHICAGO, U.S.A.	-4°C (25°F)	23°C (73°F)
VANCOUVER, CANADA	+2°C (36°F)	17°C (63°F)
LONDON, ENGLAND	+4°C (39°F)	16°C (61°F)
FRANKFURT, GERMANY	+1°C (34°F)	20°C (68°F)

(f) Language

Canada has two official languages, English and French. According to the 1981 census, 61 per cent of Canadians spoke English as their mother tongue and 26 per cent spoke French. The remaining 13 per cent, while they may use English or French as their working language, have various other languages as their mother tongue. The provinces of New Brunswick and Manitoba are officially bilingual. However, English is the more widely used language in all provinces except Quebec.

In language, customs and income, the average Canadian is remarkably similar to the United States neighbour. The similarities are so extensive that it is sometimes difficult to separate market characteristics north and south of the Canada-U.S.A. border. Together, the U.S.A. and Canada comprise what is commonly known as the North American market.

### 1.1.2 The Canadian Market

#### 1.1.2.1 Atlantic Canada

With a population of 2.3 million and a gross domestic product of \$23.0 billion in 1984, the Atlantic region contributed close to 6% of the nation's gross domestic product. While the regional economy is based upon the plentiful natural resources of the forest, the sea and abundant mineral deposits, the economy is a diversified one in which the value of factory shipments outweighs the total value of farm cash receipts, mineral production, and fish landings. Exports from the region, at \$3.7 billion, accounted for more than 16% of GDP, of which \$2.2 billion, or 60% of total exports, were exported to the U.S.A., mainly the Atlantic seaboard states. Wood and paper, fish products, energy and transportation equipment were the major exports. Given its location on the east coast of Canada, its excellent natural harbours and well-developed transportation infrastructure of airlines, railroads and highways, Atlantic Canada has ready access to the total Atlantic region of North America, one of the most industrialized of world markets with a population in excess of 46 million affluent consumers.

#### Major Centres

Halifax, Nova Scotia (population 278,000) is the largest city and the leading industrial area in Atlantic Canada. Its major industries include oil refineries, shipbuilding, metal works, breweries and fish processing. Halifax has excellent transportation links to North American and world markets. It is the fifth largest port in Canada and is open to traffic year round. Other transportation facilities include major freight rail lines and an international airport.

St. John's, Newfoundland (population 143,990) is the largest city in Newfoundland and houses approximately 25% of the population of the province. St. John's, which ranks as Canada's 10th largest port, has an excellent harbour which provides maritime traffic with access to Europe, Atlantic U.S.A. and the rest of Canada.

Saint John, New Brunswick (population 80,521) is another major industrial centre. Major industries include the \$2.7 billion Point Lepreau Nuclear Power Plant, the Saint John Shipbuilding and Drydock Company, potash mines of Denison Mines and the Potash Company of America, the Mount Pleasant Tungsten and Molybdenum Mine, Moosehead Breweries, Flake Board Company Limited and Connor's Bros. Ltd. fish processing plant. In addition to its proximity to the numerous population centres of Northeastern U.S., Saint John has the sixth largest port in Canada, and offers year-round direct access to major world markets. Saint John also has excellent rail and highway facilities which provide access to the rest of Canada and the U.S.A.

#### 1.1.2.2 Central Canada

Central Canada, comprising the provinces of Ontario and Quebec, has a population of some 15 million and a gross domestic product of \$238 billion, or approximately 60% of Canada's total 1984 gross domestic product. It is both the most urban and most industrialized region of Canada. Within the geographic triangle of Quebec City, Sault St. Marie and Windsor, live 60% of Canada's total population. Approximately 24% of its GDP is exported, with over 80% of total exports destined for the U.S. market, primarily the Atlantic and Midwest regions. Transportation equipment such as automobiles, railway cars and autoparts, wood and paper products and energy are the major exports. The most populated area of Central Canada is an industrialized peninsula jutting into the Northern U.S.A. between the heavily populated Atlantic and Midwest Regions. Most of central Canada's cities have better proximity to the industrial heartland of the U.S.A. than major U.S. population centres to the south and west. These Canadian locations are also better integrated into the affluent and densely populated northeastern U.S.A. in terms of culture, time zones and communications.

#### Major Centres

Quebec City, Quebec (population of 576,000) is the capital of the Province of Quebec, and the oldest city in Canada. In addition to being the centre of government and a major tourist centre, it houses a wide range of industries including food processing and the manufacture of leather goods, textiles, apparel, wood products, pulp and paper, printing and publishing, non-ferrous metal and chemical products. Quebec harbour is one of Canada's busiest seaports, able to accommodate the largest ocean-going vessels year-round. In addition, excellent railroad, road and airline facilities provide easy access to the rest of Canada and the U.S.



Montreal, Quebec (population 2,828,000) is Canada's second-largest industrial and commercial centre. It is also the world's second-largest French-speaking city. Its principal industries include food processing, clothing, paper and paper products, aircraft and aircraft engines, and petroleum refining. Increasingly, Montreal is attracting high technology manufacturers of office automation equipment and communication products to complement its already established manufacturers of avionics, defense products and aircraft parts. The Port of Montreal is an integral part of the St. Lawrence Seaway (which provides marine access to the major industrial centres of central Canada and the Midwest region of the U.S.A.). Montreal is served by two international airports, and has excellent railroad and road facilities which provide access to the rest of Canada and the U.S.A.

Ottawa, Ontario (population 718,000) is Canada's capital. It is a high technology electronics and telecommunication focal point with over 200 high-tech manufacturers, including Northern Telecom, Mitel Corp. and Gandalf. Ottawa is a major tourist centre and has excellent convention facilities. Ottawa has an international airport, and excellent railroad and highway links to major North American markets.

Toronto, Ontario (population 3,000,000) is Canada's largest city and the capital of Ontario. It is the country's leading commercial, industrial and financial centre, and houses the Toronto Stock Exchange and the largest number of corporate head offices in the country. It is the hub of an ever-expanding megalopolis known as the "Golden Horseshoe", extending around the western shore of Lake Ontario from Niagara to Oshawa. Its principal industries include manufacturers of automobiles, aircraft, machinery, electrical goods, sheet metal products, printing and publishing, meat processing, food and beverage production, clothing and rubber goods.

Toronto is a major tourist centre and has extensive convention facilities. It has excellent transportation facilities, including an international airport, a STOL-port and extensive rail facilities which provide access to all North American markets. The Port of Toronto is part of the St. Lawrence Seaway and is open to international marine traffic from May to October.

Hamilton, Ontario (population 542,000) is a major industrial centre and the steel capital of Canada. Other major industries include heavy machinery, fabricated metals and other heavy industry. It has excellent transportation facilities, including major railways and a port on the Great Lakes shipping system.

#### 1.1.2.3 Prairie Canada

Prairie Canada, the provinces of Manitoba, Saskatchewan and Alberta, has a population of 4.4 million and a gross domestic product of \$84 billion, or approximately 21% of the GDP. The region is endowed with large reserves of mineral wealth (including oil and gas, coal, potash and uranium) and vast fertile plains which are ideal for growing grain and oilseed crops. The gross domestic product of Alberta, driven by its established oil and gas industry, and to a lesser extent, its petrochemicals, food processing, steel and clothing manufacturing industries, exceeds the combined GDPs of Manitoba and Saskatchewan, which are more dependent on manufacturing and agriculture, respectively. Saskatchewan, with rich potash, uranium and oil and gas reserves yet to be fully exploited, is in the process of diversifying its economy and continues to lessen its reliance on its traditional agricultural base. Manitoba, with a fairly strong manufacturing base that includes industries such as food and beverages, chemicals, primary metal manufacturing, metals processing, printing and publishing, farm machinery, textiles and clothing, is proceeding with the construction of a large hydroelectric facility that will provide electrical energy for export to the U.S.A. and for domestic industrial growth. Almost 90% of the region's exports, which include energy, fuels, chemicals and wood and paper, are destined for the U.S.A. The region is also a major producer of livestock, grains and seed oils, much of which is destined for export markets internationally.

#### Major Centres

Winnipeg, Manitoba (population 585,000) is the capital of Manitoba. Its industrial base includes a wide range of manufacturing industries, as well as food processing and distributing businesses. Winnipeg has excellent transportation links to the rest of Canada and the U.S.A. via its well-integrated network of highways, railroad facilities and its international airport.

Regina, Saskatchewan (population 173,000) is the capital of Saskatchewan and is situated midway between Calgary, Alberta and Winnipeg, Manitoba on the TransCanada Highway. Agriculture plays a major role in Regina's economy, but steel, petroleum refining and potash are other major industries within the area. Regina is also a key distribution centre serving the Prairie provinces, Northwest Territories and the north-central United States. It has excellent transportation facilities, with airline, road and rail services available to all major cities across Canada and the United States.

Saskatoon, Saskatchewan (population 171,000) is one of the fastest growing areas in Canada, and is a major agriculture center. Other important industries include livestock and meat processing, oil, gas, as well as uranium and coal mining. A growing community of high-tech companies has concentrated around Saskatoon, a major Prairie research centre. More than 80 such companies have located around the city, including manufacturers, R&D firms and consultancy/support services. Saskatoon is well-served by the major railway systems, airlines and highways.

Edmonton, Alberta (population 657,000) is the capital of Alberta and the second-largest oil refining centre in Canada. It is supplied by 12,000 producing wells and serves two major oil-sands plants to the north. In addition to oil refining, its principal industries include petrochemicals (including plastics, fertilizers, and man-made fibres), steel tube mills, and meat processing. It has excellent transportation facilities, including an international airport, a second airport in the heart of the city, and a network of highways and railroads.

Calgary, Alberta (population 593,000) is Canada's energy-resource capital. Major industries include the oil and gas industry and related energy industry consultants, service and supply companies, data processing, transportation, meat packing and fertilizer production. It is linked to major North American markets by rail, highways, and an international airport.

#### 1.1.2.4 Pacific and Northern Canada

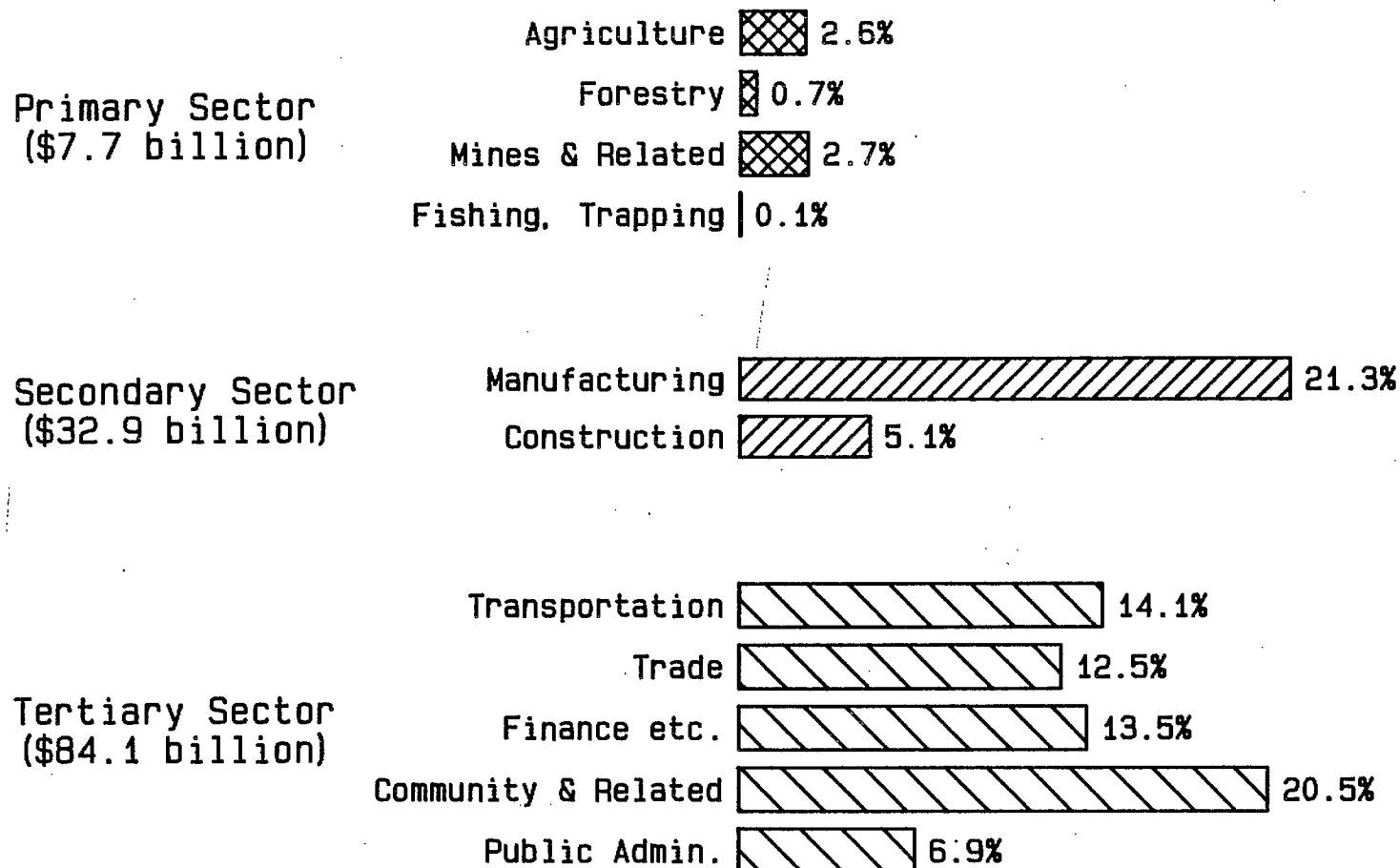
The Pacific and northern region includes British Columbia, the Yukon and Northwest Territories. British Columbia, with 98% of the total regional population of 2.9 million, accounts for most of the economic activity of the region. Its major industries include forestry, mining, tourism, agriculture, fishing, manufacturing, transportation and electric power development. B.C. forests, which include 60% of the nation's softwood timber and 70% of the nation's sawtimber, are a vital part of the economy, dependent on the growth of world markets for pulp and paper, newsprint and construction lumber. B.C.'s mineral wealth includes large reserves of copper, molybdenum, silver and gold, which together account for almost 40% of the value of all minerals produced in the region. Other minerals produced include lead, zinc, natural gas and coal.

Manufacturing is based on B.C.'s natural resources and is heavily oriented to forest products, refined non-ferrous metals and processed fish products. Manufactured wood products and the pulp and paper industry account for about 50% of the value of factory shipments. Fishing, especially for salmon, remains an important industry. However, increasingly, the economy is diversifying away from these resource-based industries to new manufacturing industries such as electronic products which currently employ some 6,000 people, and service industries such as banking and tourism. Transportation is also a key industry. B.C.'s major ports serve as vital transportation links to the North American westcoast markets, as well as the expanding markets of the Pacific Rim countries. B.C. is also well served by domestic railroads to the Canadian hinterland and U.S. railroads on the American west coast. Exports account for over 26% of B.C.'s gross domestic product, with over 36% of total exports destined for U.S. markets. Major exports include wood, paper and energy.

##### Major Centres

Vancouver, British Columbia (population 1,268,000) is the major marine cargo port of Canada. Among products handled are grain, timber, coal, mineral ore, chemicals, and manufactured goods. Vancouver has a major international airport, and is the western terminus of Canada's two national railways. The TransCanada Highway connects to eastern Canada and interior B.C., as well as major north-south routes.

*Total real domestic product: \* Canada 1984*  
*(\$124.7 billion)*



Source: Statistics Canada, Real Domestic  
Product by Industry  
\* 1971 dollars

Investment Canada  
October 1, 1985  
AHJ13001.RL

Whitehorse, Yukon (population 16,000) is the capital of the Yukon Territory. The city is a major communications centre for the surrounding area, and its leading industries are mining, oil and gas exploration, refining, hydro-electric power, forestry and small-scale agriculture. Whitehorse is connected by air and highway to northern Pacific and prairie centres, including Edmonton, Alberta and Fairbanks, Alaska.

Yellowknife, Northwest Territories (population 10,500) is the capital of the Northwest Territories. The city and its surrounding area are rich in raw materials such as gold and other minerals, fish, fur and gravel. Yellowknife is also a base to numerous international companies involved in oil and gas exploration activities in the Arctic. The city is served year-round by regional air carriers.

### 1.1.3 Overview of Major Industrial Sectors

#### 1.1.3.1 Agriculture

Despite averaging real growth of 1.7 percent per year from 1975 to 1984, the agricultural sector's share of real domestic product has decreased from 2.8 percent to 2.6 percent, and is expected to continue to decrease as a proportion of total domestic output.

