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Regional Industrial Expansion

Gouvernement du Canada
Expansion industrielle régionale

Competitiveness Profiles

Vol. 3

Canada

NOTE

The attached draft Competitiveness Profiles were developed in 1985/86 by the Department of Regional Industrial Expansion as a preliminary assessment of the current competitive position of various industries covered by the activities of the Department. They will be revised, updated, and augmented, in terms of sectors covered, on the basis of on-going consultations with industry.

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(PLEASE SUBSTITUTE FOR PREVIOUS DOCUMENT)

FEBRUARY 12, 1987

DRAFT - PROJET

SECTOR COMPETITIVENESS PROFILE

HOUSEHOLD FURNITURE

1. Structure and Performance

The Canadian household furniture manufacturing sector includes establishments primarily engaged in the manufacture of furniture products for residential or household use. The sector is identified as (1980) SIC 261 - Household Furniture Industries - and is further divided into SIC 2611 - Wood Household Furniture Industry -, SIC 2612 - Upholstered Household Furniture Industry - and SIC 2619 - Other Household Furniture Industries.

Wood furniture accounts for about 50% of sector shipments, upholstered furniture about 35%, with the remaining 15% consisting mainly of metal and plastic furniture products. In Canada, the bed spring and mattress industry is a part of SIC 269 - Other Furniture and Fixtures - whereas in the U.S., it is a part of the household furniture grouping.

In total, the sector accounts for annual shipments amounting to $1.6 billion with employment of about 26,000 persons. The portion of shipments destined for export markets is 13% (compared to 7% in 1983) while 23% of the domestic market is satisfied by imports.

The activity of the sector is equal to 0.6% to 0.7% of the total of the overall domestic manufacturing sector in terms of annual shipments and 1.4% when measured by employment.

In 1984, the industry was comprised of 949 establishments located mainly in Quebec (45%) and Ontario (36%). In these two provinces, the plants are more or less equally distributed between metropolitan areas and smaller communities. Seventy-two per cent of the establishments employ less than 20 persons and account for 13% of shipments while 5% of establishments employ 100 or more and account for about 45% of shipments. About 5% of industry shipments originate in Manitoba and the sector is important to that Province's economy. Ownership of the sector is predominantly Canadian with less than 5% of the companies being foreign owned.

Industry shipments, in constant 1971 dollars, increased 33% during the period 1971 to 1986 representing an average annual growth of 1.9%. Production capacity utilization in 1985 was about 82% after a reduction to 64% in 1982 while the average for 1981 was 86%. During this period, the sector's utilization rate, while following the general trend of all manufacturing, was constantly lower.

The industry has regularly generated annual profits but the financial returns have not made the sector an attractive investment. In general, investment in the industry has been low relative to total investment in manufacturing. During the period 1971 to 1983, capital expenditures averaged about 2% of shipments.

2. Strengths and Weaknesses

a) Structural

Generally, the furniture industries of developed countries, such as the U.S., Germany, France, the U.K., Sweden, Denmark, Italy and Canada have similar structural characteristics. For example, establishments with fewer than 20 employees are in the majority and plants employing more than 100 are less than 10% of the total but account for more than 50% of total output. Also, in general, furniture manufacturing accounts for less than one per cent of the respective GNP. In the U.S., there are some 100 establishments with more than 500 employees whereas in Canada there is one.

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Data from both the U.S. and Canada suggest that productivity does not always vary directly with size. There is evidence that efficiencies are also achieved by firms, both large and small, that focus on product specialization and standardization. However, in Canada too often manufacturers, in serving the small domestic market, have found it necessary to produce a wide range of products to maintain reasonable volumes of production and therefore have been unable to benefit from production specialization. This places the Canadian industry at a disadvantage compared to U.S. manufacturers who serve a large domestic market and therefore can be more selective in their product ranges.

Canadian manufacturers import up to 50 per cent of fabric requirements as well as substantial quantities of lumber, finishing materials and hardware. With the exception of lumber, these carry duties at least as high as the end product and in the case of textiles, they sometimes are higher. In the U.S., materials are almost entirely available from domestic sources with the exception of exotic wood species.

With the Canadian dollar equal in value to 70 to 75 cents U.S., input costs in the Canadian household furniture industry are about equal to those in the U.S. household furniture industry and on average the Canadian industry is competitive with the U.S. industry. However, due to the structure of the industry and the markets served, U.S. manufacturers are better positioned to effect cost savings through longer production runs, product specialization and the use of more modern machinery and equipment.

The ten largest U.S. furniture corporations have combined annual sales equal to about 23% of total U.S. household furniture production and twice the value of Canadian annual factory shipments of household furniture and as a result are more competitive than Canadian manufacturers. The existing duties imposed on furniture imported into Canada have offset this competitive disadvantage to the extent that, in most cases, Canadian manufacturers are competitive in the domestic market with U.S. manufacturers.

b) International Trade Related Factors

Non-tariff barriers are not a significant factor in international trade in furniture products.

Most furniture imported into Canada is classified to one of two main tariff items depending upon the chief component material. Prior to the Tokyo round, the tariff for furniture whose chief part by value is of metal was 17.5% and will be 12.5% in January 1987. The duty for other furniture, including wood, is being reduced from 20% to 15%. These levels of tariff have protected the Canadian industry against increased competition in the domestic market. Imports of household furniture have grown irregularly from 7.7% of the market in 1971 to a peak of an estimated 23% in 1986.

There is currently a shift in the origin of imported furniture. The United States, which accounted for 66% of all Canadian imports in 1976, had its share shrink to 36% in 1985 while imports from Asian countries have grown from 5% in 1976, reached a maximum of 20% in 1983 and in 1985 were 17% of total imports. Western European countries' share of imports into Canada fluctuated between 20 and 30% from 1976 to 1983 and during the past two years have increased to 41% of total imports. The growth of imports from Europe and decrease from the U.S. have coincided with currency exchange rate changes.

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This shift in the origin of imported furniture is also indicative of a strengthening Asian industry mostly in Taiwan, South Korea, Singapore and the Philippines. An undetermined quantity of furniture is imported from these countries as components at varying stages of manufacture for assembly and finishing in Canada. Far Eastern developing countries are also making inroads into the USA, European and Japanese markets. These exports from Asia to Canada are particularly strong in wooden dining room furniture where they account for over 31% of all Canadian imports in this commodity.

The United States is by far the largest export market for Canadian household furniture. Exports to the U.S. have been between 80 and 96% of total exports and for the most part have increased as the value of the Canadian dollar in terms of the U.S. dollar has decreased. In the U.S. market with the value of the Canadian dollar of from 70 to 75 cents, Canadian manufacturers are able to compete with products in which design, quality and service are as much or more a consideration as price or in market segments not attractive to volume manufacturers. The final rates of duty imposed on Canadian furniture entering the U.S. will range between 2% and 7% as of January 1987.

The market for household furniture products in the world regions of interest to Canadian manufacturers is heterogeneous and the ability to compete in one or more market segments does not guarantee the same success in other segments. The variety of consumer demands with respect to style, design, durability, purpose, exclusivity and price combined with the cost of servicing distant markets with high volume to value items have been major reasons for the continuing fragmentation of the industry and the market.

c) Technological Factors

Until very recent years, furniture manufacturing technology was considered quite mature and advances were marginal and mainly through tool improvement for speed and precision of operation. The advent of digitally controlled machines for operations such as stacking, panel cutting, machining and lumber break-out is starting to have a positive impact on those companies that are gradually acquiring this technology. This modern machinery and equipment is available to the industry throughout the world but only larger factories have sufficient production to benefit from the investment required. As a result, Canadian factories in general are not as technically advanced as those in the U.S.

d) Other Factors

World currency exchange rates have had a significant bearing on foreign trade in furniture. Import pressures experienced by Canadian manufacturers from the U.S. were greatest in the period 1974-1975 when the value of the Canadian dollar was high. Also imports from Europe have enjoyed a larger share of total imports as North American currencies have strengthened during the past four to five years.

3. Federal and Provincial Programs and Policies

Federal government assistance programs which apply to all manufacturing industries have been used by the furniture sector. Financial assistance has been provided to household furniture manufacturers under the former RDIA and CIRB programs and the present IRDP program.

The Government has also been active in supporting export development through the Program for Export Market Development and the Promotional Projects Program. The use of these programs by furniture manufacturers has been mainly for developing sales in the U.S. market.

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4. Evolving Environment

Based on family expenditures on furniture and fixtures which have remained fairly constant over the past two decades, it is realistic to assume that the growth of the Canadian furniture market will follow the increase in the number of families which is presently forecasted to be about 2% per year. Demographic and social considerations such as the "baby boom", the aging of the population, the smaller size of families including those with single parents, the reduced size of dwellings mainly in urban areas, etc., do not seem to have affected the buying pattern of the consumer in terms of overall volume. It is quite possible however that in the future, within the overall quantity to be purchased, there may be a shift from one type of furniture to another e.g. more wall units, modular and knocked-down furniture, fewer complete room settings etc. It is anticipated there will be a similar situation in the U.S. market in the future.

Economic considerations such as high interest rates and high unemployment as was experienced in 1982 would seem to have more impact on the market than any other factors. Fluctuations in these economic factors at any point during the next decade could have short-term effects but would likely not affect the long term trend.

With the gradual reduction of Canadian tariffs under the GATT, Canadian furniture will become increasingly exposed to international competition. The rapid growth in imports from Far East countries over the past several years is indicative of a potential threat in the medium to long term. It is known that Taiwan, South Korea, Singapore and Philippines are developing efficient furniture manufacturing industries for the purpose of exporting. This potential threat is, however, limited by the types of furniture that they can export to Canada because of distance and transportation costs. Canadian manufacturers may find it advantageous to source components in Asia for assembly in their Canadian plants to meet this competition or concentrate on more profitable lines.

With a continuation of the present value of the Canadian dollar, there will be opportunities for Canadian made products in the U.S.

It is expected that advanced technology will become increasingly important in furniture production processes.

5. Competitiveness Assessment

The current value of the Canadian dollar and the Canadian tariff on furniture have offset the cost disadvantages incurred by Canadian furniture manufacturers to the extent that, in most cases, Canadian made products are competitive in the domestic market. In addition, Canadian household furniture manufacturers are competitive in international markets in some market segments, particularly those in which price is less a consideration than design, quality, uniqueness or service. The proximity of large U.S. population centres to Canadian manufacturing areas also makes it possible for Canadian producers to be competitive with products with high transportation costs.

The strong competition posed by Asian countries and other LDC's is mainly with products that are suitable for the ready-to-assemble or knock-down market segment while the cost efficient U.S. manufacturers can be found where there are substantial volumes.

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To become internationally competitive in more market segments and be able to take advantage of future opportunities, Canadian manufacturers will have to reduce their costs through improved productivity, modernization, the adoption of modern technology and improved marketing strategies.

Firms that take advantage of the present economic conditions, e.g. favourable exchange rates, to develop exports and increase production volumes may be able to adjust to the evolving environment and emerge competitive in at least the North American market.

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Assistant Deputy Minister
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DATE: Revised February 12, 1987

FACT SHEET - HOUSEHOLD FURNITURE

1. Principal Statistics

		1971	1980	1981	1982	1983	1984	1985E	1986E
Establishments	#	681	844	901	917	930	949	965	975
Employment	#	22114	26483	27285	22973	22224	22876	24500	26000
Shipments	$ million	388	1164	1335	1112	1247	1377	1510	1639
Shipments 1971	$ million	388	501	516	395	430	456	487	515
Exports	$ million	18	46	60	66	89	132	182	215
Domestic Shipments	"	370	1118	1275	1046	1158	1245	1329	1424
Imports	"	31	200	254	176	225	276	312	417
Canadian Market	"	401	1318	1529	1222	1383	1521	1640	1841
Exports - % of Shipments		4.6	4.0	4.5	5.9	7.1	9.6	12	13
Imports - % of Market		7.7	15.2	16.6	14.4	16.3	18.1	19	23
Shipments - % of Mfg. Shps		0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.7
Employment - % of Mfg. Emp		1.4	1.4	1.5	1.3	1.3	1.3	1.4	1.4

Yr.to Yr. Average % Change

		1971/1981	1980/1984	1980/1986E
Establishments	#	2.8	3.0	2.4
Employment	#	2.1	-3.5	-0.3
Shipments	$ million	13.3	2.8	5.9
Shipments 1971	$ million	2.9	-3.7	0.4
Exports	$ million	13.8	30.2	29.3
Domestic Shipments	"	10.9	1.1	4.1
Imports	"	18.9	8.4	13.0
Canadian Market	"	11.8	2.3	5.7

2. Regional Distribution

	Atlantic	Quebec	Ontario	West
Establishments-% of total	2	45	36	17
Employment-% of total	1	40	47	12
Shipments-% of total	1	39	49	11

3. Foreign Trade

		U. S.	West. Europe	East. Europe	Asia	Other
Imports - % of total	1983	49	27	4	20	-
	1984	43	32	4	20	1
	1985	36	41	5	17	1
Exports - % of total	1983	92	3	-	1	4
	1984	93	3	-	-	4
	1985	96	2	-	-	2

E - denotes estimate
1985 from 12 month preliminary figures
1986 from 8 month preliminary figures

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE (REVISED)

OFFICE FURNITURE

(PLEASE SUBSTITUTE FOR PREVIOUS DOCUMENT)

FEBRUARY 12, 1987

DRAFT - PROJET

SECTOR COMPETITIVENESS PROFILE

OFFICE FURNITURE

1. STRUCTURE AND PERFORMANCE

The Canadian office furniture manufacturing sector includes establishments engaged in the production of metal, wood and other office furniture. The sector is identified as (1980) SIC 264 - Office Furniture Industries - and is further divided into SIC 2641 - Metal Office Furniture Industry - and SIC 2649 - Other Office Furniture Industries. Institutional furniture is not included in this classification.

Metal office furniture products consisting mainly of desks, chairs and filing equipment currently account for 55% of the sector's shipments, wood, and other office furniture 30% and screens and panel systems about 15%. Purchasers of these products are mainly corporations, institutions and governments for all types of office space. Demand, therefore, depends upon new commercial construction, retrofitting and large scale replacements.

In total, the sector accounts for annual shipments of $900 million with employment of 9,600 persons. Exports play an increasingly significant role and in 1986 amounted to $350 million or 39% of factory shipments. Imports satisfy about 6% of the domestic market demand.

In terms of the overall Canadian manufacturing sector, office furniture activity is minimal representing less than one half of one per cent of total manufacturing shipments and employment.

As in other sectors of the furniture industry, the bulk of office furniture manufacturers can be classified in the small to medium size category when viewed from the aspect of the number of employees per establishment. However, when compared with the household furniture industry, there are about twice as many employees per establishment. In 1984, of the total of 168 establishments, 124 or 74% employed less than 50 and accounted for about 18% of shipments. Fourteen per cent of the establishments employed more than 100 and accounted for 65% of shipments.

It is estimated that in terms of shipments, the sector is 70% Canadian owned and 90% in terms of establishments. A number of the large U.S. office furniture manufacturers operate subsidiaries in Canada and contribute significantly to the sector's export performance. In addition, some of the more successful Canadian exporters have established plants in the U.S.

The Provinces of Quebec, Ontario and Alberta have traditionally supplied the bulk of office furniture with Ontario and Quebec being the major factors. In 1960, Quebec produced 33% of total shipments, Ontario 64% and the western provinces 3%. By 1971, the proportions were 37%, 61% and 2% respectively and in 1984 were 19%, 75% and 6%. In all of the provinces, most of the industry is located in metropolitan areas.