Ontario, the province with the largest total farm income, is the main producer of corn (maize), fruits, vegetables and tobacco. Oats, barley, grain, wheat and oilseeds are important crops of the Prairie (western) provinces. Wheat accounts for 50 percent of total grain sales, 75 percent of which is exported.

Cattle, hog and dairy product sales are expected to show moderate real growth. Prairie grain production has the capacity to expand, but is heavily dependent upon world export markets.

#### 1.1.3.2 Fisheries

Even though the fishing sector represents less than 1/10 of 1% of Canada's real domestic product, Canada is the world's largest exporter of fish. The industry supports more than 78,000 fishermen. Primary catches are cod, flounder, scallops and lobster on the Atlantic coast, herring and salmon on the Pacific coast and whitefish and perch in the inland waters. Increasing world population and the increasing relative costs of other protein sources should sustain or increase demand for Canadian fish in world markets.

#### 1.1.3.3 Forestry and Forest Products

Logging accounted for approximately 7/10ths of 1% of Canada's real domestic product in 1984. Of the 4.5 million square kilometers of Canadian forest, more than 80% is owned and leased to private companies by the government (mainly provincial) and 57% is classed as productive.

Forest products are Canada's largest net earner of foreign exchange. Canada exports some 85% of its newsprint shipments and some 35% of its pulp shipments, primarily to OECD countries, which take approximately 90% of Canadian forest product exports.

#### 1.1.3.4 Mining and Energy

Mines, quarries and oil wells contributed 2.7% of Canada's real domestic product in 1984. The industry consists of three main segments: metal mining (26.2%), non-metal mining (6.9%), and mineral fuel production (57.8%).

Canada produces a wide range of metals and is the world's leading producer of nickel and zinc, and the world's largest exporter of minerals overall. Other major ores mined in Canada include copper, lead, iron, uranium, gold and silver.

Non-metal mining is mainly composed of asbestos, potash, clay, cement, limestone and gravel production. Canada is the world's leading producer of both asbestos and potash.

Reserves of mineral fuels such as oil, natural gas, coal and uranium are abundant. The province of Alberta accounts for the majority of the nation's crude oil output. However, recent major discoveries off the east coast point to potential significant growth in Atlantic Canada.

Natural gas sales have been dependent upon the domestic and U.S. markets. The Canadian government and several provincial governments are actively encouraging the substitution of natural gas for oil. Consequently, gas pipeline distribution systems have undergone rapid expansion especially in central Canada. The number of residential customers using natural gas increased by more than 5 percent during the 1981-82 period. The use of liquid natural gas (LNG) tankers for gas exports has



created potential new export markets for Canadian gas in Japan and Asia. The recent deregulation of the industry should also encourage the growth of export markets in the U.S.

The increase in coal-fired electric generating plants in Alberta, Saskatchewan and Nova Scotia should increase the demand for, and the production of, coal. Coal exports, mostly to Japan, have demonstrated significant growth, which is expected to continue.

The sale of uranium and other nuclear products is regulated by the Atomic Energy Control Board (AECB) to ensure non-military usage. Canada is a world leader in nuclear technology and has developed the CANDU nuclear reactor. Most uranium and other processed nuclear products are exported. The abundance of cheap hydro-electricity in British Columbia, Manitoba and Quebec has reduced domestic demand for nuclear power generation.

#### 1.1.3.5 Manufacturing

Manufacturing accounted for 21.3% of Canada's real domestic product in 1984. The manufacture of machinery, chemicals, transportation equipment, and high technology communications and data processing equipment, has shown the greatest potential for growth in this sector.

The advanced technology sectors such as factory automation systems, avionics and aerospace, videotext systems, word processors, telephone and data switching devices, laser technology, fibre optics and microprocessors, have experienced rapid growth in recent years. Some of the more prominent participants are Northern Telecom and Mitel Corp., which are major manufacturers of telecommunication products including PBX's; AES Ltd. and Micom Inc., manufacturers of word processors; and Gandalf and Develcon, manufacturers of data switches.

The dominant feature of the Canadian plastic and chemical industries during this decade is the expansion of the natural gas petrochemical industry in Alberta. New export markets are being developed in the United States, Japan and Europe for ethylene and derived resins, polymers and plastics.

Growth in the transportation equipment sector has been strong. In 1984, transportation equipment accounted for over 37% of Canada's exports to the U.S.A. Motor vehicle manufacturers, located mainly in central Canada, account for 75% of this sector's output. The expansion of rapid transit systems throughout North America is providing increased sales for manufacturers of urban transit systems such as Bombardier, Hawker-Siddeley and the Urban Transit Development Corp. The two major freight railways are replacing aging rolling stock, and VIA Rail is replacing its passenger rail equipment, which has increased the production of railroad rolling stock. In addition, major U.S. contracts for amphibious military vehicles have been secured.

1.1.3.6 Detailed Manufacturing and Mining Sectoral Information

Data on 24 major industrial sectors is available on request from Investment Canada. The data covers the size of the sector in terms of shipments, employment, regional concentration and domestic and export markets. Also included is information on current investment intentions, profitability, the major firms and the degree of non-Canadian ownership in the sector. Other useful information is provided on the role of government, on industrial relations, research and development activities, and current productivity trends in the sector.

1.1.3.7 Transportation

Transportation, storage, communications and utilities accounted for 14.1% of real domestic product in 1984. As a result of Canada's size and its dependence on trade, transportation's share of the national output is quite large and equivalent to that of the agricultural and mining sectors combined. Major modes of transportation in order of revenues are: railroads, trucking, pipelines, airlines and marine shipments.

While there are a number of railroads operating in Canada, the privately owned CP Rail (Canadian Pacific Railway) and the government-owned CN Rail (Canadian National Railway) generate the bulk of the sector's revenues. The 95,000 kilometer (59,000 mile) railway system is an efficient means of bulk transportation, and is fully integrated with the rail networks of the United States.

Marine transportation in Canada is served by 25 major deep-water ports and more than 700 smaller ports. The St. Lawrence Seaway allows marine traffic to penetrate and serve central Canada, the midwest and the prairie regions of the U.S.A. The Port of Vancouver is Canada's largest in terms of tonnage of international trade goods, with 49.7 million tonnes (54.7 million tons), or 52 percent of Canada's total shipping tonnage. This traffic is growing rapidly as trade in bulk commodities to Pacific Rim countries increases.

The recently deregulated trucking industry, which employed some 91,000 persons in 1981, benefits from a highly developed network of highways that is fully integrated with the U.S. Currently, there are 135,000 trucks for hire, which travel the 271,417 kilometers (168,687 miles) of Canadian roadways. The industry is expected to experience significant growth during the coming decade as Canadian manufacturers seek to serve new markets south of the border.

Canada's 60 major airports handle regular traffic from 35 foreign airlines. Domestic carriers fly to all the principal cities of Canada and the world. The two main Canadian carriers, which generate some 64% of the industry's revenues, have both domestic and international operations. More remote regions are serviced by smaller airlines utilizing more than 700 small airports.

A network of pipelines transports oil and natural gas to the major North American markets. Most current pipeline investment is concentrated in the far North and the Western provinces. Planned extensions of natural gas pipelines to eastern Canada will connect the country from coast to coast. There are also plans to construct gas pipelines to specialized liquid natural gas (LNG) ports on the British Columbia coast to serve export markets in Pacific Rim countries.

#### 1.1.3.8 Communications

The communications industry consists of four sectors: telephone, radio and television broadcasting, cable television and telegraph and satellite. The industry is dominated by relatively few large companies and is extremely capital intensive. Bell Canada supplies telephone service to over 61 per cent of the Canadian population, located in Ontario, Quebec and the Northwest Territories.

Canada is a recognized leader in the development of communications technology and has one of the world's most sophisticated communications networks, including fibre optic cable, cellular mobile telephones and satellites. Currently, there are 14 million telephones and a direct dialing service across Canada and to 49 other countries. Technological leaders, such as Bell Northern Research (Bell Canada), Mitel Corp. and Trillium Telephones, develop and incorporate the latest technology into their products. In addition, there are 513 radio stations and 97 television stations, supplemented by 900 and 780 radio and television rebroadcasting stations, respectively.

As a result of the trend toward automated offices with telephone-linked word processors and workstations, the volume of long distance telephone calls is rising by 10% per year. Telephone companies are expected to experience real annual growth throughout the decade.

Overall, the communications industry should realize substantial growth for the remainder of the decade.

#### 1.1.3.9 Utilities

Canada has abundant hydro-electric capacity. Two of the largest hydro-electric complexes in the world, the Churchill Falls and James Bay projects, produce 12-15 million kilowatts of electricity, much of which is currently exported to northeastern U.S. markets. Electric power and natural gas accounted for 81 percent and 12 percent, respectively, of the output of the utilities industry. Demand for these forms of energy will continue to increase, as Canada moves away from petroleum products, especially for heating.

#### 1.1.3.10 Services

In the non-commercial services sector, the changing age profile of Canada's population should decrease the demand for educational facilities, and increase the demand for health care facilities as the populace ages. Commercial services to business management (20% of the sector), accommodation and food services (14%), personal services (4%), amusement and recreation (4%), and miscellaneous services (5%) have experienced significant real growth in recent years. Food services is expected to continue to be a growth area, as more women enter the work force and personal disposable income rises. Computer and data processing services are also expanding quickly, with companies such as Cognos Corp. and Systemhouse demonstrating significant growth in customized computer systems software.

#### 1.1.4 Summary

##### 1.1.4.1 Market Similarities

There are many similarities between Canada and the United States with respect to general market structure, business practice, climate and culture. As a result of the great distance between the east and west coasts, transportation costs in both the U.S.A. and Canada are of paramount importance. Similar to the U.S. market, the Canadian market has a strong sense of regional identity. This is a natural outgrowth of the different economic bases, the different climates and the different cultures that have developed in the various regions over time.

Central Canada, a geographic peninsula jutting into the populous and industrial midwest and Atlantic regions of the U.S.A., is primarily an industrialized economy. Atlantic Canada, with easy access to the forests and fisheries, has a resource-based economy, heavily dependent on export markets. Prairie Canada, with access to the fertile plains and oil and gas reservoirs, has developed a similar export-oriented economy based on its wealth of natural resources. Pacific and northern Canada, with its proximity to the ocean fisheries, mineral fuels such as coal and gas, and the vast forests of British Columbia, have developed an economy which is based on these natural resources and is dependent upon global markets.

##### 1.1.4.2 The Connection to Regional North American Markets

In many ways, there are forces at work throughout Canada which substitute a north-south flow of trade, for that of an east-west direction. Perhaps the strongest force is proximity. (See Figure 2). The average resident of Winnipeg will likely have travelled to Minneapolis, Minnesota, instead of Toronto or Montreal. Community of interest also encourages the development of this north-south flow. The economic base of Manitoba is more similar to that of North Dakota and Minnesota than it is to the economic base of southern Ontario. Additionally, the east coast and west coast have only four hours of common business time daily, while neighbours to the north or south share the full business day. Moreover, new technological forces, such as easy access to telecommunications and the expansion of powerful television and radio broadcasts, are breaking down barriers and promoting the growth of

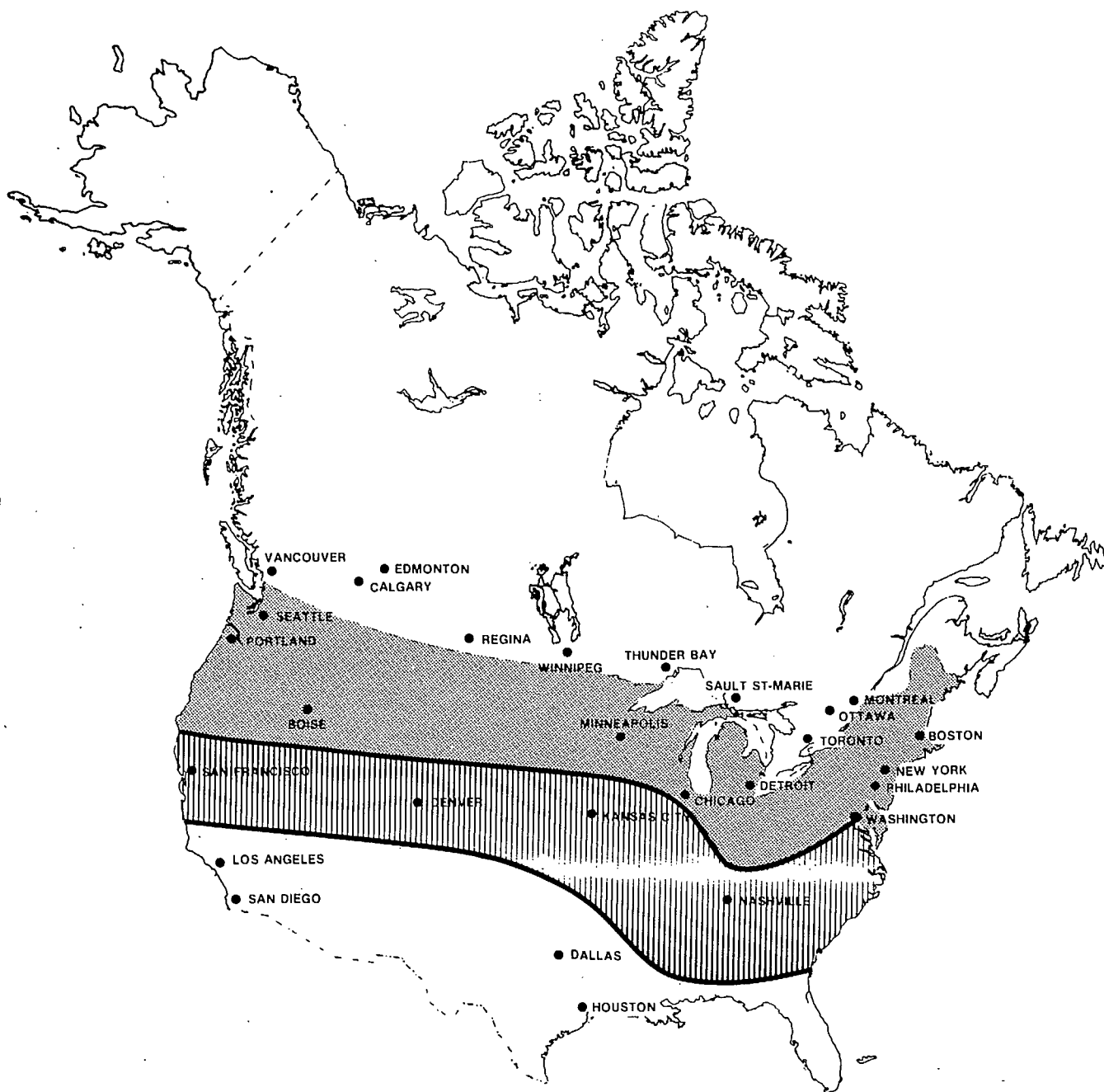
north-south dialogue. Political and economic forces, such as multilateral or bilateral trade agreements designed to eliminate trade barriers, are also encouraging the development of a north-south trade and integrated regional markets. Investors who wish to serve the North American market should give serious consideration to the advantages of a Canadian location, as an access to the North American markets.

## 1.2 THE CANADIAN PRESENCE IN THE NORTH AMERICAN MARKET

### 1.2.1 The Major Regions

Canadian exports to the U.S.A. in 1984 exceeded Japanese exports to the U.S.A. by almost 18%. The integration of the Canadian and U.S. markets can be seen clearly in the development of four regional north-south markets - the Atlantic, the midwest, the prairie and the west coast - which together purchased some \$79 billion of Canadian goods and services, or 95% of total Canadian exports to the U.S.A. in 1984. These figures represent the extent of the Canadian presence in the North American market (See Table 4).

# DISTANCE FROM THE CANADIAN BORDER

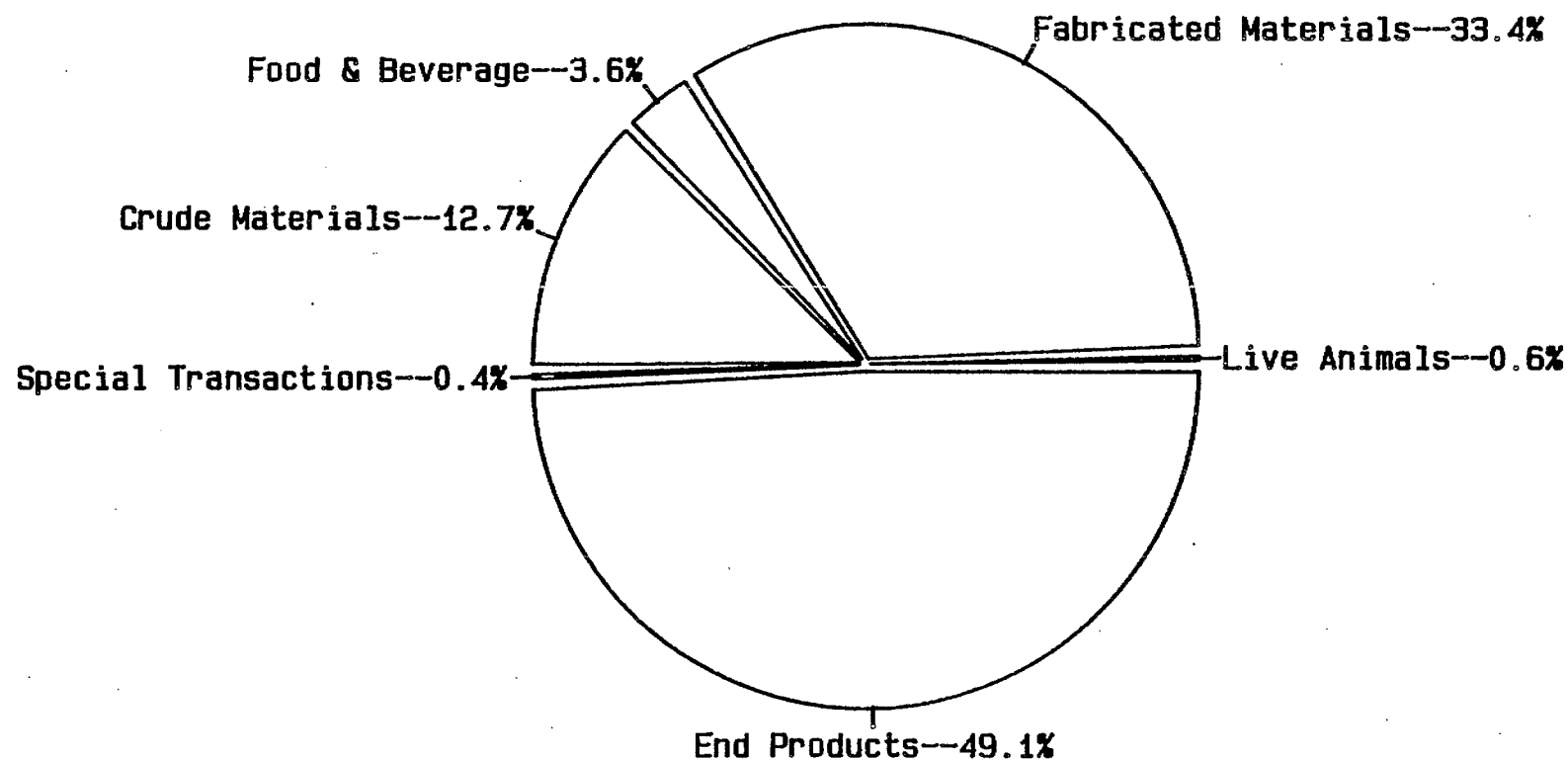


 AREA WITHIN ONE DAY'S TRUCKING

 AREA WITHIN TWO DAY'S TRUCKING



# *Domestic exports to U.S., by product - 1984*



Total Exports to U.S.  
(\$82.7 billion) - 1984

Source: Statistics Canada

Investment Canada  
Sept. 30, 1985  
AH195530.RL

TABLE 4

DOMESTIC EXPORTS TO U.S.A., BY REGION AND PRODUCT - 1984

	<u>U.S.A.</u>				
	<u>Atlantic</u>	<u>Midwest</u>	<u>Prairie</u>	<u>West Coast</u>	<u>Other</u>
	(\$ millions)				
Live Animals	63	108	178	108	4
Food, Beverages & Tobacco	1,840	645	116	348	34
Crude Materials, Inedible	2,101	2,967	3,057	2,255	187
Fabricated Materials, Inedible	13,364	8,109	2,282	2,711	1,244
End Products, Inedible	12,167	22,692	1,917	2,198	1,776
Special Transactions *	32	30	24	41	199
<b>Total Domestic Exports</b>	<b>29,567</b>	<b>34,551</b>	<b>7,574</b>	<b>7,661</b>	<b>3,444</b>
 From: Atlantic Canada	 2,574	 141	 28	 43	 90
Central Canada	24,011	29,945	2,350	2,272	2,606
Prairie Canada	1,687	3,818	4,691	2,600	289
Pacific Canada	1,295	647	505	2,746	459

\* Includes non-reusable packaging and contractors' tools and equipment which are intended to return to Canada upon completion of a project.

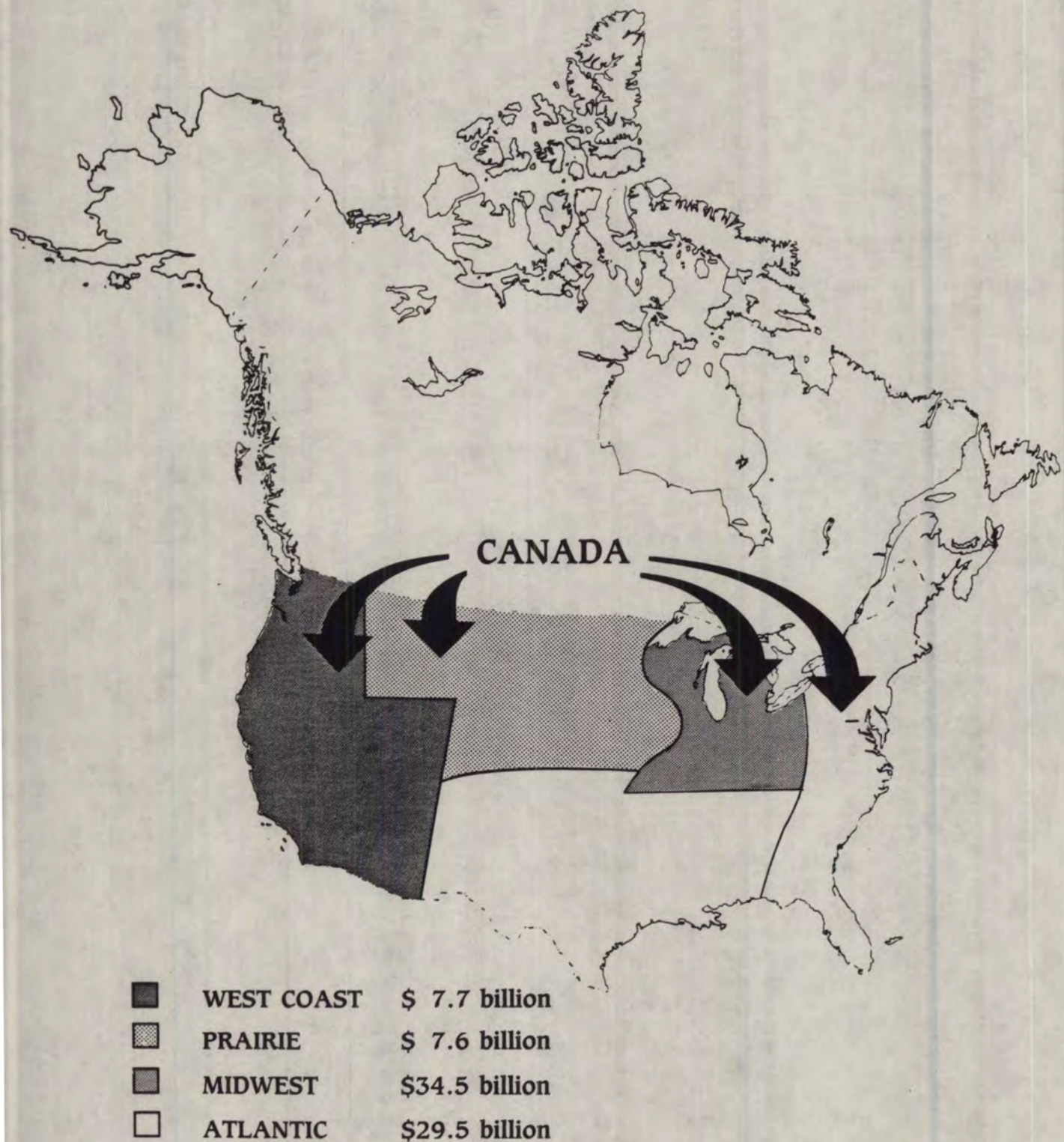
Source: Statistics Canada

1.2.1.1 The U.S. Atlantic Region

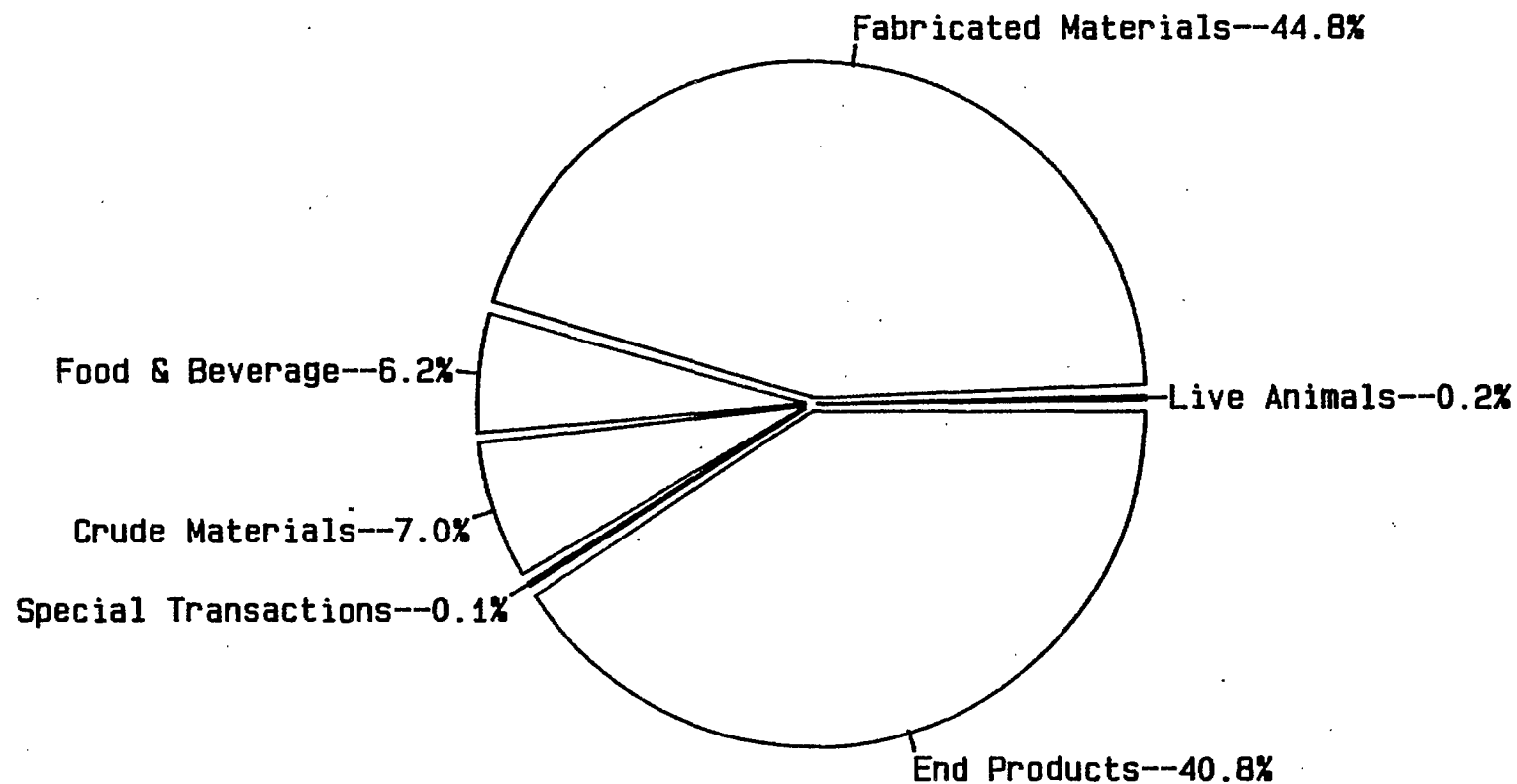
Overview and Industrial Base

The Atlantic region of the U.S., extending from Maine to Florida, has a varied industrial and commercial economy, including the high technology industries of Massachusetts, the financial and commercial service industries of New York City and the oil refining, petrochemical, steel, and defense industries of Pennsylvania, Delaware and Maryland. It also has a population of over 63 million that enjoys one of the highest standards of living in the world today. From central Canada, much of this region is accessible within one day by truck and rail (see Figure 2) and within 2-3 hours by air. From Atlantic Canada, marine freight and truck provide quick and efficient access.