Over the period 1971-1981, the office furniture industry experienced a relatively strong rate of growth. In constant 1971 dollars, shipments increased from $89 million to $212 million for an annual average change of +9%. This rate of growth was higher than the increase of the domestic market as exports expressed in current dollars, grew from $10 million to $147 million.

The period of strong domestic growth was interrupted during the recession in 1982 as commercial construction was cut back. However, recovery was rapid and real growth in Canadian demand amounted to about 5% from 1980 to 1986 in spite of the recession.

The industry has regularly generated annual profits and in recent years the after tax returns have been improving.

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2. STRENGTHS AND WEAKNESSES

a) Structural

The office furniture industry is similar to many other Canadian industries in that it is strongly influenced by activities in the U.S.A. and to a lesser extent by European developments. The preponderance of small to medium sized companies that make up the Canadian industry is also a characteristic of the industry of other countries such as the U.K., Germany, France, Denmark, etc. In the U.S. in the metal and wood office furniture industries, annual shipments amount to more than $2 billion and although there are over 500 establishments, there is a higher concentration ratio than in Canada. In wood office furniture, the largest five U.S. manufacturing plants each employ more than 500 persons and account for 20% of shipments while in metal office furniture, the largest six each employ more than 1,000 and account for 39% of shipments. The fact that this latter group of companies employs only 31% of the sector's labour force illustrates the labour productivity improvements that can result from economies of scale. Generally, the size of the market for office furniture in Canada has a limiting effect on the size of production runs and is not conducive to economies of scale.

With the value of the Canadian dollar equal to 70 to 75 cents U.S., it is estimated that Canadian office furniture labour and material costs are about equal to those in the U.S. and on average the Canadian industry is competitive with the U.S. industry. Since office furniture products tend to serve a contract market where the ability to meet customer specifications is a major consideration Canadian competitiveness is further strengthened. Design, quality and service are the main factors influencing trade in the range of furniture products in which Canadian manufacturers have found export market success. By stressing these factors, Canadian products have been able to overcome competitive disadvantages resulting from lack of economies of scale. In product categories in which price is a more important consideration and transportation costs become a factor, the market in both the U.S. and Canada appears to be served regionally.

The competitiveness of the industry in the domestic market has been preserved by the Canadian tariff structure and exports to the U.S. have increased as the value of the Canadian dollars in terms of the U.S. dollar has decreased.

b) International Trade Related Factors

Non-tariff barriers are not a significant factor in international trade in office furniture products.

Most furniture imported into Canada is classified to one of two main tariff items depending upon the chief component material. The rate for furniture in chief part by value of metal prior to the Tokyo round was 17.5% and will be 12.5% in January 1987. The duty for other furniture, including wood, is being reduced from 20% to 15%. This level of tariff protection may have been instrumental in encouraging the establishment of subsidiaries of foreign owned manufacturers in Canada to serve the Canadian market. Imports of office furniture have been consistently less than 10% of the market. Products from the United States have regularly accounted for in excess of 75% of total imports into Canada with the remainder being essentially from Western Europe. Unlike the household furniture sector, imports from Asia represent less than three per cent of the total and therefore are not presently a factor. This is probably due to the fact that office furniture products tend to serve a contract market where new designs and customer specifications are more a factor than in

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the consumer market served by household furniture. Also, the close relationship between the buyer and the seller is more pronounced in a contract market.

The United States as well as being the major foreign supplier to the Canadian market, is almost the exclusive recipient of exported Canadian made furniture. Currently, about 95% of Canadian exports are shipped to the U.S. market. Since U.S. tariff rates accorded Canadian made furniture in 1985 ranged between 3.1% for items of wood to 9.6% for items of textile materials, Canadian products already have reasonable access to the U.S. market.

In making comparisons between Canadian and American exports of office furniture for the years 1975 to 1985, the increase in exports from Canada is marked, whereas U.S. export increases are not as spectacular. Canadian exports increased from $14.1 million in 1975 to $295 million in 1985.

c) Technological Factors

Modern machinery and equipment is available to the industry throughout the world but only larger factories have sufficient production to benefit from the large investment required for the most advanced technologies. As a result, the U.S. industry tends to be more advanced than the Canadian. The labour productivity of the sector has improved significantly during the past three years but it is one of the more labour intensive sectors, particularly in the fitting and finishing stages of wood office furniture manufacturing.

While a number of firms tend to retain traditional equipment, others have gone to more sophisticated items, such as computerized panel cutout saws and routers, etc. Over the past few years, several new factories have been constructed and their owners have equipped them with the latest in machinery. Metal desk and filing equipment manufacturers use standardized shearing and stamping machinery. Baked on electrostatic powder finishes, while not universal, are being employed on a more extensive scale and are replacing traditional spray methods. Systems furniture manufacturers tend to employ the most recent equipment innovations, where economically feasible, since they are involved with a variety of materials, such as wood, metal, plastics and textiles and must, if possible, have a competitive edge.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

Governments (federal, provincial and municipal) are the largest buyers of office furniture in Canada, and as such, are important customers. The procurement policy of the federal government centralizes purchasing through Supply and Services Canada, which, besides purchasing through its headquarters operation, has twenty-nine regional supply centres across the country, encouraging local suppliers to fill federal government needs. Office furniture purchases, for the most part, are for the government designed line of modular desks, work stations and filing equipment, etc. Federal Government purchases of furniture are subject to the GATT code on Government Procurement.

Federal government funded assistance programs are generally of the umbrella type with none specific to the furniture industry. Several manufacturers have made use of these programs in the past; however, there has not been any large scale industry sector response to the programs. On the other hand, the programs designed to stimulate export trade have been well received by the office furniture industry.

4. EVOLVING ENVIRONMENT

The force that propels the office furniture industry is the interaction between the requirements of consumers and the continuing attempts of the industry to cope with these requirements. While a decline in output was

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experienced by the office furniture sector in 1982 and 1983, a general expansion of business and an expectation of increasing numbers of white collar workers is expected to continue resulting in continuing growth in the demand for office furniture. This outlook is supported by a recent U.S. report that forecasts an annual increase in the market for office furniture of 9% over the next few years.

Historically, Canadian office furniture manufacturers have been influenced by economic developments in the USA and the effect these have upon the market. Large companies with five hundred or more white collar workers are opting for systems furniture and this market is expected to grow significantly.

Single purpose or conventional office furniture will probably experience a more modest growth. Metal furniture tends to be of lower cost than wood and to have greater durability, and with most systems furniture being made of metal, metal furniture will capture an increasing share of an increasing market. Wood furniture will likely lose ground in the general office area due in part to its lack of durability and resistance to scratching. On the other hand, wood has a warm, attractive appearance and will continue to be preferred for executive office suites.

The development of office furniture to accommodate the use of computers and other electronic equipment having relatively short life spans requires emphasis on flexibility so the furniture may adapt to the new generations of equipment. A close working relationship between the makers of office automation equipment and office furniture manufacturers will become significantly important to the design and marketing of furniture. The Canadian industry's ability to compete at home and in export markets will, in large part, become dependent on such relationships.

5. COMPETITIVE ASSESSMENT

Canadian made office furniture products hold a ninety per cent share of the domestic market. In addition manufacturers ship some forty per cent of production to the U.S. market.

The potential for the industry lies in the competitive international arena and Canadian office furniture manufacturers are strongly influenced by economic developments in the U.S.A. since it presents the main export market for the industry.

In the present period of industrial development, modernization and expansion of markets will be needed to improve the competitiveness of the industry. The application of CAD/CAM and the use of robotics and computer numerically controlled equipment can provide continuing opportunities for improvements. Input from a close working relationship between the machinery and equipment manufacturers could also help to significantly improve productivity.

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Industry Marketing

DATE: Revised February 12, 1987

FACT SHEET - OFFICE FURNITURE

1. Principal Statistics

		1971	1980	1981	1982	1983	1984	1985E	1986E
Establishments	#	62	121	137	145	172	168	170	170
Employment	#	4713	7305	8071	7640	7583	8795	9500	9600
Shipments	$ million	88.6	394.1	496.7	510.7	550.3	700.6	828.1	904.8
Shipments	1971 $ million	88.6	186.9	211.5	197.0	205.0	245.1	271.5	279.8
Exports	$ million	9.5	118.9	147.3	166.3	203.9	270.9	300.4	350.3
Domestic Shipments	"	79.1	275.2	349.4	344.4	346.4	429.7	527.7	554.5
Imports	"	4.9	25.8	30.3	24.3	25.4	33.7	37.4	37.7
Canadian Market	"	84.0	301.0	379.7	368.7	371.8	463.4	565.2	592.3
Exports - % of Shipments		10.7	30.2	29.7	32.6	37.1	38.7	36.3	38.7
Imports - % of Market		5.8	8.6	8.0	6.6	6.8	7.3	6.6	6.4
Shipments - % of Mfg. Shps		0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4
Employment - % of Mfg. Emp		0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5

Yr.to Yr. Average % Change

		1971/1981	1980/1984	1980/1986E
Establishments	#	8.2	9.7	5.8
Employment	#	5.5	3.9	4.7
Shipments	$ million	18.8	13.2	14.9
Shipments	1971 $ million	9.1	5.0	7.0
Exports	$ million	31.5	22.9	19.7
Domestic Shipments	"	16.0	8.3	12.4
Imports	"	20.0	6.9	6.5
Canadian Market	"	16.3	8.2	11.9

2. Regional Distribution

	Atlantic	Quebec	Ontario	West
Establishments-% of total	-	20	63	17
Employment-% of total	-	23	69	8
Shipments-% of total	-	19	75	6

3. Foreign Trade

		U. S.	West. Europe	East. Europe	Asia	Other
Imports - % of total	1983	87	12	-	1	-
	1984	82	15	-	2	1
	1985	73	24	-	2	1
Exports - % of total	1983	95	1	-	-	4
	1984	93	-	-	1	6
	1985	95	-	-	1	4

E - denotes estimate
1985 from 12 month preliminary figures
1986 from 8 month preliminary figures

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DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE

INDUSTRIAL ELECTRICAL EQUIPMENT SECTOR

1. STRUCTURE AND PERFORMANCE

a) Structure

The industrial electrical equipment sector manufactures a wide range of equipment for the generation, transmission, distribution and conversion of electrical power, including hydroelectric generators, transformers, switchgear, electric motors and industrial controls. It draws its raw materials from the steel, wire and cable and metal fabricating industries and its major customers are the electrical utilities and the primary and secondary manufacturing industries.

The industrial electrical equipment sector accounts for about 11% of total machinery shipments. The sector is comprised of approximately 250 companies with some 20,000 employees, mainly located in Ontario and Quebec. Shipments in 1985 were $2.0 billion of which $356 million were exported. The major export markets were the U.S. (72%), Latin America (18%) and S.E. Asia (6%). Imports in 1985 were $878 million and came from the U.S. (74%), E.E.C. (11%) and S.E. Asia (8%).

The Canadian industry is dominated by subsidiaries of foreign owned multinational corporations (mainly U.S. based) which were originally established in Canada to meet the requirements of the Canadian market which at that time was protected from imports by high tariffs. As market opportunities were identified for specialized products, Canadian owned companies were established and because of the limited size of the Canadian market, these companies, although highly specialized remained small. In fact, of the present 250 companies in the sector, only 58 employ more than 100 people.

In comparison with their international competitors all Canadian companies in this sector are small. For example, one of the largest, Canadian General Electric with 1985 sales of approximately $1.5 billion ranks about 14th in sales when compared to such companies as General Electric (its U.S. parent), Siemens (Germany), Hitachi (Japan), Brown Boveri (Switzerland). In fact most of these foreign companies have overall sales that far exceed the total Canadian market for industrial electrical equipment.

The equipment is manufactured in a wide range of sizes and the production techniques vary according to size. For example, in transformers, large power transformers are custom engineered whereas small distribution transformers are mass-produced. The multinational subsidiaries normally manufacture a complete size range, including custom engineered and mass-produced products, whereas the smaller Canadian companies tend to produce mainly custom engineered products or component parts. Some multinational subsidiaries have been given world product mandates for a particular product line.

An important factor affecting the structure of the sector is the policy of the electrical utilities in both Canada and the U.S. (Canada's biggest export customer) to act as their own systems integrator. This, together with the subsidiary nature of the Canadian industry, has resulted in a lack of turnkey capability for the Canadian manufacturers who have acted mainly as equipment suppliers. Other developed countries have companies which through vertical integration are capable of supplying complete systems on a turnkey basis.

b) Performance

Gross domestic production based on constant 1971 dollars was $324 million in 1973 and was only marginally higher at $340 million in 1985. During that period, employment fell by some 20% from 25,579 in 1973 to 20,000 in 1985, due largely to productivity improvement and cost reduction efforts to meet increasing foreign competition.

The export orientation of the sector has increased from 8% of shipments in 1973 to 18% in 1985 with exports reaching $356 million. Import penetration of the domestic market has remained stalled with imports satisfying roughly a third of the domestic market valued at $878 million in 1985 and has only increased by 3 percentage points since 1973 to 35% in 1985.

The financial characteristics of the industrial electrical equipment sector cannot be distinguished from the electrical manufacturing industry as a whole because the product range of the larger companies spans the industry. However, profits, retained earnings, and debt/equity ratios have shown improvement over the last two years as activity in the sector is recovering from the earlier recession in many product areas. Profit margins are running in the vicinity of 3% of sales which is considered normal for a mature product sector.

2. STRENGTHS AND WEAKNESSES

a) Structural

Canadian companies were initially established to supply equipment for the massive hydroelectric projects in Canada which were normally situated at a considerable distance from the demand centres. This has resulted in a particular expertise being established in the manufacture of hydroelectric generators and equipment for the transmission of electrical energy over long distances. In fact, Canada is a world leader in high voltage AC transmission technology. The growing primary and secondary manufacturing industries also created a demand for custom built heavy industrial electrical equipment which was met by the newly established Canadian industry. The sector has therefore developed a strength in the supply and installation of large custom made equipment on a "one-off" basis and subsidiary companies have received world product mandates for this equipment from their parents.

Canadian companies do not have the economies of scale for mass-produced items because of the small domestic market and are consequently less competitive in these product lines. The industry depends fairly heavily on foreign technology for this type of production.

In general the typical Canadian company in this sector tends to be smaller and less productive than its U.S. counterpart. The latest comparable data available from the U.S. is for 1982. It indicates that the average Canadian electrical equipment manufacturers' shipments of $7 million were only 50% of those of its U.S. equivalent and that its employment is 69% of that of the U.S. counterpart. These factors contribute in a large measure to differences in the value added per production worker hour which was $26.96 in Canada and $41.35 in the U.S. The tendency for the Canadian company to be smaller and less productive than its U.S. counterpart is partly explained by the smaller Canadian market. However, another contributing factor is the purchasing practices of provincial electrical utilities which encourage the establishment of local manufacturing facilities by the suppliers which in turn tends to fragment the industry.

The Canadian industry tends to be product rather than systems oriented, whereas its competitors internationally tend to be large vertically integrated manufacturers capable of supplying a complete turnkey system. In order for Canadian companies to be in a position to compete internationally it will be necessary for them to work together and to form export consortia.