# PENETRATION OF U.S. REGIONAL MARKETS 1984

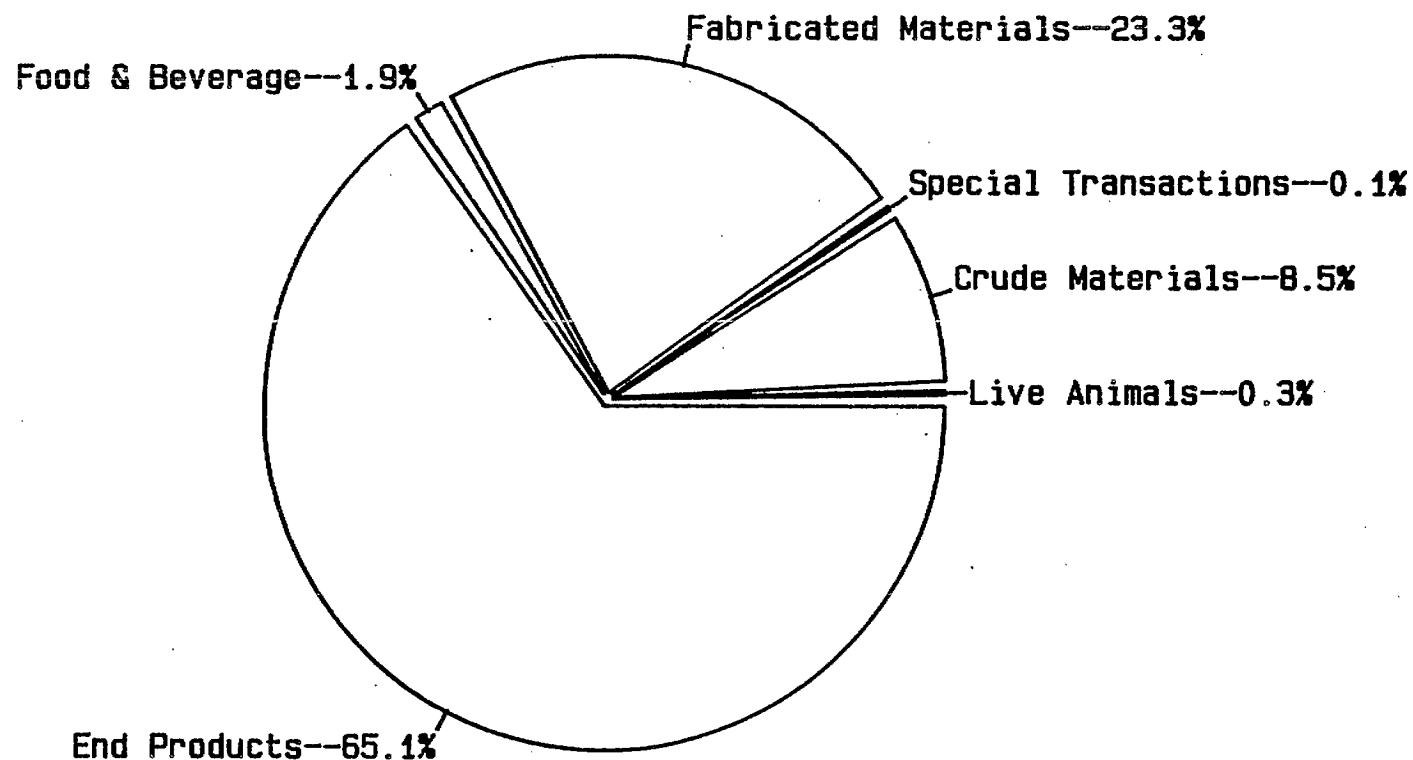


*Domestic exports to Atlantic U.S.,  
by product - 1984*



Total exports to Atlantic U.S.,  
(\$29.6 billion) - 1984

*Domestic exports to Midwest U.S.,  
by product - 1984*

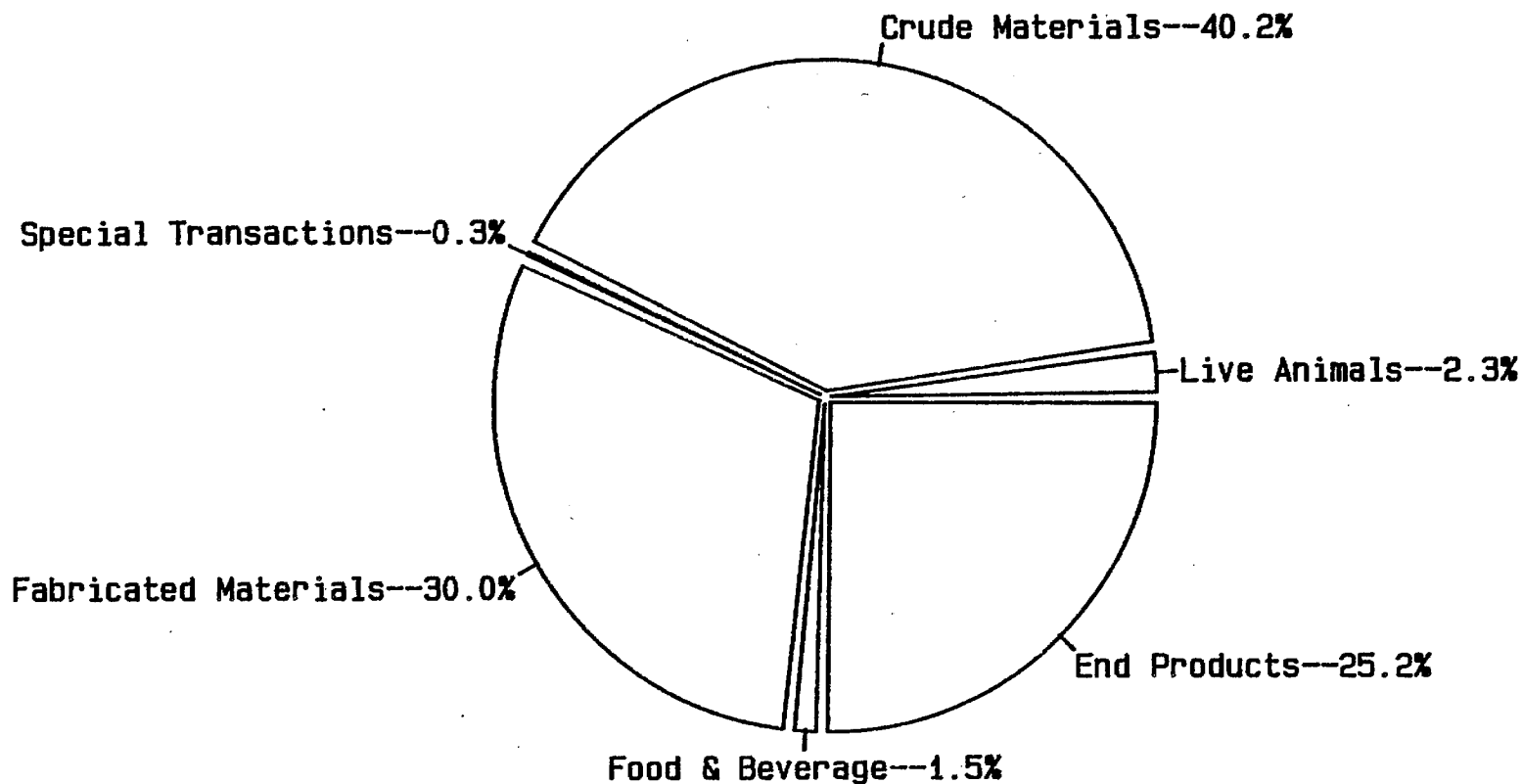


Total Exports to Midwest U.S.  
(\$34.6 billion) - 1984

Source: Statistics Canada

Investment Canada  
Sept. 30, 1985  
AHI34530.RL

*Domestic exports to Prairie U.S.,  
by product - 1984*

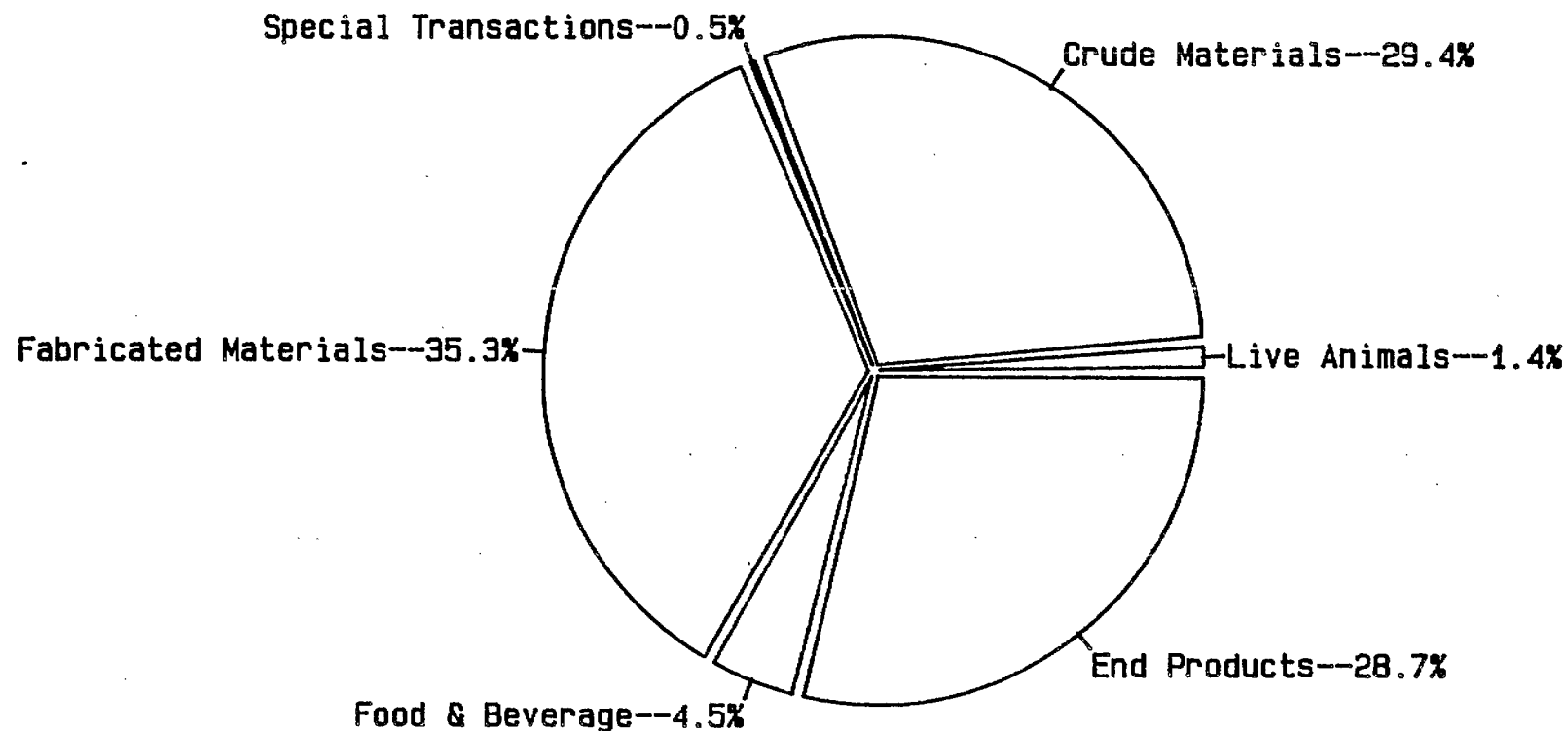


Total Exports to Prairie U.S.  
(\$7.6 billion) - 1984

Source: Statistics Canada

Investment Canada  
Sept. 30, 1985  
AH135530.RL

*Domestic exports to West Coast U.S.,  
by product - 1984*



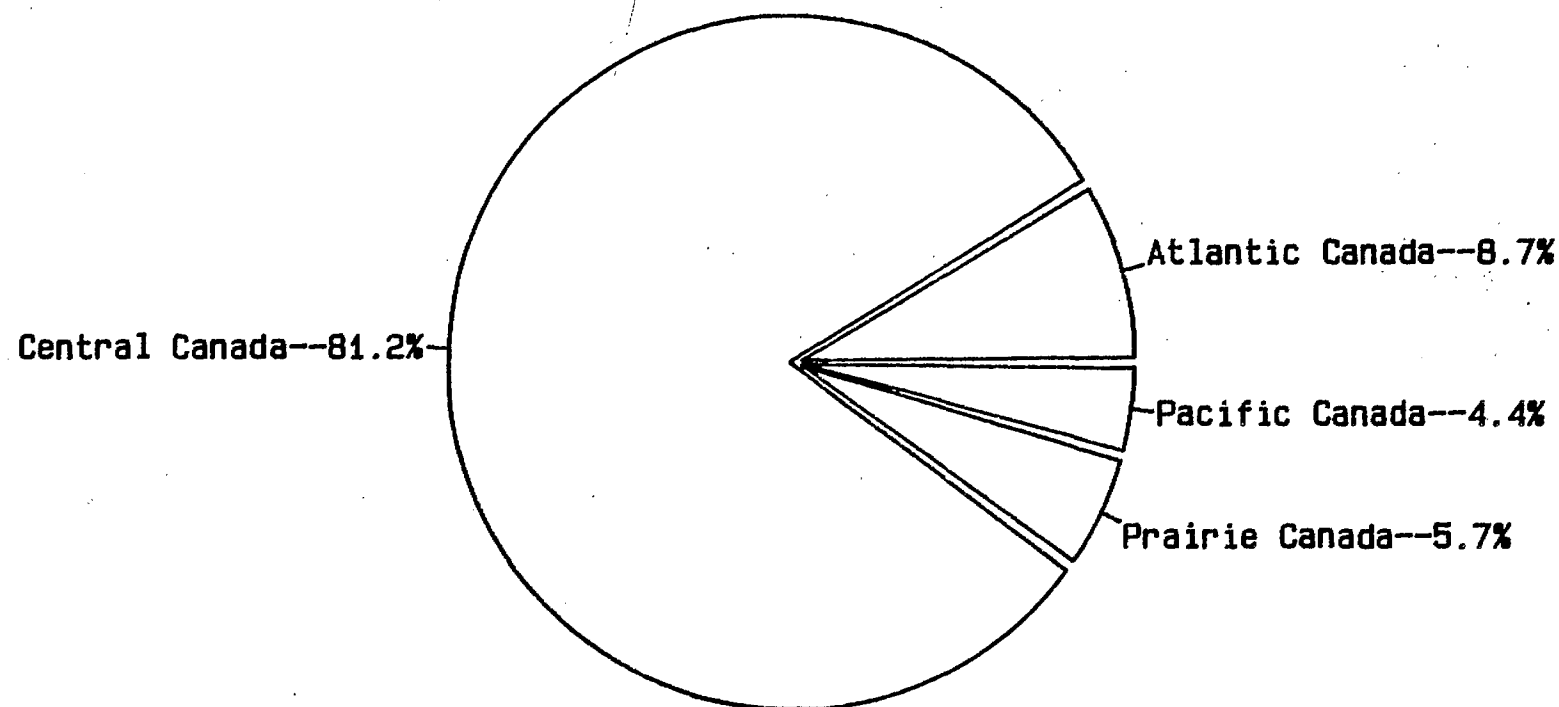
Total Exports to West Coast U.S.  
(\$7.7 billion) - 1984

Source: Statistics Canada

Investment Canada  
Sept. 30, 1985  
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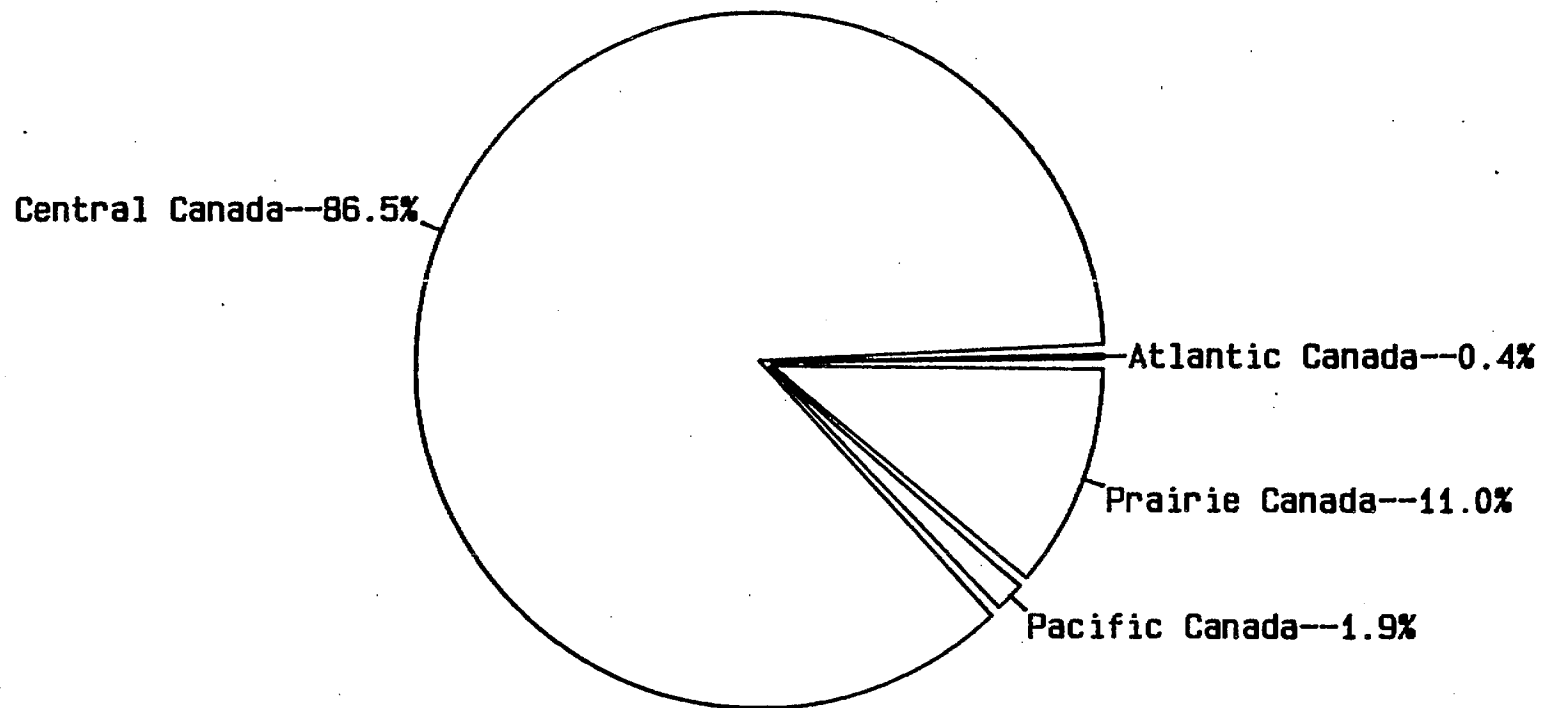


*Exports by Canadian region  
to Atlantic U.S. - 1984*



Total Exports to Atlantic U.S.  
(\$29.6 billion) - 1984

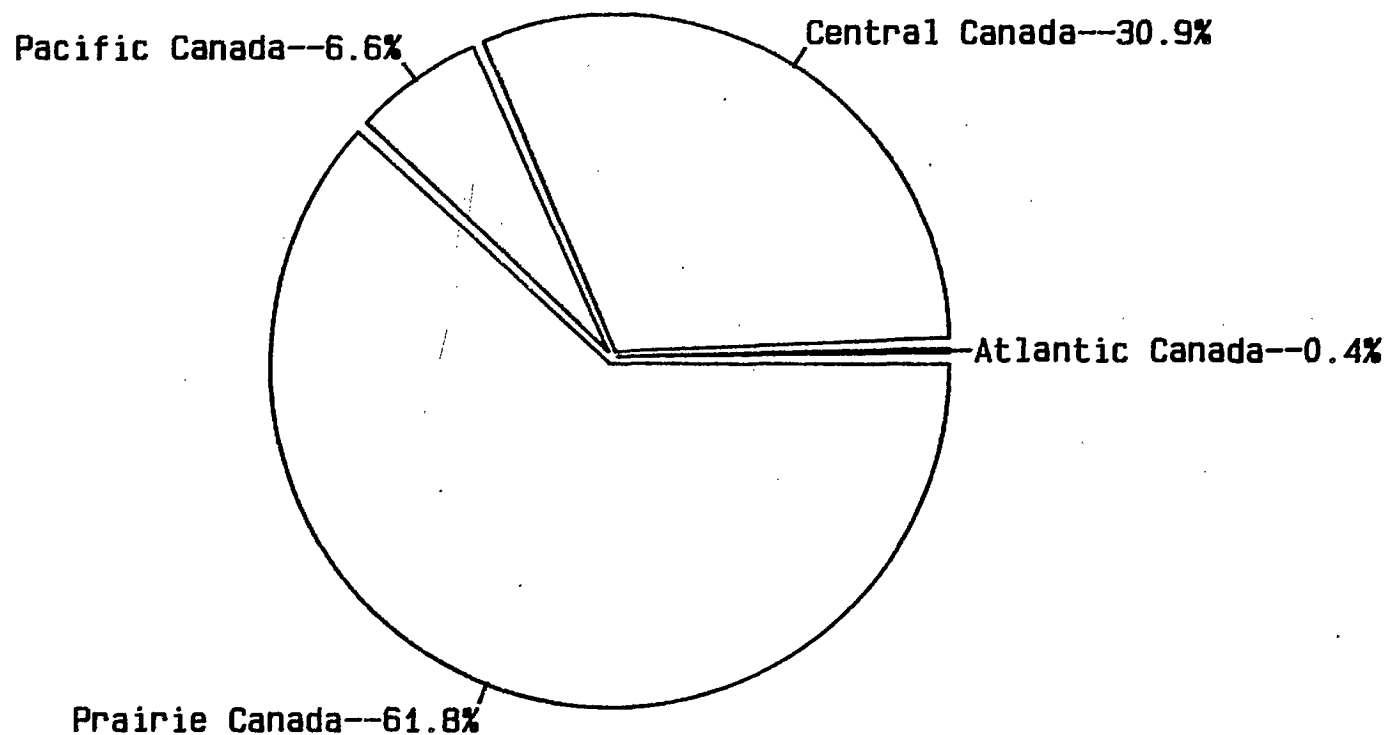
*Exports by Canadian region  
to Midwest U.S. - 1984*



Total Exports to Midwest U.S.  
(\$34.6 billion) - 1984

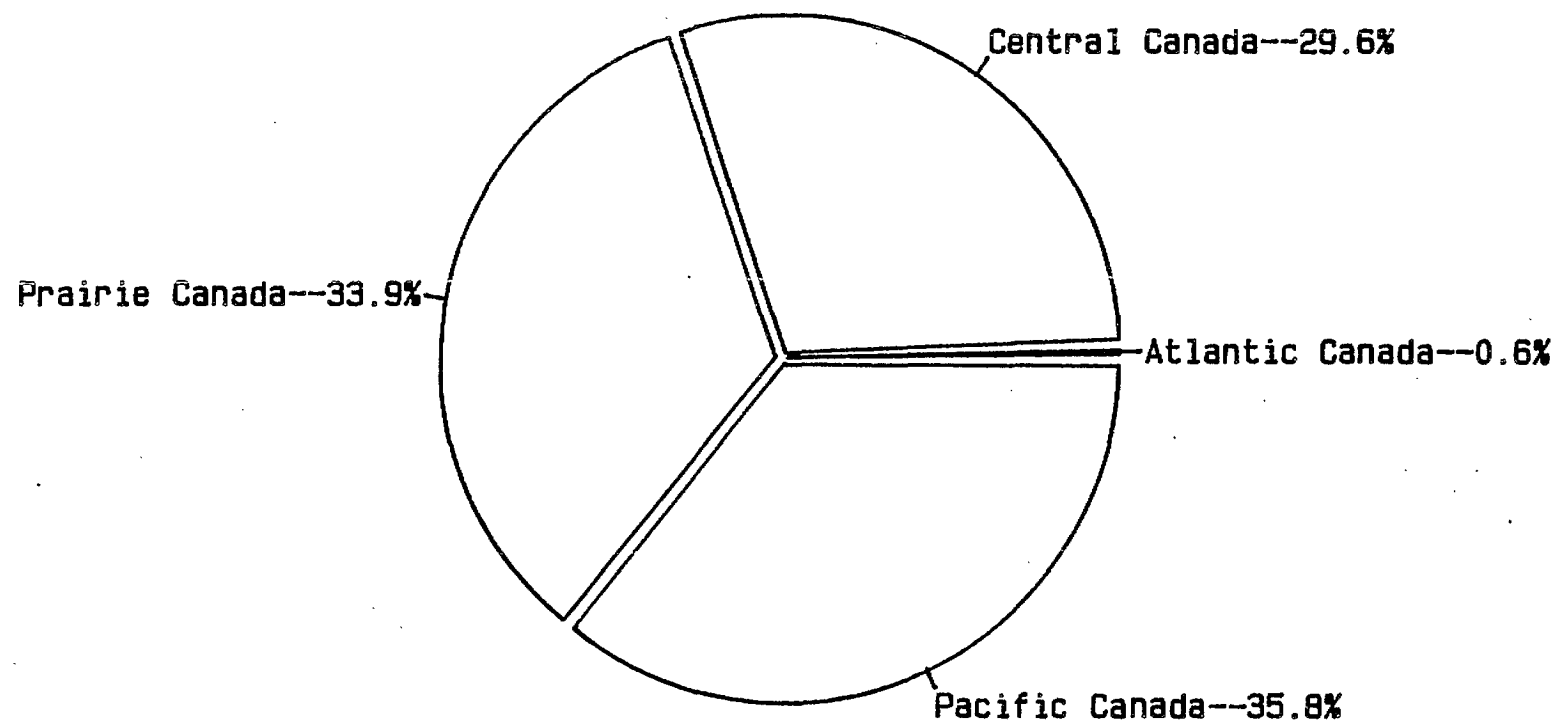
Investment Canada  
Sept. 30, 1985  
AHI70530.RL

*Exports by Canadian region  
to Prairie U.S. - 1984*



Total Exports to Prairie U.S.  
(\$7.6 billion) - 1984

*Exports by Canadian region  
to West Coast U.S. - 1984*



Total Exports to West Coast U.S.  
(\$7.7 billion) - 1984

Source: Statistics Canada

Investment Canada  
Sept. 30, 1985  
AH171530.RL

### Canadian Penetration

Total Canadian exports to the region in 1984 were some \$29.6 billion, of which some \$18.5 billion were destined for New York, New Jersey and Pennsylvania. These exports consisted mainly of industrial machinery, transportation equipment and consumer goods (\$8.2 billion), and fabricated materials (\$7.8 billion). Central Canada supplied the Atlantic region with some \$24 billion of the goods and services, while Atlantic Canada supplied \$2.5 billion (approximately 90% of the latter region's exports to the U.S.A.).

#### 1.2.1.2 The U.S. Midwest Region

##### Overview and Industrial Base

This region has a population of 46 million. It includes the States of Ohio, Michigan, Illinois, Indiana, Wisconsin, Kentucky and Tennessee. It has a varied economic base which includes agriculture, manufacturing, mining and service industries. This region includes the second largest urban market in the U.S.A. (Chicago, Illinois). Fully two-thirds of the total GNP of the U.S.A. is produced within an 800 kilometer (500 mile) radius of Illinois and this state is second only to New York as headquarters location for Fortune 500 companies. Illinois is the centre of the largest industrial market and the second largest consumer market in the U.S.A. Major industries concentrated in Illinois include primary and secondary metals, industrial and farm equipment, electrical equipment and appliances, electrical components, food processing and printing equipment. In addition, agriculture is important, and soybeans, corn, dairy products and hogs are major products. The region also includes the Detroit metropolitan area, the headquarters of the automobile industry in the U.S.A. This industry accounts for roughly 40% of the total manufacturing activity of the region. Other major manufacturing sectors include machine tools, foundry products, metal stampings, drugs and chemicals.

##### Canadian Penetration

This region purchased \$34.5 billion in goods and services from Canadian-based companies. Of this total, central Canada supplied almost \$30 billion, the Prairies supplied \$3.8 billion, and the Maritimes and British Columbia the balance. Transportation equipment made up \$20.6 billion (or 60%) of total exports to the Midwest, and inedible fabricated materials accounted for a further \$8.1 billion (or 23.5%).

### 1.2.1.3 The U.S. Prairie Region

#### Overview and Industrial Base

This region (Idaho, Montana, The Dakotas, Minnesota, Iowa, Nebraska, Wyoming, Kansas and Missouri), is the smallest of the 4 regional markets for Canadian exports, with \$7.6 billion in exports and a population of slightly over 16 million. The industrial activities of Minnesota and Iowa dominate others of the region. Minnesota is one of the most affluent states in America (1981 per capita income, \$10,280), and it is rich in natural resources, agriculture and high technology industries. In addition, its diversified economy includes a wide variety of manufacturers of machinery, fabricated metal products, food products, primary metals and chemicals. In the resource field, Minnesota has about 63 percent of the nation's iron ore mines which are located near the Canadian border. Forest lands covering the northern portion of the state supply a significant pulpwood, paper and lumber industry.

Agribusiness is a key industry in Minnesota and Iowa. Minnesota's food processing giants include General Mills, Pillsbury, International Multifoods and Green Giant Company. Approximately eight of ten workers in Iowa depend directly or indirectly on agriculture for employment. Manufacturing activities in Iowa consist mainly of food processing, agricultural machinery manufacturing and wood products production.

Industry has been slow to develop in the Dakotas, Montana, Idaho and Wyoming. The remoteness from major markets and the resulting high costs of transportation, together with the small size of the labour force, has lessened the area's appeal as an attractive location for manufacturing firms. The pre-eminent industries are those involved in the processing of raw materials from farms, forests and mines. Food processing, lumber and wood products, smelting and mining of ferrous metals and the oil refining industries account for the majority of economic activity.

#### Canadian Penetration

As outlined in Table 2, the Prairie provinces were the major Canadian exporters to the region, supplying some \$4.7 billion in goods and services, while central Canada supplied approximately \$2 billion, and Pacific Canada some \$500 million. Inedible crude materials made up \$3 billion of the exports, while inedible fabricated materials and inedible end products made up \$2.3 billion and \$1.9 billion, respectively.

1.2.1.4 The U.S. West Coast Region

Overview and Industrial Base

The west coast region, which runs south from Alaska to California, and as far east as New Mexico in the south, is a large geographical territory with an affluent population of more than 40 million. California is the most dominant economic force in the region, with heavy emphasis on the aerospace, electronics and film production industries, not to mention the highest agricultural output of any state.

California is in the heart of the American aerospace industry. It receives about 20% of the total U.S. defence procurement dollar, and about one-third of all research and development contracts. The National Aeronautics and Space Administration directs half of its expenditures to California. In addition, aeronautical manufacturers, including Douglas, Northrop, Lockheed, General Dynamics, Rockwell, Boeing and Grumman are located in California, as are a wide variety of aeronautical suppliers. The Canada-U.S. Defence Production Sharing Agreement, and offset obligations resulting from Canadian Armed Forces procurements, presents a significant opportunity for qualified Canadian-based suppliers of high-precision, mechanical, electrical and electronic components and assemblies.

The electronics industry has experienced significant growth in San Francisco, Los Angeles, and San Diego. The industry has also expanded to Arizona where Phoenix houses some manufacturers such as Motorola, Honeywell, ITT, Intel and Digital Equipment. With the development of new, more sophisticated electronic systems, these markets are expected to grow significantly over this decade. It is anticipated that the growth markets will be medicine, banking, satellite communications networks and consumer electronics. Expansion will also be felt in the areas of computers/communications and software technology. An even more rapid growth is predicted in the semi-conductor industry.

The mainly primary-resourced economy of Washington and Oregon in recent years has generally reflected the recession in the United States, although there has been some diversification of the employment base into secondary manufacturing. While the Boeing Company's local employment level has swollen to 80,000, its

relative position has declined. The strength of the two states has come from the electronics sector, road and rail transportation equipment, construction equipment, marine industries (commercial and recreational) and food processing.

Manufacturing has played an important role in Utah and Colorado for the past 15 years. The structure of this industry has changed greatly, evolving more and more towards sophisticated sectors like military/space equipment, electronics and pharmaceuticals. Agriculture remains an extremely important industry for Colorado and Utah, as the requirement for farm products grows, both domestically and abroad.

#### Canadian Penetration

Exports of \$7.7 billion in 1984 were almost equally split among inedible crude materials (\$2.3 billion), inedible fabricated materials\* (\$2.7 billion) and other inedible end products\*\* (\$2.2 billion). British Columbia generated the highest level of export trade with \$2.7 billion, followed closely by the Prairie provinces with \$2.6 billion, and Ontario with \$1.9 billion (see Table 2).

### 1.3 CANADA: THE GATEWAY TO THE NORTH AMERICAN MARKET

#### 1.3.1 The Canadian Location

Proximity, time zones, and common linguistic and cultural ties have combined to create several regional economic markets in North America that follow a north-south flow. Over the last 100 years the natural community of interest between populations north and south of the border has resulted in the growth of a North American market, in which Canada and the U.S.A. have become each other's best customer. Exports to the U.S.A. account for almost 75% of total Canadian exports. Similarly, over 70% of Canadian imports are sourced in the U.S.A.

Many people in border cities like Niagara Falls, Buffalo, Windsor and Sault St. Marie cross over daily in their travel to and from their work place. Canadian or U.S. residents do not require visas or passports. The pull of proximity is doubly strong in the absence of cultural or linguistic barriers. We should not forget that Toronto is closer than Chicago to Detroit; that Montreal is closer than Pittsburgh to New York City; that Winnipeg is closer than Cincinnati to Minneapolis; and that Vancouver is closer than Denver to San Francisco.

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\* Including wood, textiles, plastics and minerals, but not in end product form (i.e. not as furniture, clothing, etc.)

\*\* Finished manufactured goods, such as machinery, clothing, furniture, etc.



### 1.3.2 North American Market

Today there is both a Canadian market and a U.S. market, as well as a combined North American market composed of 6 regional markets, of which 4 are adjacent to the Canadian border and the major urban markets of Canada. In 1984, the Atlantic region absorbed over \$29 billion of Canadian exports; the midwest region absorbed over \$34 billion; the Prairie region absorbed over \$7 billion; and the western region absorbed almost \$8 billion. These four regional North American markets absorbed \$79 billion, or 95% of total exports to the U.S.A., in 1984 (see Fig 3). Trade (exports and imports) flowing north and south of the border within these regions totals almost \$150 billion, and is forecast to increase in future years.

### 1.3.3 Development of Duty-Free Trade

In recent years, the north-south flow of goods within the North American regional markets has grown substantially, partially as the result of bilateral agreements such as the Canada-U.S. Autopact, and the Canada-U.S. Defence Development and Defence Production Sharing Arrangement. These two agreements essentially remove all tariff and non-tariff barriers on Canadian-manufactured auto products and defence-related equipment entering the U.S.A. As well, Canada and the U.S.A. are both signatories to, and supporters of, the General Agreement on Tariffs and Trade (GATT) which has provided a multilateral forum and agenda for the removal of tariff barriers. Under existing GATT Agreements, by 1987, approximately 80% of Canada's exports to the U.S. will be duty-free, and an additional 10% of Canadian exports will carry a duty of less than 5%. In essence, tariffs raise few, if any, barriers to Canadian exports to the U.S.A. However, in recognition of Canada's narrower manufacturing base, tariffs on imports of manufactured goods from the U.S.A. will fall to a general level of 10% by 1987.

### 1.3.4 Accessing the North American Market Through Joint Ventures and Licencing

Over the years, Canadian-based businesses have gained significant knowledge of the North American market through a combination of technological leadership and/or investment in marketing and distribution systems. Among the most prominent are such companies as Northern Telecom and Mitel in telecommunications; McCain Foods and the Weston Group in food processing and distribution; Genstar and McMillan-Bloedel in building products; and Olympia and York and Cadillac-Fairview in real estate development. In addition, non-Canadian controlled companies are increasingly accessing the North American market through the Canadian gateway. In the automotive parts sector, such companies

as Michelin Tire, Volkswagen, Toyota and Hyundai have all established plants in Canada to manufacture parts for North American or world markets. In the expanding office automation sector, such non-Canadian companies as Philips, through its subsidiary Micom, and Xerox, as well as Canadian companies such as AES, are manufacturing in Canada for North American and world markets.