Although the domination of this sector by foreign controlled subsidiaries has contributed to its strength through product mandating, access to technology, corporate marketing networks and direct financial assistance, it has at the same time left the sector vulnerable to outside decisions that could ultimately lead to the closure of major Canadian based facilities. However, since a number of Canadian subsidiaries have become the centre of excellence for a particular product such a drastic decision might not be taken unless the parent company decided to withdraw entirely from that product line.

b) Trade Related Factors

As noted earlier, the Canadian industry was established behind high tariff barriers, to serve the domestic market, however as a result of the various GATT rounds these tariffs are now being lowered for most product areas. Existing tariffs range from 15% for hydroelectric generators down to 9.8% for industrial generators and these rates are due to drop a further two to three percentage points next year.

In terms of non-tariff barriers the provincial utilities have policies that give explicit purchase preferences for local suppliers and there are close ties between the utilities and the local manufacturers.

Provincial electrical utilities purchase equipment in the open market. In most other developed countries, except the U.S., the markets are closed to foreign competition because of nationalistic preferences, commercial pre-qualification requirements, technical specifications written to favour local equipment and occasionally legislation. These closed markets allow our foreign competitors such as Japan and the European countries, to quote prices internationally that do not fully cover their costs. This practice together with government concessional financing are major factors in Canadian companies losing business to foreign competition at home and abroad.

The whole question of pricing and concessional financing is very difficult to prove because of the closed bid system frequently used by the Canadian utilities and the reluctance of Canadian manufacturers to initiate an action against a potential customer which could be costly and lead to the loss of future business. Nonetheless there have been two instances where dumping and associated injury have been proven in the case of hydroelectric generators.

The major opportunities in the immediate future for this sector are in the developing countries, such as Pakistan and China, where the requirements for equipment are very similar to those in Canada. These countries have no major tariff barriers and Canadian companies are well positioned to supply the equipment needs.

c) Technological Factors

Where world mandates have been assigned Canadian technology is on an equal plane with international competition and this is seen as a marketable commodity in customer countries.

The sector is largely mature and does not lend itself to radical product change. The gradual evolution of component parts to improve overall performance is a trademark. Where companies rely on foreign technology, this technology is readily available. Those companies holding mandates usually carry on an acceptable level of R&D in Canada.

The industry is investing to a moderate scale in modernization programs mostly oriented to productivity improvement. The introduction of CAD/CAM and updating of machine tools are a priority. The manufacturers of mass-produced equipment will benefit more from automation than the custom-equipment manufacturers.

The versatility of manufacturing techniques that smaller companies have developed in order to meet the small scale domestic market are an asset that allows them to diversify into other product areas and survive in a reduced overall market, for example during a recession.

d) Other Factors

At the present time, due in part to the low value of the Canadian dollar, custom-engineered equipment is price competitive.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

Procurement policies of provincial utilities provide the most notable government influence on the sector. Ontario, Quebec and British Columbia utilities have explicit purchase preferences for local suppliers and most utilities have close operating ties with manufacturers within their province.

As the sector faces increasing pressure from unfair imports, federally administered border measures such as anti-dumping and countervail become more important to the industry.

The sector benefits at the firm level from the full range of government incentive programs for export development, R&D and innovation. As a result of an increasing emphasis on export markets, financing assistance through EDC and CIDA have taken on an even greater importance.

4. EVOLVING ENVIRONMENT

The forecast demand for industrial electrical equipment in Canada for the electrical utilities is minimal over the next decade, and what little there is, is expected to come from those provinces where the Canadian industry has previously lost orders to foreign suppliers. A similarly soft demand is also forecast for the U.S. electrical utilities, which have accounted for over 50% of Canadian exports in the past.

In addition to the U.S., other export markets have included Latin America and S.E. Asia. However, countries in these areas, such as Brazil and S. Korea which have negotiated technology transfer agreements with industrialized country producers, are now beginning to satisfy their domestic market requirements and are themselves looking for export opportunities.

The markets of the other industrialized countries in Europe, Japan and Australia have always been closed to Canadian exports because of policies in these countries which favour local manufacturers.

The expanding market for industrial electrical equipment, especially for hydroelectric generation, is that of the developing countries such as China, India and Pakistan where there is an increasing demand for electrical energy and abundant supplies of water. An example is the Three Gorges hydroelectric project on the Yangtze River in China which is expected to be the largest hydroelectric project in the world and will require hydroelectric generators and long distance transmission equipment. However, because of lack of experience, these countries normally require complete turnkey systems and in this area Canadian companies are weak. This weakness has been recognized by the industry and consortia have been formed to bid on a project-by-project basis. Also an attempt is now being made to increase the effectiveness of these consortia by encouraging their formation through the industry associations.

5. COMPETITIVENESS ASSESSMENT

In the area of custom engineered equipment, normally produced on a "one-off" basis, the Canadian industry is competitive in terms of technology and price, with particular strengths in hydroelectric generators and high voltage transmission equipment. Exports to the U.S. and Latin America and other countries have proven that Canadian companies can compete internationally. For exports outside of the United States, special government financing is essential to match similar assistance provided by the governments of our key competitors.

In the area of the mass-produced equipment, Canadian companies generally do not have substantial international competitive strength and have so far been protected by high tariffs.

The industry has recognized that it needs a turnkey capability to compete in the markets of the developing countries and is forming consortia to bid on important upcoming projects.

In the domestic market Canadian companies are being threatened by foreign companies which are supplying equipment to the Canadian electrical utilities at what appear to be dumped prices and with concessional financing from their governments.

Prepared by: Machinery and Electrical Equipment
Department of Regional Industrial Expansion

Assistant Deputy Minister
for Capital and Industrial Goods

Date: JUL 17 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

F A C T S H E E T

NAME OF SECTOR: Industrial Electrical **SIC(s) COVERED:** 3371, 3372, 3379 (1980 Class.)

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	1985e
Establishments	179	253	264	255	256	250e	250
Employment	27579	28530	30060	27486	23147	21000e	20000
Shipments ($ Millions)	604	1583	1832	1801	1464	1563	2001
Gross Domestic Product (Constant 1971 $ Millions)	324	375	400	347	280	293	340
Investment ($ Millions)	32	62	69	40	41	48	53
Profits after tax ($ Millions)	37	162	131	84	89	N/A	N/A

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985e
Exports ($ Millions)	51	240	261	267	211	307	356
Domestic Shipments ($ Millions)	553	1343	1571	1535	1252	1256	1644
Imports ($ Millions)	253	623	724	685	653	754	878
Canadian Market ($ Millions)	806	1966	2295	2220	1905	2010	2492
Exports as % of Shipments	8%	15%	14%	15%	14%	20%	18%
Imports as % of Domestic Market	31%	32%	32%	31%	43%	38%	35%
Canadian Share of International Market							

Source of Imports	U.S.	E.E.C.	ASIA	OTHERS
1981	541(75%)	83(11%)	46(6%)	54(8%)
1982	481(70%)	82(12%)	67(10%)	56(8%)
1983	441(68%)	102(16%)	53(8%)	57(8%)
1984	561(74%)	82(11%)	57(8%)	55(7%)
1985	N/A	N/A	N/A	N/A

Destination of Exports	U.S.	E.E.C.	ASIA	OTHERS
1981	142(54%)	15(6%)	35(13%)	70(27%)
1982	150(56%)	13(5%)	15(5%)	90(34%)
1983	143(68%)	10(5%)	7(3%)	51(24%)
1984	220(72%)	11(4%)	17(6%)	59(18%)
1985	N/A	N/A	N/A	N/A

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	B.C.
Establishments - % of total	1	35	60	2	2
Employment - % of total	1	36	60	1	2
Shipments - % of total (est.)	1	20	25	2	2

4. MAJOR FIRMS

NAME	OWNERSHIP	LOCATION OF MAJOR PLANTS
Canadian General Electric (CGE)	U.S.	Peterborough, Ont.; Lachine, P.Q.
Marine Industries Ltd. (MIL)	Canada/France	Tracey, P.Q.
Westinghouse	U.S.	Hamilton, Ontario

e - estimates provided by Machinery and Electrical Equipment Branch

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE (REVISED)

INDUSTRIAL RUBBER PRODUCTS INDUSTRY

(PLEASE SUBSTITUTE FOR PREVIOUS DOCUMENT)

DECEMBER 31, 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE (REVISED)

INDUSTRIAL RUBBER PRODUCTS INDUSTRY

1. STRUCTURE AND PERFORMANCE

a) Structure

The industrial rubber products industry in Canada, as considered in this profile, includes manufacturers of rubber hose and belting (SIC 1521) and other rubber products (SIC 1599). It consists of 80 firms and 101 establishments engaged primarily in the production of rubber, polyurethane and other elastomeric components and finished products, excepting tires and tubes and footwear. This manufacturing sector makes products for essentially all other industries, major markets being the resource extraction, transportation, and consumer-durables industries. A large proportion (estimated at 35 per cent) of the industry in Canada supplies products to the resource extraction sector, including mining, oil and gas, and forestry segments. Necessary to the success of this aspect of the business is a service capability involving frequent contact with customers' processes and equipment. This situation favours Canadian manufacturers of industrial rubber products whose plants are located close to those of the resource-extraction-industry customers.

The industry's shipments in 1985 are estimated at $985 million and its employment in excess of 8,000.

Industrial rubber products manufactured in Canada ranked by proportion of the value of total shipments include hoses, 12 per cent; rubber weatherstripping, 10 per cent; automotive moulded, extruded and lathe-cut goods, 10 per cent; flat belting including conveyor, elevator, and transmission, 8 per cent; V-belts, 6 per cent; non-automotive moulded, extruded and lathe-cut goods, 6 per cent; and tread rubber, 5 per cent. A wide variety of other products, including printing blankets, mats, vibration dampeners, sheeting and laminated material, make up the balance of the industry's output.

Raw materials account for approximately 56 per cent of manufacturing costs, 60 per cent of these materials costs being expended for elastomers. About 22 per cent of materials costs are accounted for by carbon black, clays, sulphur, accelerators, plasticizers, anti-oxidants, fillers, pigments and other chemicals. Other components used to manufacture end-products, such as yarns, fabrics, wire, hose couplings and fittings, other hardware and packaging material make up the balance of raw materials costs.

Most of the major synthetic rubbers consumed in industrial rubber products manufacture in Canada are produced by Polysar Limited in Sarnia, Ontario. Even though imported elastomers and many rubber chemicals enter either duty-free or under a low tariff, 65 per cent of the value of raw materials used by the sector is obtained from Canadian suppliers.

Compounded elastomers and technical assistance are supplied by Polysar and other major rubber companies to smaller firms lacking compounding capabilities. In addition, rubber-chemical suppliers provide technical advice on physical and chemical property requirements of compounds for a particular product being developed.

Fifty-eight per cent of the establishments and 60 per cent of employment in the industrial rubber products sector is located in Ontario. Quebec accounts for about 25 per cent of the establishments and 33 per cent of the employment. Seventeen per cent of the establishments and 7 per cent of the employment is accounted for by plants located west of Ontario. Ontario accounts for about 63 per cent of shipments, while Quebec accounts for about 34 per cent.

About 75 per cent of the sector's value of shipments is produced by companies controlled from outside of Canada. These companies represent half of the total number of companies in the sector. Generally, the products manufactured in Canada by subsidiary companies are similar to those made abroad by the parent corporations.

For some foreign-owned companies in Canada, most of which are American-owned, the serving of some foreign markets, especially the United States market, is not an assigned corporate role. Foreign-owned corporations dominate the manufacture of hoses, V-belts and flat belts.

There are about ten companies in the industrial rubber products sector in Canada which have attained annual sales in excess of $35 million. The ten largest manufacturers account for approximately 35 per cent of the value of shipments of the industry. Typically, these firms manufacture an extensive range of products, widely used throughout other industries. There exists as well numerous companies having annual sales of a few hundred thousand dollars and up, which are predominantly Canadian-owned and whose product ranges tend to be more limited than those of the larger firms.

The industrial rubber products sector in Canada ships primarily to the domestic market, only 9.4 per cent of the value of shipments having been exported in 1985. The sector in a number of other regions, including the United States, Europe, Japan, India and South East Asia, is similarly domestically oriented.

b) Performance

The sector in Canada is largely a mature industry which tends to move more or less in pace with the economy. The trend of shipments of all manufacturing industries in Canada showed no real growth in the 1978 to 1983 period, and a similar flat or declining trend was evident in shipments of industrial rubber products both in Canada and in the United States. The industrial rubber products industry typically manufactures components for other manufacturing industries. The trend in value of shipments of the industrial rubber products sector in Canada decreased in the period 1978 to 1983 at an annual rate of 4 per cent, whereas it grew at an annual rate of 6.1 per cent in the preceding five-year period. A similar analysis of the value of United States shipments of industrial rubber products indicates that the trend decreased in the period 1977 to 1982 at an annual rate of 2 per cent, whereas it remained constant (no growth trend) in the preceding five-year period.

The percentage of the Canadian market supplied by imports increased at a rate of 0.8 per cent per year in the 1975-1985 period. In 1985, imports of industrial rubber products amounted to $405 million, 31.2 per cent of the Canadian market. Exports of industrial rubber products were $93 million in 1985, of which 78 per cent went to the United States. The percentage of Canadian production exported has exhibited a growth trend of 9.3 per cent per year in the 1975-1985 decade.

The trade deficit for industrial rubber products increased at an annual rate of 14.9 per cent during the period 1980 to 1985, compared to 10.8 per cent for the preceding five-year period, 1975 to 1980.

2. STRENGTHS AND WEAKNESSES

a) Structural

Within the industrial rubber products sector in Canada, plants generally operate on a smaller scale and with shorter production runs than plants in the United States. In general the industry in Canada experiences higher costs of operation than in the United States, attributable to factory overhead, marketing, distribution and administrative unit costs, because of smaller output and a more scattered market.

The Canadian-owned part of the industry manufactures largely custom moulded products, roll coverings, tank and pipe linings, and custom compounds, although one Canadian-owned company, Epton Industries Inc., is an important manufacturer as well of hoses and V-belts.

For the industry in Canada, unit raw material costs and labour costs do not appear to be greatly different than those in the United States.

In 1981, labour productivity, as measured by the ratio of value added in manufacturing activity to production worker hours*, was about 24 per cent lower in Canada than in the United States, in part the result of greater mechanization and longer production runs in the United States. Productivity differences in the two countries may also be affected by the trend in the United States wherein the number of manufacturing plants has increased substantially in states with "right-to-work" legislation (e.g. Alabama, where it is not obligatory that a worker join a union), apparently at the expense of growth in some traditional locations (such as Ohio, where manufacturers are reported to have been concerned at the demands of labour).

b) Trade Related Factors

As of January 1, 1987, Canadian MFN tariff rates for industrial rubber products will range in general from duty-free to 17.5 per cent, many of the products being dutiable at 10.3 or 11.3 per cent. United States tariff rates, as of January 1, 1987 will range from duty-free to 6 per cent.

A non-tariff barrier that has been mentioned as inhibiting Canadian exports is the "Buy-American" legislation in the United States.

A substantial range of industrial rubber products is accorded duty-free access to the Canadian market. Canadian producers must compete in these products, which account for an estimated 23 per cent ($300 million) of the total domestic market. Approximately 30 per cent of all imported industrial rubber products enter Canada duty-free. In particular, these include OEM automotive rubber parts such as weatherstripping, brake parts, bumpers, bushings, gaskets, grommets, engine and body mounts, insulators, and glass runs; and rubber components and materials used in the manufacture of agricultural equipment and a large variety of machinery. Approximately one-half of the value of duty-free industrial rubber product imports ($60 million in 1985) enters Canada under the terms of the Canada-United States Automotive Products Trade Agreement (Auto Pact). It is estimated that 60 per cent of Canada's exports of industrial rubber products is shipped to the United States under the terms of the Auto Pact.

Among foreign-owned companies in Canada, it is estimated that 60 per cent export to some degree, frequently shipping product to parent companies.

c) Technological Factors

The industrial rubber products industry in Canada generally employs modern machinery and equipment and raw materials. Research and development (R&D) expenditures in Canada are lower proportionately than in the United States for a number of reasons, including: a number of Canadian subsidiaries rely on the facilities of their foreign parents; the smaller size of the firms in Canada restricts the resources available for R&D; and probably fewer defence- and aerospace-related opportunities for R&D exist in Canada.

Some Canadian-owned manufacturers have developed technology which has resulted in novel products that have contributed to the increase in production and exports. These products include dual-durometer rubber automotive weatherstrip, silicone rubber keypads for use in printed circuit boards and membrane switches, and synthetic-polymer marine and industrial shaft bearings that withstand high impact loads and contaminated operating conditions better than conventional bearings.

Recent developments in thermoplastic-elastomer (TPE) chemistry and microprocessor-control of process machinery are significant technologies which will increase output without additional requirement for labour (if not actually decreasing the need for labour). While TPEs are unlikely to replace conventional thermoset rubbers totally, they are expected to continue to make inroads into traditional rubber uses, producing lower cost parts with equal or better performance.

*Most recent data available. Information on value added in manufacturing activity and production worker hours for the industrial rubber products subsector is not published by Statistics Canada. The information for 1981 was gathered as part of an industry survey made prior to preparing an analysis of the industrial rubber products industry in Canada.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

Legislation and programs that have a significant influence on large sectors of the economy such as transportation, mining and defence can have an impact on the industry. There are no federal government financial assistance programs that are specific to the industrial rubber products subsector.

4. EVOLVING ENVIRONMENT

Automobile makers in North America are now committed to leading-edge technology. This is forcing a number of industrial rubber products manufacturers that have traditionally been important suppliers to the automobile manufacturers to adopt modern methods such as statistical process control and just-in-time delivery systems.

Technological change, such as the increasing use of injection moulding machinery and thermoplastic elastomers, could result in the industry becoming less labour-intensive and more productive. These developments will not likely lead to any significant improvement in the trade performance of the industrial rubber products industry sector in Canada, but will be necessary to maintain the technical and productivity position of the Canadian industry.

One product line that promises higher-than-average growth is single-ply rubber roofing membrane for industrial, commercial and institutional flat roofing. Presently this product accounts for about 7 or 8 per cent of flat roofing installations in Canada; and annual growth rates of between 15 and 25 per cent are anticipated for the next few years in Canadian and United States markets.

Specialty elastomers such as silicone, polychloroprene, polyisoprene, urethane, ethylene-propylene and copolyester, are expected to account for a larger share of total elastomer consumption over the next five to ten years. Currently about 25 per cent of elastomers consumed by the industrial rubber products industry in Canada are specialty types, and this may increase to 35 per cent by 1990. Most of these raw materials are imported, and likely will continue to be imported, mainly from the United States.

5. COMPETITIVENESS ASSESSMENT

The industrial rubber products manufacturing industry in Canada generally experiences higher operating costs than those in the United States. The domination by foreign-owned manufacturers of the production of major product lines such as hoses, V-belts, flat belting, and some moulded products, and the fact that there is little differentiation of product line between foreign parent and Canadian subsidiary to a large extent restrict manufacturers in Canada to the domestic market.

Domestic manufacturers have been able to retain about 60 per cent of that market portion served by products that are duty free, which suggests that the industry in Canada continues to compete with international manufacturers. However the increasing trend of the percentage of the Canadian market supplied by imports (6.6 per cent per year increase in the 1980-1985 period) indicates that manufacturers in Canada are losing ground to foreign competition overall.

Prepared by: Resource Processing Industries Branch
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Original Signed By
R. H. McGEE
Original Signé Par

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: December 31, 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

FACT SHEET

NAME OF SECTOR: INDUSTRIAL RUBBER PRODUCTS SIC(s) COVERED: 1521 & 1599 (1980)

1. PRINCIPAL STATISTICS

	1971	1980	1981	1982	1983	1984	Estimate Partial 1985
*Establishments	72	92	97	100	102	101	-
*Employment	7,360	8,910	8,900	8,300	8,300	8,500	-
*Shipments ($ million)	220	775	845	805	855	980	985
**Gross Domestic Product (Constant 1971-$ millions)	107	159	159	134	144	173	168
**Investment ($ millions)	31	48	86	86	38	46	45
**Profits After Tax ($ millions)	13	35	41	18	25	53	-
(% of Income)	4.2	3.4	3.7	1.8	2.1	3.9	-

* Estimated figures.
** Values are imputed by pro-rating shipments of industrial rubber products vs. shipments of rubber products.

2. TRADE STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Exports ($ million)	10	45	64	67	68	81	93
Domestic Shipments ($ millions)	210	730	781	738	787	899	892
Imports ($ millions)	84	221	254	249	295	392	405
Canadian Market ($ millions)	294	951	1,035	987	1,082	1,291	1,297
Exports as % of Shipments	4.5	5.8	7.6	8.3	8.0	8.3	9.4
Imports as % of Domestic Market	28.6	23.2	24.5	25.2	27.3	30.4	31.2

Source of imports (top 4)

	U.S.A.	E.E.C.	ASIA	OTHERS
	(Per cent)			
1981	83	8	7	2
1982	83	8	7	2
1983	84	6	7	3
1984	84	7	7	2
1985	83	8	7	2

Destination of exports (top 4)

	U.S.A.	E.E.C.	ASIA	OTHERS
	(Per cent)			
1981	70	5	4	21
1982	73	4	4	19
1983	85	4	3	8
1984	78	4	4	14
1985	78	3	4	15

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % Total	-	25	58	7	10
Employment - % Total	-	33	60	3	4
Shipments - % Total	-	34	63	2	1

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants
1. Goodyear Canada Inc.	U.S.A.	Bowmanville, Ont. Owen Sound, Ont. Collingwood, Ont. Quebec City, Que.
2. DiversiTech General, A GenCorp Company	U.S.A.	Welland, Ont.
3. Waterville TG Inc.	Canadian	Waterville, Que. St-Jérôme, Que. Coaticooke, Que.
4. Gates Canada Inc.	U.S.A.	Brantford, Ont.
5. Epton Industries Inc.	Canadian	Kitchener, Ont.
6. American Biltrite (Canada) Ltd.	U.S.A.	Sherbrooke, Que.
7. Aeroquip (Canada) Inc.	U.S.A.	Toronto, Ont. Perth, Ont.

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

DRAFT

July 9, 1986

COMPETITIVENESS PROFILE

INSTRUMENTATION

1. STRUCTURE AND PERFORMANCE

Structure

The Canadian Instrumentation sector consists of seven distinct and diverse subsectors which are: Industrial Process Control; Building Automation; Medical Electronics; Test and Measurement Equipment; Scientific and Laboratory Instrumentation; Remote Sensing and Environmental Instruments and Geological and Geophysical Apparatus.

Within these subsectors are a broad range of computer based control systems, automation systems and monitoring and supervisory systems used in applications such as pulp and paper, gas and oil, steel, mining, petrochemical, chemical, food processing, transportation, electric power and other primary and secondary industries. Also included are electronic and electrical measuring and analytical instruments used in medicine, research and scientific laboratories, pollution control and detection and in geophysical explorations for natural resources and in remote sensing. Among other applications, the Instrumentation sector embraces energy management systems in large buildings, traffic controls, fire and surveillance alarms and educational aids used for teaching of electrical and electronics and computer science courses. Historically, the growth and prosperity of this sector has been dependent upon the relative commercial well-being of the primary and secondary industries that it serves. The Canadian Instrumentation industry, to a large extent, reflects the history of the development of Canada's mineral resources and of its industrial infrastructure.

The sector consists of about 250-300 individual companies. Approximately 70% of these companies are located in Ontario and Quebec. The 2/3 of the companies that are Canadian owned produce only about 35% of shipments. The degree of foreign ownership varies from subsector to subsector. Only two of the subsectors are predominantly Canadian owned. These are the Remote Sensing and Environmental Subsector and the Geological and Geophysical Instrumentation Subsector. The largest two subsectors namely Industrial Process Control and Building Automation are heavily dominated by multi-national corporations. The majority of foreign-owned corporations have only a limited mandate to supply export markets from their Canadian operations.

A majority of Canadian-owned enterprises in all subsectors have found narrow specialized niches in the U.S. market. This is especially true of the Remote Sensing and Environmental Subsector and the Geological and Geophysical Instrumentation Subsector and to a lesser degree of the Industrial Process Control subsector. Examples of these niches are oceanographic and marine instrumentation, remote sensing data acquisition and interpretation, radio frequency data communications, unique applications of lasers, ultra-sensitive analytical instruments for explosives detection and supervisory control and data acquisition (SCADA) systems.

In addition to the U.S. market, Canadian companies have been successful in obtaining orders in S.E. Asia, Australia, Europe and to some extent in the developing countries of Africa, Asia and Latin America.

Generally, the smaller Canadian firms have not benefited from direct defence-oriented R&D and Procurement support comparable to that offered by other countries or from the commercial spin-offs that such defence support generates.

Until the 1970's, the world markets were dominated by U.S. technology through large multi-national firms such as Honeywell, Foxboro, Fischer and Porter, Bailey Controls and Taylor Instruments. In the last decade, Japanese companies such as, Yokogawa, Toshiba and Hitachi, have made heavy inroads into these markets and the relative position of Western European Companies (Siemens, Philips, Hartmann and Braun) has also been strengthened. The latest

market estimate prepared by the Stanford Research Institute in 1978 for the global market for this industry sector was $19.0 billion. The main competition in the domestic and overseas markets comes from the U.S.A., Japanese, German, French and UK suppliers.

Performance

In 1984, the Canadian electronics industry produced close to $8.0 billion in shipments and employed about 100,000 people. The Instrumentation sector accounted for approximately 15-20 percent of the total Canadian electronic industry in terms of shipments and employment.

In order to overcome the scarcity of data in this sector, the Department, in 1978, conducted an extensive sector study which resulted in the findings shown on the Fact Sheet appended to this profile. These findings were up-dated (based on ongoing day-to-day contacts with industry) to arrive at the 1983 estimate of sector performance. The estimate indicates that the domestic market has not increased, even in current dollars, over the five year period but export shipments have almost doubled in the same period of time. The trade deficit figures, although reduced over the period, mostly underline the fact that for many products and systems there are no domestic sources of supply.

The profitability and financial viability of the member companies are strongly influenced by the investment patterns of industrial and social spending. The sector has always experienced relatively high birth and mortality rates, a characteristic of companies in the high technology field. The recent recession has increased the number of bankruptcies and slowed down somewhat the rate at which new companies are being established. This is especially true of companies established by Canadian scientists and entrepreneurs.

The large companies, mostly affiliates of U.S. multi-nationals, responded to the recent down-turn in orders by scaling down their Canadian operations and by consolidating their corporate manufacturing facilities. Medium and small Canadian-owned firms redirected their efforts to export markets. A significant number were successful in securing orders in the U.S.A., South East Asia, Australia and other overseas markets. The recent recession has also resulted in the retrenching and streamlining of operations, in the reduction of overheads and lowering of the cost-of-goods-manufactured. These actions have made the sector more efficient and more competitive in international markets.

The majority of the Canadian-owned instrumentation companies are competitive in export markets within narrow product and technology niches by virtue of their relatively small size, low overheads, shorter delivery lead times and flexibility in responding to requests for quotations. They are, as a rule, endowed with state-of-the-art technical expertise in narrow fields. They very often pursue smaller projects, retro-fits, systems upgrading and modernization and joint bids with local companies and other Canadian firms.

The strength of U.S. dollar in recent years was one of the more significant contributing factors to the increase in export sales. The American market remains the major area of concentration for this industry sector. American suppliers are, as well, major competitors in world markets.

2. STRENGTHS AND WEAKNESSES

a) Structural

There is a marked trend in the U.S. industry to automate and centralize corporate manufacturing facilities in order to be more competitive. This has caused a movement of production from Canada to the U.S.A. Canadian branch plants are slowly being transformed into local application engineering, sales and system servicing centres. The economies of scale necessary to be competitive in some standardized product areas now demand much larger quantities of production than those in effect only a few years ago. This trend towards consolidation has resulted in a reduction of manufacturing labour in Canada. This has been offset, however, by a slight increase in employment of Canadian technically qualified personnel such as technicians, engineers, computer programmers and software developers.

This trend to centralization was prompted by the conversion from pneumatic and electro-mechanical controls to digital solid state electronics. It has also resulted in greater commonality of elements, sub-assemblies and software packages between what were previously diverse product lines. For this reason the scope for production rationalization or "world-product mandating" is limited.

For the Canadian-owned firms whose specialized, custom-built products are made in much lower quantities, the relatively small scale of operations very often offers many advantages in reduced product costs and greater flexibility in designing and delivery of custom-made orders.

The Instrumentation sector is highly fragmented. There are over 250 companies participating in the sector with about 50 percent of these companies earning revenues of less than $3.0 million per annum. Many are competing with parallel product lines for relatively small markets. This is particularly true for the geophysical instrumentation subsector and certain industrial process control systems.

R&D employment among independent firms has been increasing steadily and now constitutes about 10 percent of total employment reflecting high outlays on research and development. These outlays are comparable in percentage terms to those of large multi-nationals. It has been also noted that the Canadian content of a typical large turn-key system is about 66 percent and it is assumed that it will grow as the relative costs of software development increase. Software very frequently constitutes the highest single cost element of many systems. A most significant positive development is the fact that Canadian-owned companies are steadily increasing their export sales. A number of them now export in excess of 90 percent of their production. These firms have acquired the necessary export marketing skills, a degree of turn-key capability and technological leadership in certain selected fields. This orientation towards export markets was prompted mainly by the softening of domestic demand for industrial process control systems. This was especially noticeable in Western Canada where a number of large energy projects were cancelled. The sales into U.S. were further spurred by the decrease in value of the Canadian dollar.

b) Trade Related Factors

The tariff barriers are not of major significance in many of the export markets. The average U.S. duty on Canadian instrumentation and process control systems is 7 percent and on stand-alone instruments between 4 and 7 percent. To illustrate the range of tariff rates applicable to the sector, the following examples have been selected:

	to Canada		to U.S.A.	
	1986	1987	1986	1987
Scientific Lasers (Laboratory Instruments)	11.3%	10.3%	4.1%	3.9%
Spectrometers (Laboratory Instruments)	0.9%	Duty Free	6.8%	6.2%
Thermostats (Building Automation)	11.3%	10.3%	5.0%	4.7%
Smoke Detectors (Building Automation)	Duty Free	Duty Free	2.9%	2.7%
Fire Alarm Systems (Building Automation)	11.3%	10.3%	3.5%	3.1%
Industrial Process Control Systems	0-4%	0-4%	7%	6.7%
Magnetometers (Geophysical Instrument)	8.4%	7.5%	5.5%	4.9%
Audiometers (Medical Electronics)	Duty Free	Duty Free	6.8%	6.2%

Federal and state "Buy American" provisions have had a substantial impact on certain Canadian product lines. U.S. companies are very seldom subject to the full Canadian tariff because they manufacture or assemble some of the products in their local branch plants. There are no NTB's of significance in Canada affecting either interprovincial or transborder trade.

The current tariff on systems to the EEC is 11% and on instruments 5 to 8%.

The current tariff to Australia is 2% on systems and ranges from 2 to 15% on instruments.