The development of such North American market expertise and/or leadership in technology are especially important in light of the fact that the emerging trend among many investors is a move towards more flexible and pragmatic forms of market access, such as joint ventures and licencing agreements. While such arrangements are not new, they are increasingly common throughout the western world. For example, in 1983, the number of joint ventures in the U.S.A. had increased by more than 75% over the number recorded in 1980. As product development costs soar, as the term of product cycles shrink, as cost advantages become more pronounced, and as greater numbers of firms forsake purely domestic markets to compete in world markets, investors are increasingly seeking ways to more quickly penetrate large markets and lower the costs and the risks of doing so. As a result, the establishment of wholly-owned subsidiaries to accomplish these missions is losing favour, and joint venture and licencing arrangements with domestic firms with complementary technology and well-established distribution systems are becoming increasingly common. Examples such as joint ventures between AT&T and C. Olivetti Ing., AT&T and Philips, and L.M. Ericsson and Honeywell, to jointly develop, manufacture and market each other's products are becoming increasingly more common. With merging technologies, corporations are learning that it is often more advantageous to develop international standards in co-operation with manufacturers of peripheral equipment to ensure compatibility and wide market acceptance, rather than attempting to serve by themselves all the equipment needs of the users. For example, Northern Telecom together with Sperry-Univac, Digital Equipment Corporation and others have agreed to develop their differing products using the same technology to ensure compatibility.

Today, in an environment of scarce resources, rapid rates of technological change, and massive capital requirements for technical development and marketing, joint ventures are increasingly finding favour among international investors. Canada is attractive to foreign licensors for a variety of reasons. First, Canada does not require any registration or public disclosure of licences; secondly, exclusive licences, which are prohibited by many countries, are not prohibited in Canada; thirdly, Canada does not have exchange controls or other restrictions on the payment of royalties; and fourthly, Canadian licence agreements are treated as any other commercial contract, and benefit from the well-defined and long-established legal rights that such contracts have won in the courts of law.

Consequently, numerous opportunities exist today for emerging international corporations to access the North American market rapidly and inexpensively through joint ventures or licence arrangements with Canadian businesses that have well-developed North American market expertise and/or market recognition as purveyors of high-quality and advanced technology equipment and services. Among the many examples of such arrangements are the recent announcements by Magna International Inc., Fleet Aerospace Corporation, Denison Mines Limited, Fathom Oceanology Limited and others to form joint ventures with non-Canadian corporations in varied sectors such as automotive parts manufacturing, helicopter manufacturing, coal mining and ocean research. Canadian corporations with expertise in advanced technologies and in knowledge of the North American market are ready to join forces with foreign investors and corporations to capitalize on this expertise.

#### 1.3.5 Advantages of a Canadian Location

A Canadian location offers many investors lower input costs that make exports of Canadian-manufactured goods and services very competitive in the thriving North American Market.

##### 1.3.5.1 The Industrial Base

Canada has a strong diversified industrial base. In 1984, its Gross National Product, at \$421 billion, was the 7th largest in the western industrialized world and on a per capita basis Canada ranked fourth in the western world. The Canadian economy is diversified; having developed from one based primarily on natural resources, Canada presently grows, develops, mines, processes, designs, manufactures or fabricates everything from communications satellites to disease resistant wheat, from advanced aircraft to strategic ores and metals, and from nuclear power stations to newsprint. Manufacturing is a large contributor to the country's annual output, but as in other highly advanced countries, there has been a shift in Canada from a predominantly goods-producing economy to a predominantly services-producing economy. Service industries such as finance, real estate, insurance and personal and business services, which now account for some 64 percent of the country's domestic output, have thus complemented the important role played by Canada's resource and manufacturing industries.

In 1984, Canada exported 31.2 percent of all its production and imported 30.8 percent of all the goods and services it consumes. By dollar value, Canada is

the western industrialized world's eighth most important trading nation and the U.S.A. is its most important trading partner. Other major trading partners include Japan, the U.K., the Federal Republic of Germany, France, and Italy. Similarly, Canadian businessmen are very active in South America, the Caribbean, Asia and Africa.

#### 1.3.5.2 Human Resources

Canada has a well-trained, adaptable and committed pool of human resources as well as an immigration policy which welcomes entrepreneurs and skilled professionals. In 1984, approximately 87% of the Canadian labour force had some secondary education, 36% has some post-secondary schooling and some 13% has community college diplomas or university degrees. As shown in Tables 5 and 6, Canada has more than half a million scientists, engineers and technologists working in various industry sectors. Some 80,000 Canadians graduate every year from Canadian universities with bachelor's and first professional degrees (see Table 7). In addition some 50,000 complete community college diploma work (see Table 8). The 1985 Report on International Competitiveness by the EMF Foundation ranks Canada fifth in the world (after the U.S.A., Finland, Japan and Switzerland) in terms of human resources. Canada ranks second, behind Sweden, in per capita public expenditure on education. To mention just a few examples, Canadians have researched, developed and produced many sophisticated, advanced technology systems such as word processors, cellular telephones and digital PABX systems.

TABLE 5

SCIENTISTS, ENGINEERS & TECHNOLOGISTS BY INDUSTRY, 1983

	<u>No.</u>	<u>%</u>
Agriculture	*	
Other Primary	29,000	5.6
Manufacturing	89,000	17.3
Construction	7,000	1.4
Transportation	48,000	9.3
Trade	15,000	2.9
Finance	15,000	2.9
Services	211,000	41.0
Public Administration	95,000	18.5
Unclassified	6,000	1.2
Total	515,000	100.0
* Less than 500.		

Source: Statistics Canada,  
Science and Technology Indicators 1984.

TABLE 6

SCIENTISTS, ENGINEERS AND TECHNOLOGISTS BY OCCUPATIONAL GROUP, 1983

<u>Natural Sciences and Engineering</u>	378,000
Physical sciences	47,000
Life sciences	29,000
Engineering and Architecture	220,000
Mathematics, statistics and systems analysis	82,000
<u>Social Sciences and Humanities</u>	<u>137,000</u>
TOTAL	515,000

Source: Statistics Canada,  
Science and Technology Indicators 1984

TABLE 7

BACHELOR'S AND FIRST PROFESSIONAL DEGREES AWARDED

	1983	
	<u>No.</u>	<u>%</u>
<u>Natural Sciences and Engineering</u>	23,058	29.1
Agriculture & Biological Sciences	4,915	6.2
Engineering & Applied Sciences	7,225	9.1
Health Professions	6,051	7.6
Mathematics & Physical Sciences	4,867	6.1
 <u>Social Sciences and Humanities</u>	 56,288	 70.9
Education	15,883	20.2
Humanities	11,471	14.5
Social Sciences	28,934	36.5
 TOTAL	 79,346	 100.0

Source: Statistics Canada,  
Science and Technology Indicators 1984

TABLE 8

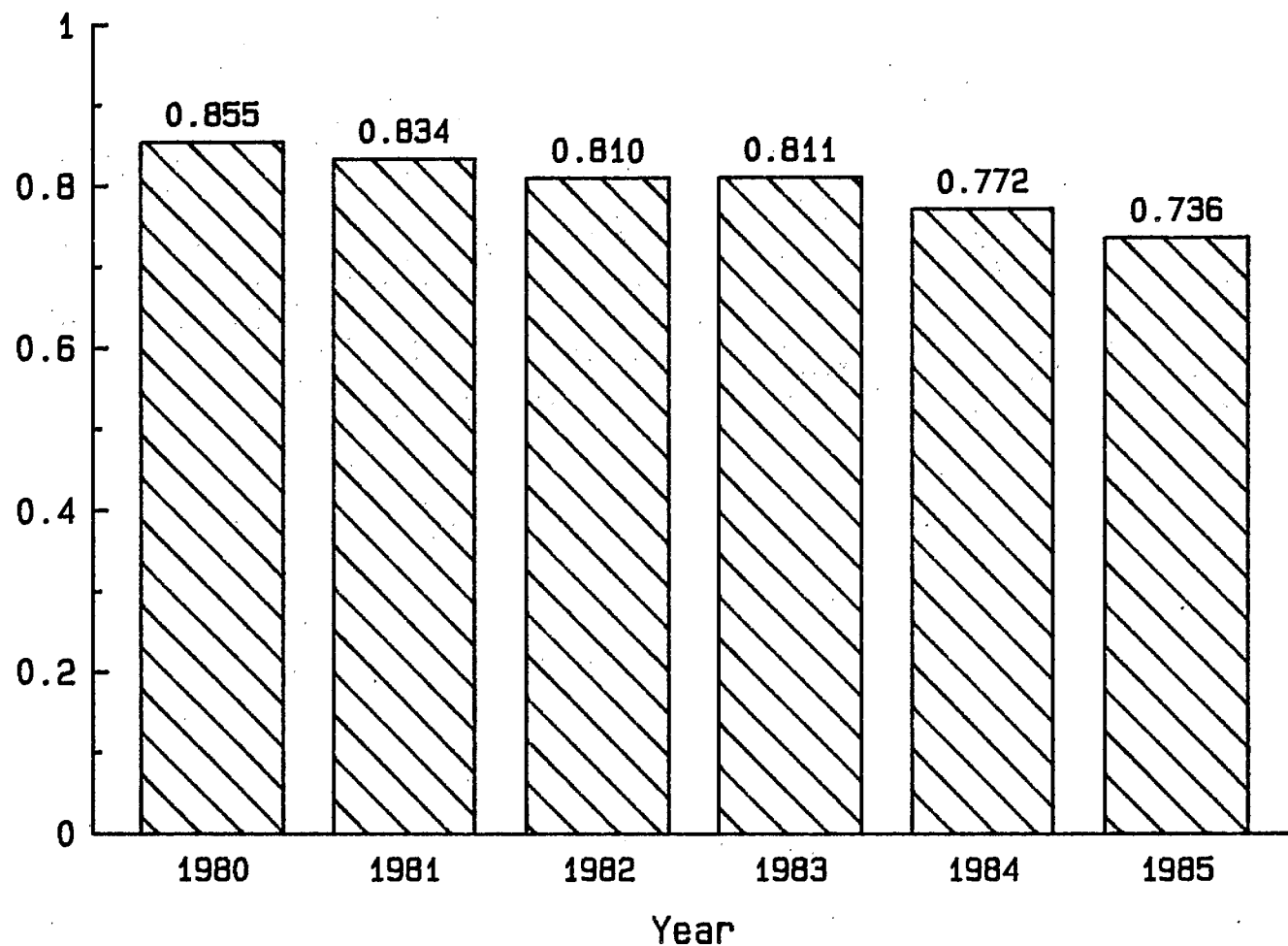
COMMUNITY COLLEGE DIPLOMAS AWARDED IN  
CAREER PROGRAMS, 1982

<u>Field of Study</u>	<u>Diplomas</u>
Business	13,141
Data Processing & Computer Science	2,293
Architecture & Engineering	9,229
Medical Services	9,508
Social Services & Education	6,792
Other	9,031
 TOTAL	 49,994

Source: Statistics Canada,  
Education in Canada.

*Exchange rates*  
*\$ U.S. paid per \$ Canadian*

\$U.S. paid per \$Canadian

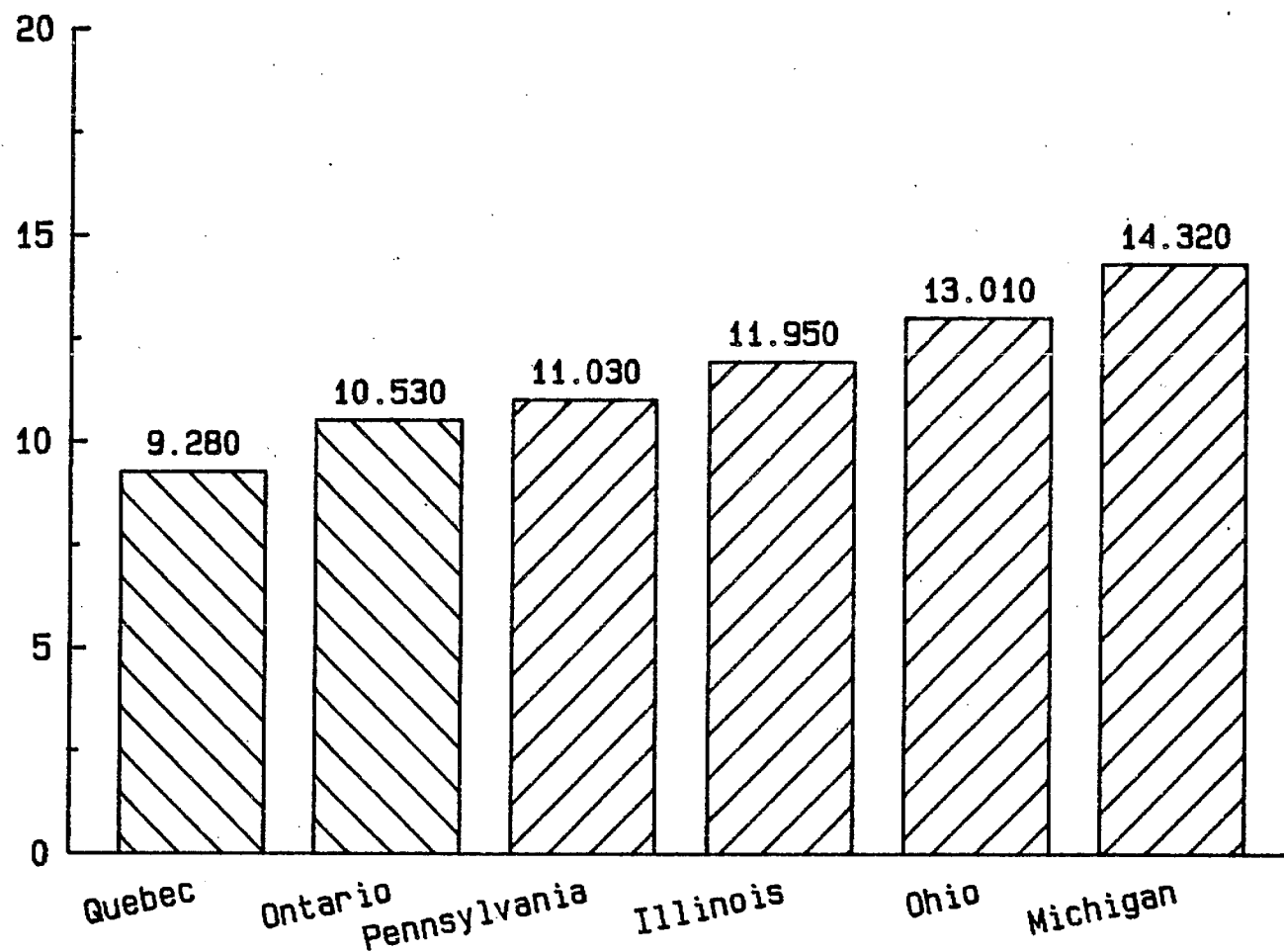


Source: Bank of Canada

Investment Canada  
October 1, 1985  
AHJ95001.RL

*Average hourly earnings in manufacturing  
1983  
(in \$ Canadian)*

Average Hourly Earnings - Manufacturing (\$Can)



Source: Ontario Ministry of Industry,  
Trade and Technology

Investment Canada  
October 1, 1985  
AHJ95801.RL



1.3.5.3 Exchange and Labour Costs

The steady devaluation of the Canadian dollar vis-à-vis the U.S. dollar has tended to increase the level of north-south trade in recent years. Currently, the Canadian dollar has only 73% of the value of a U.S. dollar. Many forecasters do not see the Canadian dollar rising over 75 cents U.S. in the near future. This has reduced comparative labour costs and other input costs. While nominal Canadian labour costs often appear comparable to U.S. labour costs, once the exchange rate is computed, the labour costs in Canada are significantly lower than neighbouring U.S. states. In addition, the government-supported health care system and pension plans in Canada can mean a reduction in employee benefit costs of approximately 5% in Canada over many U.S. locations. For example, a study on labour costs for manufacturers in 1983 showed that the average cost of labour in Ontario was only \$10.53 and in Quebec \$9.82, compared to average costs in Michigan of \$14.32, \$13.01 in Ohio, \$11.95 in Illinois and \$11.03 in Pennsylvania. This does not include the cost of fringe benefits.

1.3.5.4 Technical Infrastructure

Canada has developed a technical infrastructure which is specifically oriented towards advanced technology industries. Advanced technology companies located in Canada have access to one of the world's best telecommunications systems. Canadian universities are working in close cooperation with industry to undertake research in a broad range of disciplines and to diffuse the results to industry for further development and implementation.