The current tariff to Japan is between 3.4% and 3.8% on instruments and between 2.9% and 4.0% on systems.

Western Europe and Japan were always considered secondary markets and viewed primarily as strong competitors in third world countries. Differences in codes and standards have prevented Canadian companies from attempting to capture a significant share of these markets.

c) Technological Factors

The current technological change in the end use industries is characterized by the convergence of rapidly expanding software and microelectronics technologies. These changes will lead to increased automation of large process industries and secondary manufacturing establishments. To design and manufacture automation and supervisory systems for this evolving market will require heavy capital and R&D investments. This trend will of necessity favour larger, entrenched companies and will help them to consolidate and to expand their dominance of the marketplace. On the other hand, demand for specialized industrial real-time software and custom-systems will enable smaller specialized companies to prosper at least in the short to medium term. Because of rapidly evolving technological changes e.g. availability of powerful microcomputers, applications software packages, new sensors and advances in data communications, the smaller companies must spend in the order of 10 percent of their gross sales on R&D and product development. This compares favourably with the percentages of gross sales expended on R&D by large multi-national concerns.

In many segments of technology such as specialized industrial applications software packages, remote sensing applications, and geological and geophysical instrumentation for mineral explorations, Canadian companies are the world leaders. Their technological leadership mostly in narrow, specialized areas explains to a great extent some of the sector's successes in export markets.

New technologies are either generated at home or are diffused across the border from the USA. Outright technology acquisitions or licensing from abroad (other than from the USA) happen only very infrequently.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

The industry has made wide use of STEP, EDP, IRDP and PEMD programs to promote its growth. Many companies participate in government sponsored trade fairs and exhibitions abroad and in outgoing trade missions. A large number of firms have benefited from the results of research work carried out by NRC, CCRS, DOC and other federal science-based departments.

The smaller companies in the sector, especially those with sales of less than $5.0 million per year, depend heavily on structured R&D assistance programs such as IRDP or IRAP.

4. EVOLVING ENVIRONMENT

The future growth of suppliers of process control and automation systems to the primary industries such as gas and oil, petrochemical, pulp and paper, metals, electric power, transportation and others is tied to the prosperity of these primary industries. The medical electronics, scientific and laboratory instrumentation companies derive their revenues from government spending on health care and education. The need to increase productivity through automation, to reduce energy consumption, to increase product quality with computer-based inspection systems, to provide more sophisticated medical electronics devices and to control growing vehicular traffic in the developing countries all create high demand for the products of the Instrumentation sector. Thus, the potential for growth in this sector is influenced by a number of social and economic factors.

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Because of the diversity and a wide range of end-use industries which the sector serves, the adverse effects of major down-turns which may subsequently occur in any one of these industries, on the sector overall will be reduced.

Similarly, recessions in one world area will usually be compensated by a relatively high rate of industrial expansion in other areas. This was the case in early 1980s when both S.E. Asia and China constituted attractive markets for the sector.

It is likely, therefore that the Instrumentation sector's growth, both in the domestic and export markets over the next three years, will be in the range of 5-6% per annum in real terms New company formations and enterpreneurial start-ups will be constrained, however, if the ongoing stagnation of some segments of the domestic market continues.

5. COMPETITIVENESS ASSESSMENT

The Canadian operations of multi-national corporations are continuing to undergo transformation from branch plants to regional sales and systems integration and service and maintenance centres. This transformation, mainly by the U.S. based multinationals, is being undertaken to strengthen their competetive position in the major strategic market, the U.S.A. These large companies continue to dominate the domestic market especially for large industrial process control systems and equipment.

A majority of Canadian-owned firms in the sector are currently competitive in certain segments of domestic and export markets because of their niche orientation and technological leadership in narrow fields of applied sciences or real-time computer applications. This is particularly true of remote sensing applications, geological and geophysical instrumentation, systems for the automation of paper making machines and certain types of analytical instruments.

Prepared by: Electronics and Aerospace Branch July 9, 1986

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DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

July 9, 1986

FACT SHEET

NAME OF SECTOR: Instrumentation **SIC(s) COVERED:** _____

1. PRINCIPAL STATISTICS

	1978	1983
Establishments	250	300
Employment	14000	13000
Shipments ($M)	620	698
Gross Domestic Product (SIC391) (Constant 1971$ millions)		
Investment ($ million) (SIC391)		
Profits after tax (SIC381) ($ million)		

2. TRADE STATISTICS

	1978	1983
Domestic Exports ($ millions)	119	215
Domestic Shipments ($ millions)	501	483
Imports ($ millions)	461	477
Canadian Market ($ millions)	962	960
Domestic Exports as % of shipments	19%	30%
Imports as % of domestic market	48%	49%

* Source of imports

Approximately 70% of imports are of U.S. origin. The balance comes from Western Europe and Japan.

* Destination of exports

Approximately 60% of exports are destined to the U.S.A. with the remainder divided between S.E. Asia, China, Europe and Latin America.

3. REGIONAL DISTRIBUTION - Average over the 3 year period 1980 - 1982.

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	1	14	56	17	12
Employment - % of total	N/A				
Shipments - % of total	N/A				

4. MAJOR FIRMS

NAME	OWNERSHIP	LOCATION OF MAJOR PLANTS
1. Foxboro	U.S.	Toronto, Calgary
2. Honeywell	U.S.	Toronto
3. CAE Electronics	Canadian	Montreal
4. Sentrol Systems	Canadian	Toronto, Calgary
5. Lumonics	Canadian	Ottawa

NOTE: DATA SHOWN IS FROM AN INDUSTRY SECTOR STUDY CONDUCTED BY THE DEPARTMENT.

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

DRAFT

COMPETITIVENESS PROFILE

INTERCITY BUSES

1. STRUCTURE AND PERFORMANCE

a) Structure

Intercity and tour coaches are designed to provide reliable and comfortable service over long distances. In the North American market these coaches are integrated body/frame (monocoque) construction with diesel engines mounted at the rear. In Canada, there are two manufacturers in the intercity coach industry. Motor Coach Industries Ltd. (MCI), is a subsidiary of MCI U.S. which is wholly owned by Greyhound Inc. of the U.S. Prevost Car Incorporated is an entirely independent Canadian corporation based in Quebec.

MCI operates a plant in Winnipeg, Manitoba, which can employ up to 1,600 people at full capacity. In 1985 however, employment was down to approximately 600. The plant is part of a rationalized North American manufacturing operation. It produces coach shells only, valued at about one-third of the completely equipped end product. These shells are shipped to an MCI plant at Pembina, N.D. for final assembly and trim. Some of these completed vehicles are then sold in the Canadian market. This arrangement allows MCI to operate under the duty free provisions of the Auto Pact. MCI provides intercity coaches to Greyhound Canada, Greyhound U.S., and also sells to other independent intercity and charter coach lines.

Prevost Car Incorporated, is located in Ste-Claire, Quebec. At plant capacity of 416 vehicles per year the plant would employ approximately 600 people, but in 1985 only 288 people were employed. Prevost is not affiliated with any carrier and therefore has no captive market. The company sells its products to independent intercity carriers, charter carriers and to special purpose users. Canadian content of Prevost coaches is 60 to 75 per cent.

The United States currently has two major coach manufacturers. MCI (U.S) a subsidiary of Greyhound Inc. has its major facility in New Mexico as well as the assembly plant in Pembina. With the shells from Canada, and others produced in the U.S., MCI can produce up to 12 completed vehicles per day. As a captive supplier to Greyhound Lines, the largest carrier in the U.S., MCI has dominated and continues to dominate the North American market.

The second major producer is Eagle International, a subsidiary of New Trails Inc. which runs Trailways, the second major U.S. carrier. Eagle produces approximately 200 coaches per year at its Texas facilities and supplies Trailways as well as independent schedule and charter carriers. Eagle has not recently been involved in the Canadian market but a new agreement with Ontario Bus Industries (OBI), a manufacturer of urban buses, will enable OBI to import a limited number of Eagle products under the provisions of the Auto Pact.

These companies, and some new entrants sell to a mature North American market. Although industry capacity is approximately 4,000 vehicles per year, normal sales are less than 2,000, of which Canada accounts for 100 to 150. Canadian producers depend on the U.S. market for 75-85 per cent of sales.

Despite market overcapacity, Mack Bus and Coach Group of Mack Truck Inc. is re-entering the market after a twenty year absence. This company is producing a new vehicle in the U.S., manufactured and marketed under a co-operative arrangement with Renault of France.

There is little trade in finished vehicles between North America and Europe or Japan. Required vehicle characteristics have traditionally been exclusive to each market area. However, some European coach builders are now entering the U.S. market through U.S. manufacturing

facilities (Neoplan, Setra, Bova). This European interest is the result of weak European bus sales, a strong U.S. dollar, and the desire by the Europeans to utilize their unused U.S. urban bus manufacturing capacity. Production of intercity coaches can be added simply and cheaply. The European transplants are eager for any incremental sales in the market.

b) **Performance**

Despite the cyclical nature of the North American and Canadian market for intercity coaches and attempts to penetrate the market by European producers, MCI and Prevost have managed to retain their traditional share of these markets.

Between 1980 and 1984 MCI (Can.) production fluctuated between a low of 813 shells in 1984 and a high of 1,144 shells in 1983. The latter year however was the low point in sales of complete units in Canada, with only 119 being sold. Prevost's peak production year was 1982 when 228 vehicles were produced. In 1984 production fell to less than half that amount. Capacity utilization in the North American industry has traditionally been about 50 per cent. In the past two years it has fallen even lower. The Canadian producers share in this low utilization but appear to have remained profitable.

In 1985 both production and employment in the industry dropped as the effects of deregulation in the United States and the constrained economic activity in North America reduced the demand for new vehicles. Major carriers have reduced many of their services to smaller communities and drastically reduced the frequency of services. After deregulation, average intercity services decreased by 11.6 per cent annually compared to only 4.8 per cent annual decrease prior to 1982. This has primarily affected smaller communities in terms of service, but has also reduced the demand for new vehicles by the major carriers. At the same time, deregulation in the U.S. airline industry has increased the competitiveness of commuter airlines and further eroded the intercity coach carrier industry. As a result of this decrease, Greyhound has reduced its active coach carrier fleet from 4,400 units in 1981 to 3,100 units in 1985. This has effectively reduced the demand for new coaches on MCI and at the same time released a number of units for rebuilding and resale to new scheduled and charter services, thus increasing the competition for new coach manufacturers.

2. STRENGTHS AND WEAKNESSES

a) **Structural**

Scale is not an issue in the production and assembly of coaches.

MCI enjoys an assured market because of its association with Greyhound. Prevost has developed strong marketing capabilities as an independent supplier. This has been reflected in its sales performance. Both companies have a strong position in the marketplace. Canada enjoys no particular advantages or disadvantages in terms of material or labour costs. However, the marked difference in Canadian/U.S. exchange rates reduces the cost of Canadian vehicles to American purchasers.

Prevost continues to benefit from active research and development programs which have allowed the company to bring new products to the market at a time of intense competition. This has been an important factor in assisting the company to maintain its market share. In addition, Prevost is not involved in carrier operations, which gives the company an edge when dealing with small independent operators.

Most North American intercity coach manufacturers build their own monocoque body and interior and use GM drivetrain and axles. The one exception to this is the new Mack Coach which has Mack engine and transmissions. As virtually all North American coach builders use the same source for drivetrains, this factor does not effect the competitive environment. However, it does mean that Canadian producers have no competitive product to export offshore. Bodies and interiors can be manufactured anywhere and the real product value is in the drivetrain.

Conversely, the generalized use and acceptance of GM drivetrains through North America makes it difficult for European producers to penetrate this market with a different drivetrain. The latter use GM drivetrains in their North American models.

b) Trade Related Factors

Coach manufacturers operate under the Canada/U.S. Auto Pact. A duty remission orders allows MCI to claim remission of duty for parts and accessories for use in the manufacture of bodies for coaches and the importation of complete coaches provided they are produced from bodies manufactured in Canada by MCI. Canadian duties on buses are 9.2 per cent while U.S. duties are only 3.1 per cent.

U.S. federal and state procurement policies do not inhibit most sales, which are to the private sector, and do not include public sector financing. However, the 'Buy America' requirements under the Federal Surface Transportation Assistance Act, and various state procurement policies effectively inhibit Prevost from selling vehicles to federal or state supported projects such as commuter services. The publicly supported section of the market has been small and is likely to become smaller with privatization and deregulation. The same problems however would not apply to MCI with its 70 per cent U.S. content per vehicle and final assembly in the U.S.

Canadian tariff barriers (9.2 per cent) inhibit non-Auto Pact producers from participating in the small Canadian market.

Due to the generalized use of the U.S.-produced North American drivetrain, Canadian producers do not have a product to sell in the international market.

c) Technological Factors

Canadian firms are competitive in terms of product technology and have a lead in certain areas. Prevost, with an active R&D component, has led the North American industry in the development of the new 102" wide coach which has become the new standard intercity coach size. Prevost has also led the industry with the introduction of an articulated intercity coach that has been specifically designed for North American operating conditions. The new vehicle may become an effective competitor for airlines and trains on major intercity routes.

European coach technology, geared to a shorter vehicle life span and more luxurious charter operations, has not been cost-effective for regular schedule North America carriers where harsh operating conditions and high mileage are important.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

Prevost has used IRDP funds for research and development on the new articulated coach, and is using IRDP funds for present plant expansion to produce this vehicle.

4. EVOLVING ENVIRONMENT

The North American intercity coach market is undergoing some fundamental changes due to industry deregulation in the United States, increasing competition from commuter airlines on major intercity routes, and the changing demands of coach riders. Declining levels of intercity coach services have reduced demand for new vehicles. Carriers have also moved to reduce operating expenses by more effective utilization of coaches and increasing the passenger per coach ratio. Higher efficiency in both areas contributes to decreasing demand for new units.

At the same time however, deregulation has opened up the carrier business to new entrants, particularly in the charter field. These new entrants are not tied to a particular manufacturer and allow greater opportunity to independents such as Prevost. In addition, Greyhound is franchising out many of its routes, again allowing independent manufacturers broader market opportunities.

Deregulation in the United States has also allowed coach manufacturers to produce wider, more comfortable and luxurious vehicles, a move considered necessary in the industry in the face of strong competition from other transportation modes. In this area Canadian manufacturers, especially Prevost are well positioned to compete but will face stiff competition from new European entrants who have traditionally produced luxurious vehicles and are now adapting them to North American market requirements. A restructuring of the industry is expected in the near future despite U.S. industry lobbying to cut all subsidies to Amtrak, in the hope that the intercity coach carriers can capture a portion of Amtrak's 21 million passengers per year.

While deregulation in the United States presents both problems and opportunities to the coach manufacturing industry, the new environment is likely to increase marketing costs for those manufacturers who wish to compete effectively. Overall, the Canadian market should remain fairly static in the foreseeable future.

5. COMPETITIVE ASSESSMENT

Overall the Canadian motor coach industry appears to be competitive in the North American market place. MCI's operations are rationalized on a North American basis, and the Canadian plant is an effective producer in the changing market environment. Most market opportunities are, and will remain, in the United States where recent changes in legislation governing the motor carrier sector could prove advantageous to Prevost. In order to take advantage of the new de-regulated environment, all companies will however be forced to increase spending on marketing their products.

In the small Canadian market, Canadian producers are effectively protected by tariffs from increasing competition, but at the same time there are few opportunities for growth.

Prepared by: Automotive, Marine and Rail Branch
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DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE

INTERIOR WOOD BASED PANEL PRODUCTS

1. Structure and Performance

Structure

The panel products referred to in this profile include four major subsectors: hardwood plywood (with veneer core) and veneer, hardboard, insulation board and particleboard. The majority of products are sold as standard sized commodity sheet materials which are used in the manufacture of furniture components, kitchen cabinets and in non-structural uses in residential and commercial buildings. Most products are manufactured with a non-waterproof type of adhesive and, with the exception of hardboard siding, most are suitable only for interior or protected applications.

In 1985, total shipments for the sector were about $588 million which represented about 5.3% of all wood products industry shipments. Employment, estimated at about 6850 people in direct manufacturing represents some 6% of total employment in the entire wood products sector. In 1985, 66% of all shipments were consumed in the domestic market.

The 1985 statistics on the subsectors are as follows:

Subsectors	Shipments(e) ($ million)	Exports ($ million)	Imports ($ million)	Employment(e)
Hardwood Plywood/ Veneer	230	110	59	4,000
Particleboard	193	51	16	1,400
Hardboard	100	24	25	750
Insulation Board	65	13	5	700
TOTAL SECTOR	588	198	105	6,850

(e): estimate

The interior wood based panel products sector is based on a renewable resource which can be divided into 2 major subgroups: **Roundwood** in the form of large diameter hardwood logs suitable for processing into veneer and low grade hardwood logs used by other subsectors; and **Residues** principally in the form of sawmill by-products such as wood shavings and sawdust and to a small degree recycled newsprint.

In the case of hardwood plywood/veneer, the industry is based to a large degree on veneer logs imported from the U.S. and to a lesser extent on imported veneers. In the case of the other subsectors, domestically sourced low grade hardwood logs and sawmill residues provide the majority of raw material used by these industries.

The interior panel products sector is comprised of about 50 hardwood plywood and veneer mills, 12 particleboard mills, 6 insulation board plants, and 3 hardboard plants. Ownership in this sector consists principally of small independent businesses in the hardwood plywood/veneer subsector with large integrated forest products companies involved in the other subsectors. No individual company has a dominant position in the sector.

Ownership of the interior panel sector is largely Canadian. In terms of number of establishments, less than 10% of the industry is under foreign control. Foreign ownership in 1985 represented about 17% of total sector shipments and was most common in the particleboard subsector, where one mill is U.S. owned, two are owned by West German interests, and one is partially owned by a French group. Provincial government involvement in this sector is minor and consists mainly of investment in the particleboard and hardwood plywood/veneer subsectors.

While there are establishments in all regions of the country, there is a concentration of plants in the principal consuming provinces of Ontario and Quebec where about 81% of the total number of establishments are located.

Performance

During the 1970's and early 1980's the overall sector performance declined as alternative materials such as plastics, paper overlays, gypsum board, aluminum siding etc., replaced many of the products. During the period 1973 to 1978 the volume of shipments declined by an annual average rate of 0.8% followed by a further decline at an average annual rate of 1.1% in the period 1978 to 1983. However, although shipment data is not yet available for 1984 or 1985, it can be expected that some improvement took place in these years as indicated by the increased export levels.

In terms of capacity utilization, the sector has improved continually since the recession. During the first half of the decade the industry operated at consistently below capacity with many companies taking extended periods of downtime. However, during the first half of 1986, output of many plants has been increased in response to improved market conditions and they are now operating at near capacity.

The sector has undergone a substantial rationalization during the past 10 years including the closure of several hardwood plywood facilities, 3 particleboard mills, 3 insulation board mills and a large hardboard plant. However, during the same period 3 new large particleboard mills have been established which increased the overall subsector capacity. In the case of hardwood veneers, there has been a rapid increase in the number of small hardwood veneer producers and upgrading facilities which provide a custom service to primary veneer manufacturers. Total employment during the period has not changed significantly although there has been a shift in employment within the sector.

Exports, which totalled $198 million in 1985, have grown about 2% annually in volume terms during the past 5 years with the **hardwood plywood/veneer** subsector dominating total sector exports. However, in recent years the **particleboard** subsector has shown significant growth in exports. In 1985, export shipments to the U.S. represented 91% of sector exports. Imports are mainly speciality products manufactured from wood species not available in Canada and have remained relatively stable over the past 3 years. Imports in 1985 represented 21% of domestic consumption with hardwood plywood/veneer being the largest single sector import.

Due to the ownership pattern in this sector, only limited financial information is available and, with the exception of the particleboard and veneer subsectors, investment in the early 1980's has been limited. The financial situation is believed to have improved somewhat in 1984 and 1985.

2. Strengths and Weaknesses

a) Structure

This industry sector is characterized by a variety of plant sizes. While many of the plants in the sector are of comparable size to U.S. plants, there are some U.S. plants of considerably greater capacity. In general, the relative size of plants is not considered an impediment to the domestic industry.

Companies in the **particleboard, hardboard** and **insulation board** subsectors are generally subsidiaries of large integrated and diversified forest product companies and, consequently, they benefit from a broad industrial knowledge base. Conversely, **hardwood plywood/veneer** producers are generally small independent manufacturers.

The sector is characterized by relatively labour intensive plants which in the case of **hardwood plywood** and **insulation board** have generally not been modernized. While there has been little change in the equipment to manufacture basic **hardboard**, the three remaining Canadian hardboard plants have upgraded their product lines to concentrate on value added products, such as exterior siding, interior panelling and doorskins. By comparison, many of the **particleboard** and some **veneer** mills are modern and incorporate up-to-date equipment to take advantage of productivity improvements, improved raw material utilization, and energy consumption.

The **hardwood plywood/veneer** subsector is based to a large degree on logs imported from the U.S. and consequently, the viability of this subsector is highly dependent on the availability of suitable logs and their delivered cost. The **particleboard, hardboard** and **insulation board** subsectors have an adequate raw material base in the form of sawmill residues and low grade hardwood logs. While detailed cost estimates are not available for this industry sector, Canadian manufacturers in all four subsectors are believed to be generally cost competitive in terms of resource, labour, productivity and manufacturing costs with their counterparts in the U.S.

Substitution by alternate domestic and imported materials, such as low cost imported Asian plywood doorskins, gypsum board, non-wood based insulation panels, etc, is believed to have reduced the market share of the sector. The most notable effect has occurred in the **insulation board** and **hardwood plywood** subsectors with the closure of 3 insulation board plants and several plants which manufactured doorskins from domestic species.

Although transportation costs are significant, most Canadian mills are located near major consumers in both the domestic and U.S. northeast and north central markets. However, due to the nature of many of the products, transportation costs are relatively high and prevent penetration of more distant markets in the U.S. and overseas.

b) Trade Related Factors

Although there are no tariffs on veneer entering Canada or the U.S., most other products of the sector face tariffs in export markets and similiarly are protected by Canadian tariffs. In the U.S. most tariffs are scheduled to decline to about 3% by 1987 except for some hardwood plywoods which will remain at 8%. In the EEC, tariffs on most products will decline to 10% by 1987, except for veneer at 6%. In Japan, final tariff rates in 1988 will be between 5% and 10%. Similarly, Canadian tariff rates are also declining and will be below 8% by either 1987 or 1990 depending on the product concerned. In general, tariffs are not believed to represent significant impediments to Canadian exports particularly when current currency exchange rates are taken into consideration.

Most export products from the sector are used in non-structural applications and are not subject to building codes. However, U.S. product standards which include, for example, regulations on formaldehyde emissions pose a potential threat to Canadian exports of particleboard and hardwood plywood which are manufactured with urea formaldehyde resins.

c) Technological Factors

In general, the level of technological development in Canadian mills is similar to that of the U.S. industry. While much of the technology utilized in the sector is of European, Canadian or U.S. origin, most is available to all manufacturers.

With regard to technological innovation, individual subsectors have demonstrated considerable differences in both development and implementation. The **insulation board** and **hardboard** subsectors are based largely on technology developed over 20 years ago and little advancement has occurred in recent years. By comparison, technological developments in manufacturing equipment, resin systems, fibre utilization and energy consumption have been adopted by many of the mills in the **particleboard** subsector. The development of new veneer equipment, both in manufacturing and upgrading has been implemented by several Canadian producers, particularly in newer plants.

d) Other Factors

In the U.S. market, the favourable currency exchange relationship between the Canadian and U.S. dollar has assisted the sector in expanding export shipments. The sector's export performance in all markets is affected to some degree by currency exchange relationships.

3. Federal and Provincial Programs and Policies

Federal government assistance has been available to the panel products sector under a variety of programs such as RDIP, IRDP, PEMD, and FIRE. Similarly, some assistance has been made available to individual companies under various provincial government programs.

The Forest Sector Advisory Council (FSAC) provides the federal government with advice on a range of issues, particularly with respect to productivity and labour/management. The Federal/Provincial Forest Industries Development Committee (FIDC) meets semi-annually to discuss forest industry related policy issues and programs at the federal and provincial government levels.

4. Evolving Environment

The markets for most interior panel products are dependent on housing activity. Recent forecasts indicate that housing starts, both in the U.S. and Canada, should remain strong through 1988. Forecasts beyond 1988 indicate a reduced demand for new housing in response to demographics.

Continued growth in housing renovation, both contractural and do-it-yourself, which now exceeds in value the total expediture on new housing and is growing at a faster rate than the economy as a whole. This will provide growing opportunities for the sector, but particularly for **particleboard and hardboard.**

At least over the short to medium term, export markets should provide increased opportunities for **particleboard, hardboard** and **veneer** assuming there are no major changes in currency exchange relationships.

Within the sector product substitution is occurring. **Particleboard,** upgraded with surface treatments such as wood veneers and melamine papers, and hardboard are replacing hardwood plywood in some kitchen cabinet and furniture applications. In the case of **insulation board,** alternate products such as fiberglass and styrofoam panels are replacing it in residential construction. In response to this reduced demand, the insulation board subsector developed specialized products such as roofing and concrete expansion joint material which present some expanding market opportunities in North America. However, in general the performance of this subsector is declining. In the case of hardboard siding, non-wood products such as brick and aluminum continue to exert pressure on the subsector.

The uncertainty of future formaldehyde regulations continue to be a concern to the Canadian **particleboard** and **hardwood plywood** subsectors. However, the Canadian industry has consistently reduced the level of formadehyde emissions over the past 3 years.

The application of existing and emerging technology can be expected to enhance raw material utilization and productivity. However, total sector employment is not likely to change significantly since some growth can be anticipated in the particleboard subsector which should offset any reductions through productivity improvements and rationalization.

5. Competitiveness Assessment

Particleboard output has been expanding and continues to be competitive in the domestic and U.S. markets. In Canadian and U.S. mills, increased volumes are being upgraded with surface treatments such as wood veneers, paint and melamine papers and, particleboard is expanding its range of end-use applications.

The **hardwood plywood** subsector has declined in recent years with the closure of several plants. The Canadian industry is competitive with its U.S. counterpart. However, substitution by particleboard and hardboard is growing and the subsector appears to be becoming less competitive in both the domestic and U.S. markets.

The **hardwood veneer** industry is generally competitive and accounts for 75% of the value of export shipments in the hardwood plywood/veneer subsector. Although a significant volume of the production is based on imported U.S. logs, this has not affected the competitiveness of the industry as significant volumes of veneer are re-exported to the U.S. Technological advances in veneer processing equipment, particularly in the veneer upgrading industry, should continue to improve productivity.

The **hardboard** subsector is also currently considered to be competitive in the domestic and U.S. markets. Substitution by alternate products continues to be strong. However, following the closure of a mill three years ago and improved market demand, the industry is operating near capacity.

The **insulation board** subsector has been in decline for several years. However, plants are currently operating at a high level of output reflecting the current high level of construction activity. The sector is presently competitive in the domestic and U.S. markets. However, little modernization is taking place and non-wood materials are becoming an increasingly important factor in some end-uses.

Exports have increased in recent years and any significant shift in the existing advantageous exchange rate with the U.S. can be expected to have an adverse impact on this performance.

Prepared by: Resource Processing Industries Branch
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and
Resource Processing

Date: June 20,1986

FACT SHEET

NAME OF SECTOR: INTERIOR WOOD BASE PANEL PRODUCTS (hardwood plywood and veneer, hardboard, insulation board and particleboard)

SIC(s) COVERED: 2592, 2521, 2714
1980 basis

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Establishments (e)	97	85	74	74	74	74	76
Employment (e)	6400	7500	6800	6800	6800	6800	6850
Shipments ($ millions)	246	392	417	372(e)	475(e)	529(e)	588(e)
Gross Domestic Product (Constant 1971$ millions)	-	-	-	-	-	-	-
Investment ($ millions)	-	-	-	-	-	-	-
Profits after tax ($ millions)	-	-	-	-	-	-	-

(e) estimates

2. TRADE STATISTICS

Exports ($ millions)	80	125	128	132	165	199	198
Domestic Shipments ($ millions)	166	267	289	240	310	330	390
Imports ($ millions)	65	76	105	53(e)	108(e)	100(e)	105(e)
Canadian Market ($ millions)	231	343	394	293(e)	418(e)	430(e)	495(e)
Exports - % of shipments	32	32	31	35	35	38	34
Imports - % of domestic market	28	22	27	18	26	23	21
Canadian Share of International Market	3	3	3	4	4	4	4

Source of imports	U.S.	E.E.C.	ASIA	OTHERS
1981	45	1	46	8
1982	53	1	36	10
1983	47	1	42	10
1984	61	1	30	8
1985	61	1	32	6

Destination of exports	U.S.	E.E.C.	ASIA	OTHERS
1981	87	10	1	2
1982	89	8	1	2
1983	90	6	1	3
1984	92	4	1	3
1985	91	4	2	3

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Quebec	Ontario	Prairies	B.C.
Establishments - % of total	7	42	39	4	8
Employment - % of total	7	41	37	5	10
Shipments - % of total	5	47	39	3	6

4. MAJOR FIRMS

	Ownership	Location
1. MacMillan Bloedel Limited Vancouver, B.C.	Public	B.C., Ont.
2. G.W. Martin Ltd. Harcourt, Ont.	Private	Ont.
3. Commonwealth Plywood Co. Ltd. Ste. Theresa, Que.	Private	Que.
4. Domtar Inc. Montreal, Que.	Public	Que., Ont.
5. Weldwood of Canada Limited Vancouver, B.C.	Public	Ont., BC

Since statistical and financial data are not generally available on this sector, it has been necessary to make a number of estimations in the preparation of this paper.