A number of critical mass areas (geographic concentrations of scientific, technical, entrepreneurial and financial expertise related to various disciplines such as biotechnology, communications and electronics) have emerged across Canada. These critical mass areas are characterised by a motivated and highly-educated population. Second, there is an atmosphere of higher learning and a willingness on the part of the university to actively participate with industry and talented individuals to conduct research in a variety of fields. A third factor is the supportive environment provided by the government, at all levels, so that entrepreneurs are encouraged to undertake high risk ventures. This

supportive environment includes the establishment of laboratories, creation of incentives, write-offs and other tax breaks to help alleviate the high risks and costs of advanced technology research. Fourth, there is an adequate source of capital and entrepreneurial spirit, combined with experienced and talented risk-taking managers who understand the nature of the industry and who are capable of guiding a company from its embryonic state to a successful business enterprise.

#### The Role of Universities

For example, the University of Waterloo (U.O.W.) is one of the top computer science centers in North America, and is at the leading edge of high technology research, working in close cooperation with business and industry to develop new products and processes. U.O.W. has developed its own industrial area on campus, known as Research Technology Park, which encourages companies to establish next to this major university research center. Over the last few years, U.O.W. has spawned some 50 advanced technology companies, and recently, Hewlett Packard has moved its research and development facility from Toronto to U.O.W.'s Research Technology Park.

Another example is Ottawa and its satellite cities of Gloucester, Nepean and Kanata. Ottawa, building on the success in the 1970s of such firms as Bell Northern Research and Mitel, has become "Silicon Valley North" with more than 400 advanced technology firms. Carleton University and the University of Ottawa, two first-class educational institutions with excellent scientific and technical capabilities, support the area's microelectronics industry. The universities and the headquarters of the national Government ensure an excellent supply of qualified scientific and managerial personnel, which has attracted high-risk capital and similarly qualified entrepreneurs.

Still another example is Calgary, with at least 150 high-tech companies. Approximately two-thirds of Alberta's advanced technology companies are located there, and one-seventh of the world's seismic industry is based in Calgary. In 1981, the Calgary Research and Development Authority (CRDA) was established, a tripartite agency (City of Calgary, Chamber of Commerce and the University of Calgary) with the mandate of diversifying Calgary's economy by fostering the growth and development of an advanced technology industry. Calgary's two research parks, one owned by the University and the other by the City of Calgary, help to stimulate the growth of the industry in the area.

#### 1.3.5.5 Lower Energy Costs

Labour costs are not the only input costs which are significantly lower in Canada than in the U.S.A. Electrical power costs in Canada for industrial users averaged \$3.41 per hundred kilowatt-hours in December 1984. A study of comparative industrial electricity rates in 1984 showed that the rates in Toronto, Montreal and Vancouver were less than 25% of the comparable rate in New York City, which is fewer than 500 miles to the east, and less than half the rates in Los Angeles, Chicago and Dallas. Because Canada is rich in natural gas supplies and has a widespread distribution network, the cost of energy derived from natural gas is significantly lower in Canada than in the U.S.A. The average cost in Canada of natural gas in 1984 was \$3.62/million BTU for industrial users compared with an average cost of \$5.96/million BTU in the U.S.A. Rates in Toronto, Montreal and Vancouver were less than half those in Boston and Los Angeles and 20 percent less than in Dallas, located in a major gas producing area. In recent months, large industrial concerns such as Pechiney, Air Liquide and Gould Inc. have chosen to locate manufacturing operations in Canada to serve North American and world markets taking advantage of the lower cost of Canadian energy.

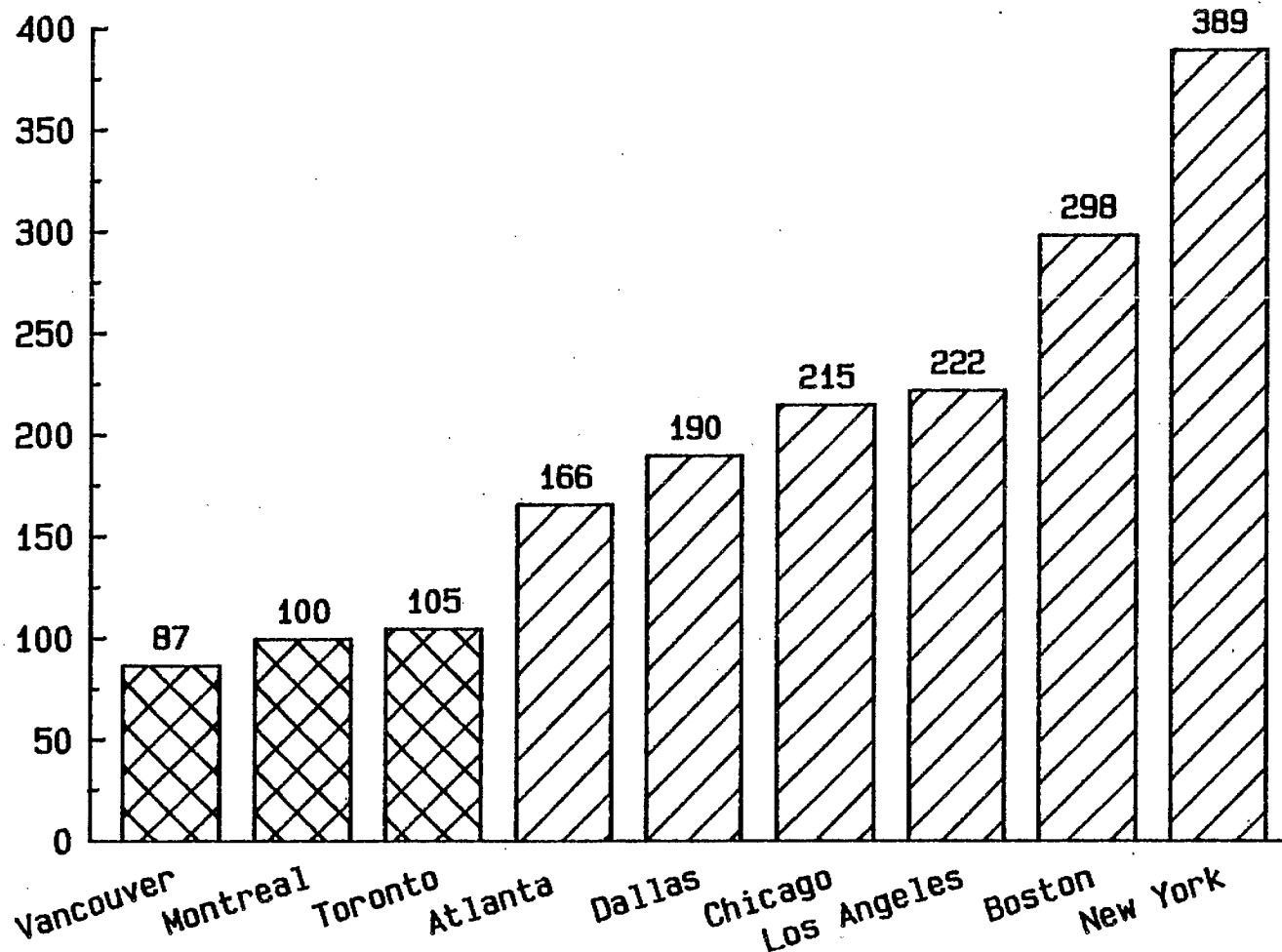
#### 1.3.5.6 Transportation and Communications Infrastructure

Canada has a sophisticated, efficient and reliable transportation and communications infrastructure. There are 151 airports, ten of which are international airports. Two transcontinental railroads, Canadian National and Canadian Pacific, serve the country from coast to coast, supplemented by a number of smaller, regional railroads; there are some 95,000 km (59,000 miles) of track. In 1983, some 221 million metric tonnes were shipped by rail in Canada.

Canada is bounded by the Pacific Ocean on the west, the Atlantic Ocean on the east, and the Arctic Ocean and Hudson Bay on the north. The Great Lakes and St. Lawrence Seaway system serve as a gateway to and from the North American interior. Canada has 25 deep water ports and some 350 smaller ports and government wharves. The ports of Montreal, Vancouver, Halifax and St. John are the prime container ports in Canada. Lesser numbers of containers are handled at Toronto, Hamilton, Quebec City, Trois-Rivières and St. John's. During 1983, a total of 178.4 million tonnes of merchandise was loaded and unloaded at Canadian ports.

*Comparative cost of electricity  
Canada vs U.S.  
1984*

Electricity Cost Ratio (Montreal=100)

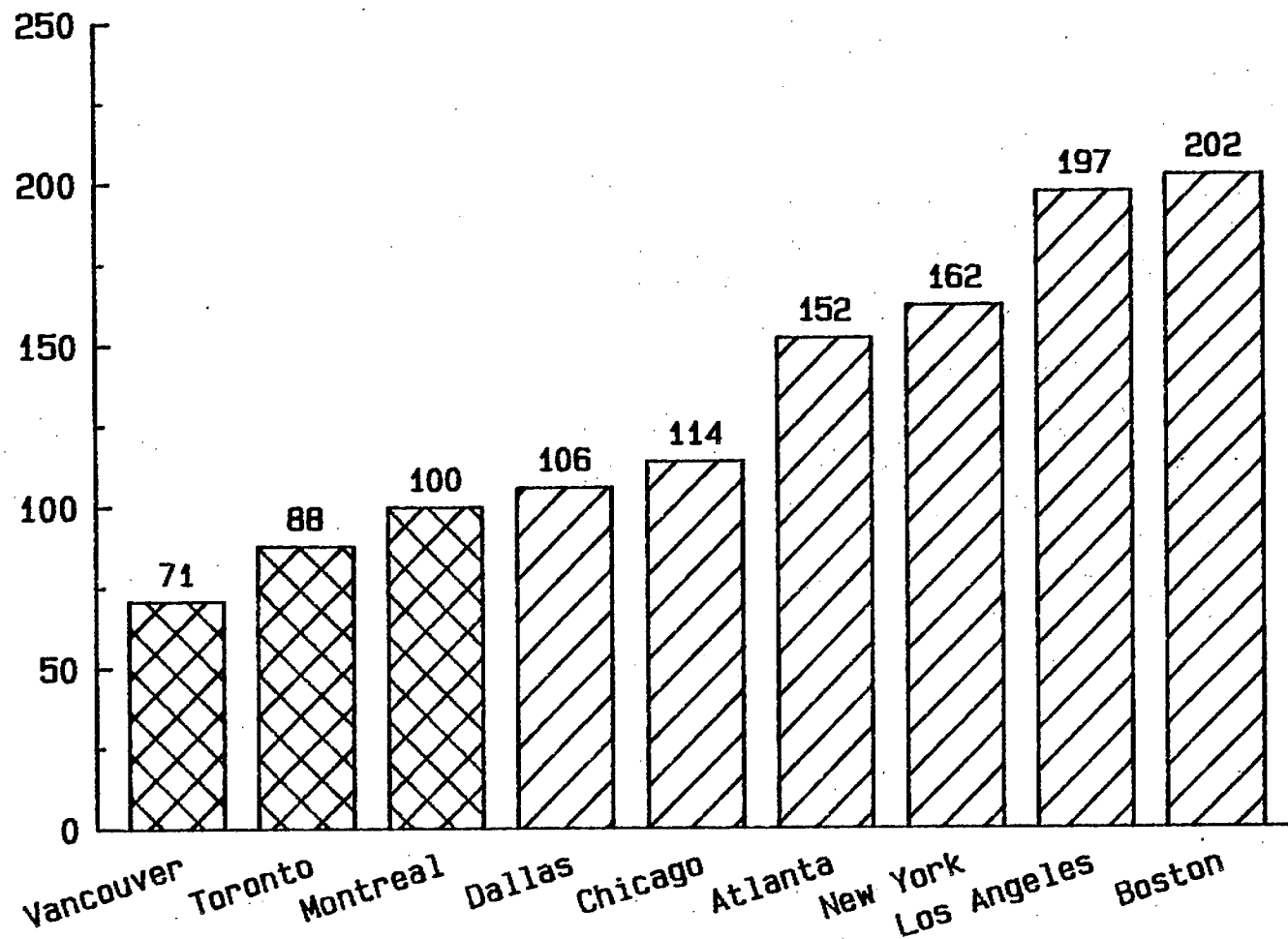


Source: Montreal Urban Community,  
Department of Economic Expansion

Investment Canada  
October 1, 1985  
AHJ03001.RL

*Comparitive cost of natural gas  
Canada vs U.S.  
1984*

Natural Gas Cost Ratio (Montreal=100)



Source: Montreal Urban Community,  
Department of Economic Expansion

Investment Canada  
October 1, 1985  
AHJ01001.RL

The Canadian system of roads and highways is one of the best in the world, linking Canadian centers, and joining in an extensive north-south system servicing all of North America. Inter-city paved roads measure some 271,000 km (168,000 miles), including federal and provincial roads. About 28% of this total represents 2 or 4-lane limited-access highways designed to move large volumes of traffic at highway speed. The remainder are almost all paved road, designed to move lower traffic volumes at speed. Not included in these totals are non-highway roads within municipalities.

Canada is connected from ocean to ocean and from north to south by a vast telecommunications grid consisting of underground, underwater and surface cables, open lines, microwave towers and a family of celestial satellites. Together, they link Canadians to virtually every telephone, not only within our own borders but throughout the developed world, and provide access to a host of radio, TV and computer facilities.

In 1972, Canada became the first country in the world to have a commercial satellite system for domestic communications. Communications satellites are now an integral part of Canada's communications system. They transmit telephone, teletype, data, radio and television signals to points across the country and into remote northern settlements. Many Canadian telecommunications companies are now installing fibre optics cables in their serving areas.

#### 1.3.5.7 Competitive Tax Rates

Taxes throughout North America are generally consumption (sales) and income taxes, as opposed to the value added taxes prevalent in Europe. Rates of taxation vary according to province or state, type of industry and income level; however, the effective rate of taxation imposed by federal and provincial/state governments on a manufacturer is generally lower north of the Canada-U.S. border. In 1983, the effective rate for an Ontario-based manufacturer was 44.75%, compared to 51.4% in New York, 50.97% in Ohio, and 47.27% in Michigan. Moreover, no level of government in Canada imposes the unitary tax system that is in place in several U.S. states.

However, the field of taxation is extremely complex and varied, and depends upon numerous factors that are constantly changing over time. Direct comparisons of taxation costs cannot be made without detailed and specific information. Despite this, there is wide recognition and acceptance in principle by all levels of government that taxation costs north of the border must be competitive with those south of the border, in order to maintain and increase the attractiveness of Canada as a location for existing and new businesses.

#### Corporate Tax Incentives

Among the major corporate tax incentives available to businesses located in Canada are the following:

Business Investment Tax Credit varies in different regions and for different types of investment. The basic rate is 7 percent, but can reach 20 percent in special regions (60 percent in Cape Breton Island). This deduction is available on manufacturing plants, as well as machinery and equipment. Any unused credits may be carried back 3 years or forward 7 years.

Small Business Deduction is available to a Canadian controlled private corporation, and reduces the federal tax rate on the first \$200,000 of business income from an active business by 21 percent.

Capital Cost Allowance (Depreciation) is available on all depreciable assets which are grouped into some 35 broad classes. Assets are depreciated, in each class, on a straight line or declining balance basis. The rates of capital cost allowance range from 4 to 100 percent, but for such common items as automobiles, trucks, computers, film and certain mining and logging equipment, the rate is 30 percent. Buildings are depreciated at 5 percent per year. Manufacturing and processing machinery and equipment can be written off over 3 taxation years.

The Foreign Tax Credit allows a corporation, resident in Canada, a credit against Canadian income tax for taxes paid to foreign governments. The credit is limited to the amount of Canadian tax on the foreign business income before the credit. The Income Tax Act provides for any unused business foreign tax credit to be carried back 3 years and carried forward 7 years.

Manufacturing and processing corporations receive a 6 percent deduction (5 percent for corporations claiming a small business deduction) on basic federal taxes. Profits from other sources remain subject to the normal tax rate.

Special Tax Credits & Deductions are available for mining, petroleum and logging operations. A limited tax credit is also available for political contributions made during the year. Through various provisions, such as earned depletion, immediate exploration and development expenditure write-off, and accelerated depreciation provisions, essentially no federal tax is incurred by the mining industry before costs are more than fully recovered. The tax system includes a special Capital Cost Allowance incentive class (Class 28) for new mines, which allows capital costs incurred from a new mine to be written off at the greater of income from the mine, or at 30 percent per year against all income of the corporation.