DRAFT - PROJET

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE

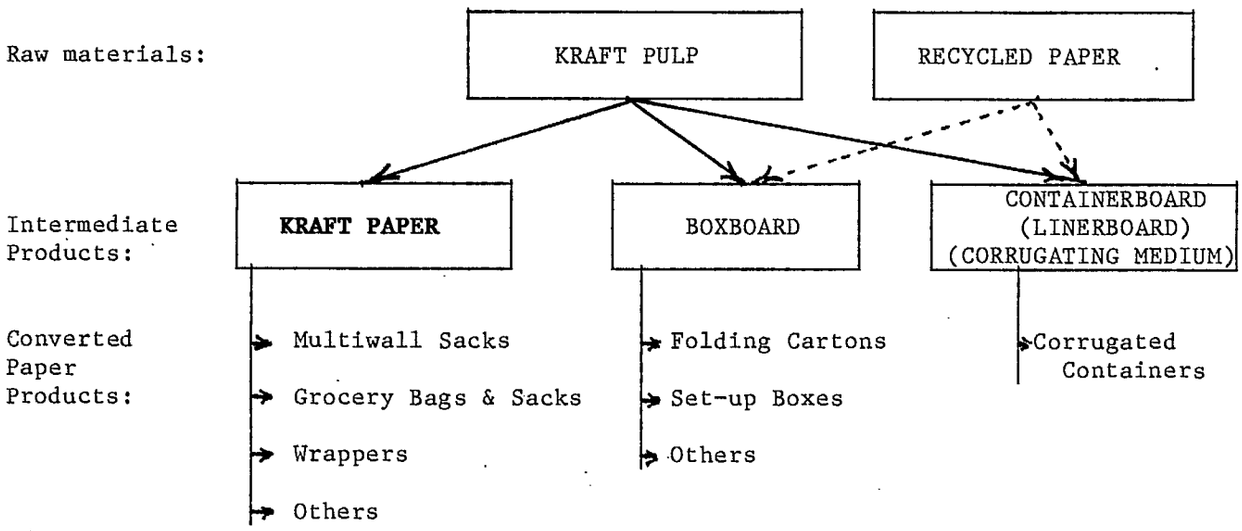
KRAFT PAPERS

1. Structure and Performance

a) Structure

The product of this sector is a heavy, and usually brown, unbleached paper made entirely from wood pulp. It is used as a wrapper, or to make shipping sacks, grocery bags and other paper-based products such as gummed tapes and filters. To cater to the many and varied applications, a wide-range of grades are produced. The principal one is "sack kraft", used in multi-wall sacks (e.g. cement sack). It accounts for better than 50 percent of production and 70 percent of exports. The relationship between kraft paper and the other paper-based packaging materials is shown below.

PAPER-BASED PACKAGING



The sector consists of nine mills, wholly or partially engaged in production of kraft papers. Some of these mills also produce boxboard, linerboard, market pulp and fine paper. Kraft paper shipments, in 1985, were estimated at 475,000 tonnes valued at $293 million or 2.2 percent of the sales of the Canadian pulp and paper sector.

The regional distribution of the national capacity is 45 percent B.C.; 27 percent Quebec; 22 percent Manitoba and 6 percent Ontario. Mill employment, in 1985, was estimated at 1,250 persons, and was distributed roughly in the same ratios as capacity. On the basis of capacity, some 77 percent of the sector is Canadian-owned.

All Canadian kraft paper mills have integrated wood pulping facilities. No producer, however, is integrated forward into sack or bag making.

Close to 50 percent of the sector output is exported. The value of these exports was estimated at $128 million in 1985. The main export markets are Asia, (35% of exports, mostly to Japan), the U.S. (29%) and the EEC (23%). All these exports originate from the western mills, whereas the eastern mills supply the domestic market. Export volumes have remained almost constant over the last five years. Demand for kraft paper has increased in Asia during this period compensating for market losses in the EEC. Imports account for 20 percent of the domestic market.

b) **Performance**

The 1975-1985 decade has been difficult for the Canadian kraft paper sector, particularly in eastern Canada. Plastics have made solid gains in Canada's grocery bag and sack markets. The effect of this product substitution has been a decrease in grocery paper bag demand of about 35 percent since 1975. Plastics and increasing use of bulk-handling systems in the transportation of dry chemicals, such as cement and fertilizers have also made strong gains against shipping sacks in Canada. Sack kraft paper shipments declined by about 28 percent in the same period. Declining tariff protection and competition from low-cost U.S. producers have compounded and added to the problems of the sector.

Kraft papers' capacity peaked in 1975 (at about 635,000 metric tonnes per year) ending a period of growth that had been sustained, on average, at a rate of 6 percent per year since the mid-1960s. In the 1980s, shipments of kraft paper decreased continuously until 1985 when an increase was recorded. During the last decade low prices and low margins resulting from sustained U.S. pressure on the domestic market forced two eastern Canadian mills to cease production of kraft papers and removed 80,000 to 85,000 metric tonnes per year from the market. These plants were modernized and converted to other higher-value products, such as fine papers and specialty krafts.

Eastern producers have experienced depressed profits limiting their ability to undertake capital improvements. By contrast, western mills have enjoyed higher profit levels and have been able to undertake capital investments.

2. Strengths and Weaknesses

a) **Structural**

In general, the Canadian mills are older than those of competitors in Finland and Sweden, where recent capital improvements have resulted in superior production efficiencies.

Economies of scale and the degree of specialization in a limited range of products are key factors affecting competitiveness in this sector. A distinction should be made between the eastern and western Canadian mills. Eastern Canadian mills are not particularly efficient partially because of a relatively low capacity but also because of the fragmentation of production into many grades. They are strongly oriented to grocery bag grades. Their average capacity is only 125 tonnes per day while world scale Scandinavian and U.S. mills produce 500-600 tonnes per day. By contrast, western mills while below world scale are sufficiently large (300 tonnes per day, on average) to be efficient given their specialization in sack kraft.

Wood costs are very important in this sector. Western mills, with wood costs amounting to approximately 35 percent of total cost have an advantage over eastern mills where wood costs reach 45 percent, especially since the western mills' total costs are lower. Wood costs in Scandinavia are higher than in eastern or western Canada.

Transportation costs are also significant with this relatively low-value product. Western mills' transportation costs to Europe amount to 14-15 percent of the delivered price of kraft paper while the Scandinavian transportation costs are only 2-3 percent of the sale price. Western mills, however, have a transportation cost advantage on the Asian market.

Substantial withdrawals of American capacity have taken place in recent years in anticipation of continued replacement by plastics and bulk delivery systems. This reduction in capacity now seems to have been premature and may have been greater than needed. As a result, there continues to be a strong

demand in the U.S. for sack kraft grades and western mills are in a position to take advantage of the demand.

The domestic price levels for the grocery bag grades produced by the eastern mills are strongly influenced by the the U.S. market where prices are very volatile and profits are low. The problem is due to the high proportion of U.S. capacity that exists as swing machines (i.e. capable of making grocery sack paper or kraft liner). This "in/out" capability destabilizes the U.S. market price of grocery bag paper. When weak demand for kraft linerboard leads to a shift in production, grocery bag paper prices fall and this eventually impacts upon the Canadian market.

b) Trade Related Factors

Effective January 1, 1987, Canadian and U.S. duty will be zero on the principal grades of kraft papers used for sacks and bags. Since January 1986, the Canadian duty has been 1.9 percent for these grades. For other specialty grades, the Canadian and U.S. duty will be 4 percent. EEC duty will be 6 percent and Japanese duty will be 3.5 percent for both grades. There are no N.T.Bs in this sector affecting trade between Canada and export markets.

c) Technological Factors

In general, the production technology for kraft paper is available throughout the world through the purchase of pulping/paper making equipment. In special cases, such as extensible (stretchable) kraft papers, the special process is available under license and two proprietary processes have been licensed in Canada.

d) Other Factors

Currency exchange rates have a major effect on the competitive position of producers. Before 1980, western Canadian mills were lower cost producers than their Scandinavian competitors. The Scandinavian currency devaluation in the early 1980s completely reversed this competitive position, and lasted until late 1985. Since then, the Krona has strengthened against the Canadian dollar, inflation has been much higher in Scandinavia than in Canada and as a result, western Canadian mills are again competitive on both the EEC and Asia markets.

3. Federal and Provincial Programs and Policies

There are no federal or provincial programs specifically targetted to this sector.

4. Evolving Environment

In general, the kraft papers industry can be described as mature with little or no prospect for overall growth. In the domestic market, significant penetration by plastics and alternative bulk-handling systems have occurred. Further inroads by plastics will take the form of small but steady annual erosion of kraft paper demand. Over the short term, Canadian domestic demand is expected to decrease and by 1990 the demand is expected to be 8 to 10 percent below that of 1984. The declining trend in domestic demand is expected to continue through the 1990s.

In the export market, Canadian shipments are expected to increase slowly given no adverse change in the values of currencies. This modest growth is likely to be accompanied by a geographic shift in markets as exporters, essentially the western mills, concentrate on the more profitable Pacific Rim market rather than on the European market where their transportation costs are higher.

5. Competitiveness Assessment

Western kraft paper mills, representing 67% of Canadian capacity are efficient and with the shifts in currency exchange rates since September 1985, are competitive in all export markets, especially in the sack kraft grades.

Eastern Canadian mills are older, smaller and less efficient than the western mills and those of foreign competitors, and are not internationally competitive. They concentrate on the domestic market mostly in grocery bag grades where competition from low cost U.S. producers keeps their prices depressed. The resulting low profits have limited their ability to undertake the needed capital improvements.

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DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: JUL 30 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION July 1986

FACT SHEET

NAME OF SECTOR: Kraft Papers SIC(s) COVERED: 2713 (1980)

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	Estimate 1985
Establishments	11	9	9	9	9	9	9
Employment	1570	1400	1350	1200	1260	1200	1250(e)
Shipments ($ millions)	242	327	327	305	280	241(e)	293(e)
(1000 tonnes)	572	533	490	453	476	426	475
Gross Domestic Product)	Not available - confidentiality in						
(Constant 1971-$ millions))	Sub-groups						
Investment ($ millions))							
Profits After Tax ($ millions))							
(% of income))							

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Export ($ millions)	60	148	137	118	118	108(e)	128(e)
Domestic Shipments ($ millions)	182	179	190	187	162	133(e)	165(e)
Imports ($ millions)	8	17	27	24	37	43	41
Canadian Market ($ millions)	190	196	217	211	199	176	206(e)
Exports as % of Shipments	25	45	42	39	42	45	44
Imports as % of Domestic Market	4	9	12	11	19	24	20(e)
Canadian Share of International Market	N/A	11	10	11	N/A	N/A	N/A

Source of imports (top 4)	U.S.	E.E.C.	ASIA	OTHERS
1981	99	1	0	
1982	99	1	0	
1983	99	1	0	
1984	99	1	0	

Destination of exports (top 4)	U.S.	E.E.C.	ASIA	OTHERS
1981	34	36	19	11
1982	33	27	24	16
1983	38	22	28	12
1984	29	23	35	13

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	0	45	11	11	33
Employment - % of total	0	28	7	23	42
Shipments - % of total	----------Not available----------				

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants	Concentration (% of domestic market)
Manfor Ltd.	Canadian	Man.	Not published information
Eurocan Pulp & Paper Co.	American/Finnish	B.C.	
Canadian Forest Products Ltd.	Canadian	B.C.	
Cascades (East Angus) Inc.	Canadian	Que.	

e - denotes estimate

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE

LEAD AND ZINC SMELTING AND REFINING

1. STRUCTURE AND PERFORMANCE

a) Structure

The Canadian lead and zinc smelting and refining sector is made up of two closely interrelated sub-sectors, those for lead and zinc.

Products of the sector are lead bullion (an impure, marketable grade of lead) as well as refined lead in blocks, pigs, sheet and slabs. Zinc is marketed as slabs, ingots, dust, powder and flake. Major co-products are silver and copper, which are also present in the ores, as well as sulphuric acid and fertilizers. Most zinc is consumed in the galvanizing of steel products and most lead is used in automotive batteries.

There are five companies in this sector in Canada: Brunswick Mining and Smelting (BMS), Canadian Electrolytic Zinc (CEZ), Cominco Ltd., Hudson Bay Mining and Smelting (HBMS) and Kidd Creek Mines. These companies operate a total of four zinc plants and two primary lead smelters located in New Brunswick, Quebec, Ontario, Manitoba and British Columbia. In addition, there are a number of secondary lead smelters which recycle lead scrap, mainly from batteries.

Employment in the sector has fallen steadily in the past decade from over 8,000 to about 6,000. Shipments have varied between about $600 million and $1.1 billion. Cominco in Trail, B.C., is the largest Canadian zinc producer, with an annual capacity of 272,000 tonnes, followed by CEZ in Valleyfield, Quebec with 218,000 tonnes, Kidd Creek near Timmins, Ontario with 127,000 tonnes and HBMS in Flin Flon, Manitoba with 73,000 tonnes. Cominco is the larger of two primary lead producers with a capacity approaching 135,000 tonnes, and BMS in Belledune, N.B. is the smaller producer with a capacity of 68,000 tonnes.

The close association of lead and zinc minerals in Canadian ore bodies has given rise to a common industry structure for the two metals. To some degree the companies are vertically integrated, including mining, smelting and refining. In addition, they buy and sell significant quantities of lead and zinc concentrates.

Production rate of primary lead is determined by the market demand for zinc and silver, as a consequence of the co-product relationship among the three metals.

The importance of by-product and co-product metals is indicated in the table below showing Cominco's production of major metals in 1985:

	Quantity	Value (Cdn. $)
Zinc	290,000 tonnes	345,000,000
Lead	132,000 tonnes	76,000,000
Silver	10,800,000 oz.	91,000,000
Gold	31,000 oz.	13,000,000
		$525,000,000

The recycling of lead scrap into secondary lead accounts for about 40 per cent of total world lead metal production. While low prices for lead have resulted in a number of recent closures of secondary smelters, secondary lead will remain a significant source of metal. As higher prices of lead during other periods make it worthwhile to collect and smelt more scrap, secondary lead production rates tend to respond rapidly to increasing demand and therefore to dampen cyclical price changes for

the whole lead industry. In contrast to the lead situation, recycling of zinc is a minor activity, since the major use of zinc - galvanizing - causes most of this metal to be non-recoverable.

Approximately 50 per cent of Canadian production of lead and 75 per cent of zinc are exported. The U.S. is the major importer (90,000 tonnes of lead and 325,000 tonnes of zinc), followed by European and Asian countries. Imports into Canada are virtually nil. Canada consumes 40 to 50 per cent of its lead production and 10 to 20 per cent of its zinc production.

Cominco is 54 per cent owned by Canadian Pacific Enterprises and Kidd Creek was recently purchased by Falconbridge Corp. Noranda owns 64 per cent of BMS and 100 per cent of CEZ. HBMS is managed and controlled by Inspiration Resources Corp., New York. The small amount of government ownership consists of an indirect minority interest of the federal government, through Canada Development Corporation, in Kidd Creek and a minority position of the Caisse de dépôt et placement du Québec in Noranda, the parent company of BMS and CEZ.

The existence of a lead/zinc smelter in a district is of some strategic importance for regional industrial development, as it permits the exploitation of a number of small ore bodies in that district which would otherwise find no profitable market.

b) Performance

Western world and Canadian primary lead smelters have, in the last few years, been operating at about 70 and 80 per cent of capacity, respectively. Secondary lead capacity utilization has dropped to 60 per cent, in spite of a number of closures world-wide. Western world primary zinc refineries have been operating at an average of 85 per cent of capacity, whereas Canada's have been operating at over 95 per cent of capacity.

Metal shipments have been, since 1979, in the range of $660 million to over $1,000 million per year, with Canada's share of the world market increasing from 4.7 to 6.4 per cent for primary lead and from 11 to 14 per cent for zinc. With regard to the associated mining industry, mineral concentrate production is 13 per cent of the world total for lead, and 24 per cent for zinc. This makes Canada the western world's largest producer of zinc and third largest producer of lead and a major exporter of both metal and concentrate.

Financial performance of the industry sector dropped dramatically from a profit of $264 million in 1980 to a loss of $37 million in 1983 (for the companies which reported results during that period), then bounced back to a profit of $51 million in 1984. A loss of over $100 million was experienced in 1985. The aforementioned figures refer to total operations, as it is not possible to obtain reliable figures on only the primary lead and zinc operation.