#### 1.3.5.8 Government Incentives

For investors who are starting or expanding a business in Canada, there are many federal, provincial and municipal incentive programs available that may be of assistance.

Each of the three levels of government recognizes the importance of having adequate financing available at reasonable cost to businesses and have provided a wide range of programs and tax measures to afford access to the necessary funds. In particular, the main types of financial assistance offered by the federal and provincial governments are loan guarantees and insurance, grants and tax advantages.

The federal and provincial governments have many programs to assist businesses in developing markets for their products and services. In particular, the federal departments of External Affairs, Regional Industrial Expansion and Agriculture have a number of programs which assist businesses in their marketing activities. The provinces also have marketing and business development ministries or agencies.

Research and development is vital to Canada's economic development and to maintain a business's edge in the marketplace. The federal and provincial governments provide numerous services, tax incentives and support programs to promote research and development. Federal government departments offering assistance in this area are Energy, Mines and Resources; Fisheries and Oceans; Revenue Canada; and Regional Industrial Expansion. Again, the provincial governments provide incentives to conduct R&D in Canada.



To modernize a business, expand or restructure the scope of operations, there are a number of federal and provincial programs that can be of assistance. In addition, there is a wide range of federal and provincial services and programs to assist employers in obtaining and developing qualified employees. Assistance for occupational training, support for the retraining of workers displaced by technological change, assistance and information in recruiting, employee relations and management development are provided by Labour Canada, the Canadian Employment and Immigration Commission and other government agencies. Provincial programs augment those offered by the federal level of government.

(a) Incentives for Investment in Cape Breton Island

In order to further encourage investment on Cape Breton Island (Nova Scotia), the May 1985 budget provided a new tax initiative. Projects approved by the Minister of Regional Industrial Expansion will be offered a 60-percent tax credit for the acquisition of new eligible assets to be used on Cape Breton Island. This special tax credit can be carried back three years and carried forward for a 10-year period to offset federal income tax otherwise payable.

As a result of this new initiative, for many projects in Cape Breton, no federal income tax will be payable for 10 to 15 years.

In addition, other forms of assistance are also available on Cape Breton Island. The Cape Breton Development Corporation (DEVCO) assists the financing and development of industry on the Island, to provide employment outside the coal industry, to broaden the economic base of the area and to contribute to the rehabilitation and modernization of mines in the Sydney coal field. In 1984, DEVCO provided some \$11.2 million in assistance, up 40.7 percent from 1983.

The first international trade zone in Canada was established at the Sydport Industrial Park in Cape Breton. This allows companies to duty-free imports of materials, parts and components, to manufacture or assemble products in Cape Breton and, to export this production to other countries. This allows companies to manufacture in Canada at lower cost for export and would provide an attractive ingress to the lucrative U.S. market.

These government initiatives make Cape Breton one of the most attractive places to invest in all of North America, potentially reducing actual capital outlays to as little as 16 cents for each dollar of investment.

(b) Incentives for Technological Development

The Canadian Government provides support for technological development through a variety of mechanisms, ranging from tax incentives to grants, loans, contracts for goods and services, infrastructure support, and skills training related to advanced technology industries.

The R&D incentive programs in Canada are either income tax related, that is, they reduce or defer the amount of income taxes otherwise payable, or take the form of specific government grants covering a portion of research costs incurred. They are all designed, however, to increase the productivity of Canadian industry and to assist in the creation of new technology by encouraging businesses to undertake or increase the level of research and development activities. The incentives are generally not restricted to specific types of projects; rather the business is left to determine the nature of the project it wishes to pursue. Furthermore, these incentives are available not only to large corporations with full time staff or scientists and expensive and sophisticated research facilities, but also to small and medium sized businesses, which, in fact, are favoured under a number of programs. Further, qualifying businesses with sound innovative projects and without any in-house research facilities can "contract out" the project to universities, research institutes, or other outside organizations, and the costs so incurred will generally be eligible for grants in the same manner as if the business had carried out the project itself.

The major tax-related incentive for R&D is that 100 percent of current as well as capital expenditures are deductible for the purposes of calculating taxable income. There is no limitation on the amount of expenditures deductible in any one year. In addition, there is an unlimited carry forward provision. Furthermore, a tax credit, applicable to both current and capital expenditures for R&D, is available; a minimum 20% tax credit is available, while for some regions of Canada (e.g. the Atlantic Provinces and Gaspè region of Quebec), this credit is set at 30%. For small businesses, the R&D tax credit is 35% and fully refundable effective May 23, 1985, when the recent budget was announced.

Individuals and corporations can invest in R&D ventures through Limited Partnerships to use the available deductions and the investment tax credit against their incomes. Limited partners contribute capital and own an interest in the partnership, but do not participate in management. The limited partner is liable only to the extent of capital contributed.

In the U.S.A., only current expenditures and not capital expenditures for research and development qualify for a 100 percent write-off. In addition there is a 25 percent credit available for research and development expenditures, which are above the average research and development expenditures of the previous three years. Current expenditures can be deducted in the taxation year, or capitalized and deducted in a pro-rata fashion over a minimum of five years. Capital expenditures in the U.S. are treated in the following way: equipment has to be depreciated over a three year period, and is eligible for a 6 percent Investment Tax Credit instead of the regular 10 percent; buildings must be depreciated over 18 years, and are not eligible for the Investment Tax Credit.

Canada offers the most generous tax treatment of R&D of all OECD countries, and second only to Singapore in the world.

#### 1.3.5.9 Financial Institutions and Capital Markets

Canada has sophisticated and highly developed financial institutions and markets, similar in many respects to those available in the United States. The major financial institutions include chartered banks, mortgage, loan and trust companies, sales finance companies, insurance companies, and pension funds. The major financial intermediaries include investment dealers and investment bankers who can arrange financing in various ways, either on an agency basis or as underwriters guaranteeing the placement of funding. In addition, several new and innovative forms of financing have emerged in recent years in the high risk and venture capital field.

There are some seventy chartered banks in Canada, including many banks with head offices in European countries. The twelve domestic Canadian banks have some 7,000 branches across the country and some 300 offices in more than 40 countries around the world. Operations of Canada's banks are governed by the Bank Act, which establishes requirements for incorporation, bank reserves and, generally, what a bank may or may not do. Collectively, Canada's banks have assets exceeding \$400 billion, of which some one-third are foreign currency assets.

There are five stock exchanges in Canada: Toronto, Montreal, Vancouver, Alberta and Winnipeg. In addition, there are two exchanges dealing in futures contracts; the Toronto Futures Exchange and the Winnipeg Commodities Exchange. Trading value in 1984 in issues listed on Canada's stock exchanges totalled some \$36 billion. The Investment Dealers Association of Canada is the national self-regulating body of the securities industry in Canada. There are no exchange controls and Canada has a free floating exchange rate.

#### 1.3.5.10 Quality of Life

The quality of life in Canada is among the best in the world. Within easy reach of major metro centres, there are vast open areas for skiing, hiking, fishing and boating activities. There are facilities for tennis, golf, swimming and other sports in all communities. Canada is a multicultural society and there are many publicly funded programs to encourage and support cultural and heritage language activities of the Canadians who have come from around the world to settle in Canada.

Canada's overall standard of living ranks among the highest in the world. Canadians have universal access to extremely high-quality education, health care and a social security net that ensures minimum standards for the underprivileged in society. As a result, Canadians enjoy a crime-free environment, relative to similarly developed countries. Theatre and the arts are thriving in Canada. There are 164 professional theatre companies, 24 dance companies, 58 symphonies and 7 opera companies.

Canada welcomes investment and perhaps the greatest advantage of a Canadian location is the commitment on the part of all levels of Canadian governments to consult and co-operate with the business community to ensure that Canadian-based businesses are positioned to prosper.

## APPENDIX

### SUPPLEMENTARY INFORMATION ON OIL AND GAS SECTOR

#### A.1 SECTOR OVERVIEW

The oil and gas industry is a dynamic and an important part of the Canadian economy. Various supporting data are attached as Tables A-1 through A-6. Over the period to 1983, for instance, the industry's dollar share of Gross Domestic Product (GDP) rose from 1.8% to 4.5%. The impact of the recession in Canada was severely felt in Canada in 1982, but recovery began in 1983, with a delay in Western Canada until 1984. Noticeably stronger performance is expected in 1985. In some provinces, the oil and gas sector represents an even larger share than is the case nationally. It accounts for approximately 20% of output for the province of Alberta and 8% of provincial output in Saskatchewan. In 1984 the sector directly employed 44,700 persons nationally, 40,300 of which were located in Alberta. By mid 1985, numbers had risen to 47,600 and 42,600 respectively.

Canada's oil and gas sector also represents 67% of all mineral production and 9.4% of new capital investment in the country. In terms of external trade, it is responsible for 9.2% of total merchandise exports and 5.0% of imports in 1984. Between 1973 and 1984 Canada has enjoyed a growing trade surplus in oil and gas. By 1984 the actual trade balance in oil and gas was \$5.6 billion in Canada's favour. Among the seven major western industrial countries in 1984, only Britain, followed by Canada, was a net exporter of oil, and only Canada was a net exporter of natural gas.

#### A.2 GOVERNMENT POLICY

The important role of the oil and gas industry is further demonstrated by the new government initiatives affecting the sector. The Progressive Conservative Government has dramatically altered Canada's energy policy. After extensive consultations with the industry representatives, including IPAC, the National Energy Program (NEP), instituted in October 1980, has been dismantled.

An important feature of the Western Accord was the undertaking by the provinces to flow through to industry the benefits accruing to companies as a result of federal price and fiscal changes. It was left to each province to determine the magnitude of the flow-through and the method of delivery. In June, 1985, each province announced modifications to its fiscal regime.

Two major energy issues remain to be resolved. The first concerns the development of a market-sensitive pricing regime for natural gas. The second issue is the formulation of a new policy for the Canada Lands. Consultation with industry and the Governments of the concerned Provinces and Territories is currently underway and an announcement by the Minister of Energy, Mines and Resources, is expected in November of this year.

The new policy will address a number of elements of Canada Lands policy including:

- . The elimination of the Crown Share and its replacement by a mechanism which ensures Canadian participation, but is less onerous.
- . The development, in consultation with the Governments of Newfoundland and Nova Scotia, of a fiscal regime for offshore projects.
- . Development of more efficient and flexible mechanisms for land issuance and relinquishment.
- . Development of a tax-based incentive for frontier exploration to replace the Petroleum Incentives Program.

TABLE A-1

## GDP IN CRUDE PETROLEUM AND NATURAL GAS

## CANADA

	Current \$		\$ 1971	
	as % of million \$	Canada's GDP	as % of million \$	Canada's GDP
1973	2007	1.8	1559	1.6
1980	9498	3.5	1388	1.2
1982	12832	4.0	1256	1.1
1983	15819	4.5	1266	1.1
1984	N/A	N/A	1346 est.	1.1

## NOTES:

- (1) For measuring the relative importance of the oil and gas sector over time, it is preferable to use current dollars data which take into account the substantial relative price increase experienced by oil and gas since 1973. Unfortunately, Statistics Canada reports data on nominal GDP with a more than 2 years lag. The constant dollars GDP figures have been given here only for comparison purpose.
- (2) Statistics Canada does not report separately GDP figures for the oil and gas industry at the provincial level so that it is not possible to estimate precisely the contribution of this industry to provincial GDPs. However, using traditional provincial shares of oil and gas production, one can get a rough estimate of this industry's contribution to producing provinces' GDP. Such a procedure suggests that the crude petroleum and natural gas industry contributed in 1982 about 20% to Alberta's GDP and about 8% to Saskatchewan's GDP. Its contribution to all other provinces' GDP was less than the national average of 4%.
- (3) The above figures do not include the value added in the following three industries. (1) "Contract Drilling for Petroleum", (2) "Services incidental to Mining" (which is largely, but not exclusively associated with the oil and gas industry) and (3) "Pipeline Transportation". The 1982 GDP share of the first two industries combined was 0.5%. The GDP share for "Pipeline Transportation" was another 0.5% for the same year.

Sources: Statistics Canada, Catalogue 61-213, 61-005.

TABLE A-2

OIL AND GAS INVESTMENT\*, ACTUAL 1979-1984  
AND INTENTIONS 1985

	<u>\$ million</u> <u>current</u>	<u>annual change</u> <u>%</u>
1979	4316	--
1980	6255	45
1981	7032	12
1982	7440	16
1983	6915	(7)
1984	7177	4
<u>1985 Intentions</u>		
. as of Jan/Feb. 85	8593	20
. Revised June/July 85	9098	27

\* Includes conventional oil and gas non-conventional oil, gas processing plants and contract oil and gas drilling.

Source: Statistics Canada, Private and Public Investment in Canada, 61-205, 61-206



TABLE A-3

EMPLOYMENT IN UPSTREAM OIL AND GAS INDUSTRIES<sup>(1)</sup>CANADA

	<u>December 1984</u>		<u>June 1985</u>	
	<u>Thousands</u>	<u>% of Total Employment</u>	<u>Thousands</u>	<u>% of Total Employment</u>
Crude Petroleum and Natural Gas	44.7	0.5	47.6	0.52
Contract Drilling for Petroleum	11.2	0.1	13.0	0.14
Services Incidental to Mining	<u>16.0</u>	<u>0.2</u>	<u>18.8</u>	<u>0.21</u>
Sub-Total	71.9	0.8	79.4	0.87
Pipeline Transport	<u>7.2</u>	<u>0.1</u>	<u>7.7</u>	<u>0.08</u>
TOTAL	79.1	0.9	87.1	0.95

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(1) These figures underestimate the number of jobs associated with the upstream oil and gas sector, because Statistics Canada data do not permit one to identify employment in geological and geophysical firms, nor employment in manufacturing or construction industries directly associated with the sector. On the other hand, the above category "Services incidental to mining" includes employment in firms providing services to mining companies.

Sources: Statistics Canada, Catalogue 72-002.

TABLE A-4

EMPLOYMENT IN UPSTREAM OIL AND GAS INDUSTRIES<sup>(1)</sup>

	<u>ALBERTA</u>			
	<u>December 1984</u>		<u>June 1985</u>	
	<u>Thousands</u>	<u>% of Total Employment</u>	<u>Thousands</u>	<u>% of Total Employment</u>
Crude Petroleum and Natural Gas	40.3	4.9	42.6	4.82
Contract Drilling for Petroleum	9.8	1.2	11.5	1.30
Services Incidental to Mining	<u>9.6</u>	<u>1.1</u>	<u>11.5</u>	<u>1.30</u>
Sub-Total	59.7	7.1	65.6	7.42
Pipeline Transport	<u>4.1</u>	<u>0.5</u>	<u>4.2</u>	<u>0.47</u>
TOTAL	63.8	7.6	69.8	7.9

(1) These figures underestimate the number of jobs associated with the upstream oil and gas sector, because Statistics Canada data do not permit one to identify employment in geological and geophysical firms, nor employment in manufacturing or construction industries directly associated with the sector. On the other hand, the above category "Services incidental to mining" includes employment in firms providing services to mining companies.

Sources: Statistics Canada, Catalogue 72-002.

TABLE A-5

EXPORTS OF OIL AND GAS

CANADA

	<u>Crude Oil</u> \$ Millions	<u>Petroleum Products</u> \$ Millions	<u>Natural Gas</u> \$ Millions	<u>Total</u> \$ Millions	<u>% of Total Merchandise Exports</u>
1973	1482	301	351	2134	8.4
1980	2899	1992	3984	8875	11.6
1982	2729	2489	4755	9973	11.8
1983	3537	1750	3958	9245	10.2
1984	4417	2057	3886	10360	9.2

Sources: Statistics Canada, Catalogue 65-004.

TABLE A-6

OIL AND GAS IMPORT RATIOS FOR VARIOUS COUNTRIES

(Imports as a percentage of consumption)

1984

	<u>Oil</u>		<u>Natural Gas</u>	
	<u>Net Imports**</u>	<u>Gross Imports</u>	<u>Net Imports**</u>	<u>Gross Imports</u>
Canada	-18%	24%	-40%	0
France	101	113	81	82
Germany	90	96	64	83
Japan	95	96	95	95
United Kingdom	-41	61	27	27
United States	32	36	5	6

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\* Includes crude oil, Liquid Petroleum Gases and products.

\*\* A negative sign indicates that the country is a net exporter.

Source: Oil and Gas Statistics, OECD, 1985, No. 1.

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