The price of zinc dropped from 59¢ per pound early in 1985 to only 48¢ by the end of 1985. The price of lead dropped precipitously from 42¢ to 24-26¢, and the price of silver, an important co-product, dropped from $10 to $7.75 per ounce (all are in Canadian funds). During the first quarter of 1986, prices of zinc and silver continued to decline. As a consequence of low metal prices, the industry has borrowed heavily over the last five years, leaving it highly leveraged and in a poor position to raise capital and modernize further.

2. STRENGTHS AND WEAKNESSES

a) Structural

Canada's zinc operations are among the lowest-cost in the world, enjoying the advantages of large scale of operation, state-of-the-art technology, relatively low energy cost, and high recoveries. Australian and European zinc processing costs follow closely behind those of Canada. Average operating cost for Canadian zinc plants is 15¢ (U.S.) per pound, the lowest of all world regions, which average 19¢ (U.S.). It is lower than the U.S. average of about 23¢ (U.S.), and below the current world price of 32-34¢ (U.S.).

Cominco's new zinc plant is the largest in the world whereas HBMS' zinc capacity is among the smallest. CEZ and Kidd Creek zinc capacities are in mid-range by world standards.

In primary lead, Cominco's lead smelter is among the largest in the world and that of BMS is in the lower range.

Canadian lead smelter operations benefit from the sale of valuable co-products (silver, gold) and by-products which arise from the complexity of Canadian ores. However this has a cost, as Canadian mills and smelters must be complex to extract these values, and extensive process R&D has been necessary. The other main negative cost factors for Canadian lead smelters include higher transport costs of concentrates and metal and low productivity related to old technology. The benefits from the sale of metal by-products appear to offset the negative cost factors noted above, making Canadian lead smelters competitive among world producers. In spite of this, Canadian lead smelters, like probably all others in the world, are not profitable at today's metal prices.

U.S. lead operations have advantages of scale of operations; high grade, clean ore permitting simplicity of process; nearness to coke supply; low transportation costs between mines, smelters and markets; and low capital and operating costs. On the other hand, their by-product values are minimal. With the value of lead being very low, the U.S. lead industry is in difficulty. U.S. companies, for the past three or four years, have been undergoing severe retrenchment measures such as reducing personnel, closing facilities, and selling assets. In August 1985, Asarco closed, for an indefinite period, its 82,000 tpy lead smelter in Texas. In May 1986, Homestake shut down its 140,000 tpy operation in Missouri. Canadian producers would not have the same reasons to shut down their lead operations because of the close interrelationship with zinc, silver and gold.

In a general comment on comparison of costs related to ore composition, operations in Australia, Mexico and South America have a slight advantage over those in Canada because their ores have higher silver values. Canadian lead/zinc ores on average have less lead and silver but more zinc, copper and gold than average ores in all regions of the western world.

In order to improve profit margins (or reduce losses), the main avenue of lead and zinc producers is productivity improvement. With exceptions, this has already taken place in zinc operations but not in lead smelting operations.

Canadian companies have the advantage over their major international competitors of close proximity to U.S. markets.

b) Trade Related Factors

Canada imposes no tariffs on lead and zinc; however, other countries impose tariffs on these metals. By 1987, Japanese tariffs will decline to 6.0 per cent on lead and 2.1 per cent on zinc, E.E.C. tariffs will be 3.5 per cent on lead and 3 per cent on zinc, and U.S. tariffs will be 3.0 per cent for lead and 1.5 per cent for zinc.

There are no N.T.B.'s in the U.S., Canada's largest market. However, the possibility of countervail or other action exists if the U.S. deems that Canadian federal and/or provincial governments are unduly assisting their lead and zinc smelters. In fact, the U.S. launched an investigation recently on Canadian lead.

c) Technological Factors

Lead smelting operations in Canada are integrated with the companies' other operations because of the complexity of the ore, and this association with other products contributes high value to the overall operation. These smelters, like most others in the world, use the sinter/blast furnace process, which is regarded as out-dated and contributes materially to low productivity, high operating cost and unhygienic working conditions. New smelting technology is available which would overcome these problems, but the prospective return on the necessary investment is low.

In the case of zinc, Canada's plants are generally in a position of world leadership with regard to technology. However one of the smaller Canadian plants, HBMS, is out-dated and of relatively high operating cost.

Canadian companies have long been involved internationally in both buying and selling process technology.

d) Other Factors

Exchange rates affect Canada's competitive position. The Canadian dollar has fallen steadily over the past number of years in relation to the U.S. dollar, providing some relief for Canadian producers competing against U.S. producers. The Canadian dollar is still strong compared with most other world currencies, resulting in a continuing impediment to the competitiveness of Canadian producers vis-à-vis their other major competitors in Peru, Australia, and Mexico. A year ago, in March 1985, when U.S. and Canadian currencies were extremely strong, it was difficult for Canadian producers to sell zinc metal in Europe and compete with European producers in the U.S. market. Since then, U.S. and Canadian currencies have dropped by about 30 per cent against virtually all other currencies, allowing Canadian producers to compete more effectively.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

There are no federal or provincial government programs specific to this industry.

The federal government seeks to improve transparency of markets and, for this reason, supports the International Lead and Zinc Study Group.

4. EVOLVING ENVIRONMENT

The market demand for lead is dependent on storage battery use, with about half of all lead being used in this application. A positive factor has been the growth in automobile population. Negative factors have been a brief drop in demand for automobiles, the downsizing of automobiles and the reduction in weight of batteries with the development of a lead-calcium alloy. These changes have shown up in a marked decline in consumption of lead for batteries during 1980-82, then a resumption of the traditional upward trend since 1983. The long-term trend is downward for use of tetraethyl lead in gasoline and lead oxide in pigments because of health considerations. Overall, the increase for batteries has more than offset declines in other applications. Demand for lead is expected to grow at a rate of about 1.5 per cent per year in the long term, due to slow growth of the economy and maturity of markets.

Galvanizing and diecasting remain the most important uses of zinc, accounting for almost 50 per cent and 20 per cent, respectively, of total usage in the western world. Growth of galvanized steel sheet production has increased since the recession years of 1980-82 in North America, Europe and Japan, due to the major increase in usage of galvanized sheet by the automobile manufacturers in these regions. Markets for zinc diecastings contracted greatly in the decade to 1983. This was most marked for automotive zinc diecastings, due to some replacement by plastic and aluminum materials. Since 1983, the rate of contraction of diecasting markets appears to have levelled off.

At least two countries are in the process of constructing new generation lead smelters. Italy will complete construction of a new type of smelter in 1986, and the People's Republic of China will complete construction of a new type of smelter in 1987. Australian and German companies are known to be considering construction of new generation smelters. With these developments, Canadian lead smelters will fall behind in world competition if new smelting processes are not put in place.

5. COMPETITIVENESS ASSESSMENT

Canada is considered to have the western world's lowest cost zinc operations. Canadian plants with only limited exceptions are generally modern, and enjoy the advantages of large-scale, integrated production. Another major advantage is the low cost of electrical energy in Canada, which is an important cost element in zinc metal production.

Because of the by-product revenues, Canadian lead smelters are competitive. In spite of this, these smelters, like all others in the world, are not profitable at today's metal prices. Canada's lead smelters have operating costs which could be reduced through the successful introduction of new generation lead-smelting technologies. Modernization would also resolve occupational hygiene problems. Both Canadian producers are actively evaluating these processes.

Prepared By: Resource Processing Industries Branch
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: 25.6.86

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

FACT SHEET

NAME OF SECTOR: Primary Lead and Zinc Smelting and Refining — 1980 SIC(s) COVERED: 295

1. PRINCIPAL STATISTICS

	1974	1980	1981	1982	1983	1984	Estimate Partial 1985
Establishments	N/A	5	5	5	5	5	5
Employment	8,200**	N/A	N/A	N/A	7,000**	6,000**	6,000**
Shipments ($ million)	643	790	887	664	760	1,067	N/A
Gross Domestic Product*** (Constant 1971-$ millions)	527	568	568	488	541	606	N/A
Investment ($ millions)*	N/A	388	533	302	143	127	N/A
Profits After Tax ($ millions)*	N/A	264	98	8	(37)	51	N/A
(% of Income)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. TRADE STATISTICS

	1974	1980	1981	1982	1983	1984	1985
Exports ($ million)	N/A	553	601	479	554	648	N/A
Domestic Shipments ($ millions)	N/A	237	286	185	206	225	N/A
Imports ($ millions)	N/A	18	5	13	12	3	N/A
Canadian Market ($ millions)	N/A	255	291	198	218	250	N/A
Exports as % of Shipments	N/A	70	68	72	73	75	N/A
Imports as % of Domestic Market	N/A	7	2	7	6	5	N/A
Canadian Share of International Trade - Lead - %	N/A	7	8	9	9	8	N/A
- Zinc - %	N/A	16	15	15	14	15	N/A

Source of imports - %

	U.S.A.	E.E.C.	ASIA	OTHERS
1981	56	32	-	12
1982	99	1	-	-
1983	51	36	-	13
1984	-	-	-	-

Destination of exports - %

	U.S.A.	E.E.C.	ASIA	OTHERS
1981	66	16	6	12
1982	48	20	14	18
1983	59	19	15	7
1984	63	18	7	12

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % Total	16	17	17	7	43
Employment - % Total	8	22	15	8	47
Shipments - % Total	7	25	16	7	45

4. MAJOR FIRMS

Name	Ownership: Parent	Ownership: Ownership	Location of Major Plants	Concentration (% of Domestic Production - 1984): Lead	Concentration (% of Domestic Production - 1984): Zinc
1. Cominco Ltd.	(54%) C.P.E.	Canada	Trail, B.C.	68	34
2. Cdn. Electrolytic Zinc	(100%) Noranda	Canada	Valleyfield, Que.		34
3. Hudson Bay Mining & Smelting	(100%) Inspiration	S. Africa	Flin Flon, Man.		12
4. Kidd Creek Mines	(100%) Falconbridge	Canada	Timmins, Ont.		20
5. Brunswick Mining & Smelting	(64%) Noranda	Canada	Belledune, N.B.	32	
				100	100

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* Investments and profits refer to Cominco, BMS and HBMS, representing 100% of lead and 71% of zinc capacity.

** Estimated.

*** GDP is defined as value added during smelting and refining of non-ferrous metals in SIC 295, except aluminum.

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

DRAFT - PROJET

June 11, 1986

COMPETITIVENESS PROFILE

LEATHER TANNING

1. STRUCTURE AND PERFORMANCE

a) Structure

The Canadian tanning industry tans and finishes raw hides and skins (mainly medium and heavy bovine) to produce leather of all types, such as shoe upper leather; glove and garment leather; bag, case and strap leather; shoe lining leather and upholstery leather. Two major segments in the Canadian leather market, shoe leather and glove and garment leather, account for about 50% and 30%, respectively, of total dollar sales of leather in Canada (45% and 40% in volume terms). In 1985, total industry shipments were an estimated $200 million, exports $40 million and imports $147 million. Canadian tanners have traditionally produced mostly shoe leather (about 65% of total industry shipments in volume terms vs. 10% for glove and garment leather). In 1985, total employment was estimated at 2,000.

The industry comprises an estimated 33 establishments located primarily in Ontario (accounting for 67% and 70% of employment and shipments, respectively) and Quebec (12% and 11% of employment and shipments). Three major tanners (two in Ontario and one in Western Canada) dominate the industry producing about 60% of domestic output and accounting for 55% of employment. These large tanneries are world scale plants comparable to their counterparts in the developed countries. With a few exceptions, the remaining establishments are mostly smaller firms employing less than 50 workers each. Some specialize in tanning and/or contract finishing of various types of hides including calf, sheep, deer and lambskins primarily for the domestic and regional markets. The industry is 100% Canadian owned.

The industry is closely associated with and dependent on domestic meat packing houses and abattoirs (located mainly in Toronto and Alberta) for most of its hide requirements. In fact, a major meat packing company (Canada Packers) operates its own leather tanning division which is one of the largest in Canada. Only one small tanning firm has integrated "forward", producing both finished leather and footwear.

Climatic conditions influence the thickness and weight of cattle hides and because of Canada's cold climate, most of its supply of raw hides and skins is medium to heavier grades and ideally suited to shoe leather production. Tanners requiring greater selection of weight and quality need to import their lighter hides from warmer climate zones. Although some fine leathers are produced in Canada (mostly from imported raw or semi-tanned hides) the tanning industry has capitalized on the abundant supply of domestic raw hides to specialize in the production of shoe leathers.

b) Performance

The largest market segment, shoe leather, is dominated by domestic tanners who currently hold an estimated 75% market share. Developed countries (primarily the U.S.) have accounted, on average, for about 75% of shoe leather imports since 1971.

The second largest segment, glove and garment leather, is dominated by imports which, although remaining relatively stable since 1971, have increased their share of the market from 70% to nearly 80% as a result of a decline in domestic shipments. Argentina and Brazil now account for approximately 45% of the total imports in this segment (compared to less than 2% in 1971) with the U.S. and U.K. together accounting for over 30% (compared to 90% in 1971). Only about 4 firms in Canada currently produce this type of leather, largely from light-weight, semi-tanned hides imported from Argentina.

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Exports as a share of industry shipments have increased from 17% in 1980 to an estimated 20% in 1985. In value terms, it is estimated that about 70% of exports are shoe leathers and 8% glove and garment leathers. The U.S. has traditionally been the major market, absorbing over 70% of Canadian leather exports.

Employment in the tanning industry has been declining steadily since the early 1970s. From a level of 2,885 in 1971, employment has dropped by an estimated 31% to 2,000 in 1985.

2. STRENGTHS AND WEAKNESSES

a) Structural

Canada has an ample supply of hides suitable for tanning into most shoe leather requirements other than hides destined for fine leathers.

The Canadian tanning industry is heavily dependent on the footwear industry which purchases about 60% of its output in value terms. Profitability after tax in 1983 was $1.8 million or 3% on capital employed compared to 4.5% for total manufacturing. During the two prior years the return on capital employed in the industry was negative.

The overall leather market in Canada has been stagnant in the past few years largely because of increasing substitution of less expensive man-made products for leather in certain applications (i.e. footwear, luggage, handbags).

The industry has been successful in exporting significant quantities of tanned leather and in 1985, its exports represented 25% of shipments. Over 80% of these export sales were to the U.S.A.

Although approximately two thirds of the world's supply of leather is used to produce footwear, its overall significance has been declining in recent years. At the same time, world-wide output of leather garments (noteably in low-wage countries) has grown fourfold and now accounts for almost 15% of the world-wide supply of leather. This trend, however, is subsiding and is not expected to adversely effect the Canadian tanning industry which specializes in the production of shoe leather.

The tanning industry is more capital-intensive than the footwear industry with wages accounting for about 18% of shipment value (compared to 23% in the footwear sector) but still considerably more labour-intensive than all manufacturing with an average of 13%. Average hourly wages in Canada during 1984 were $8.91 compared with $7.63 ($9.87 Canadian) in the U.S.

There are certain entry barriers which are characteristic of leather tanning. World scale establishments are capital-intensive, requiring large and complex machinery and equipment. Because vast amounts of water are used throughout the tanning process, tanneries must have access to an abundant supply of water. Sophisticated effluent treatment facilities are also required in order to comply with stringent environmental controls.

Canada's environmental regulations are rigid but on a par with most developed countries. Many developing countries, on the other hand, have lower levels of pollution control regulations and thus lower costs of leather production.

Two major tanneries have undertaken modernization and restructuring plans to maintain their competitive position in the Canadian and world wide markets and to some extent lessen their dependency on the footwear sector through diversification of product mix into more non-footwear leathers (i.e. automotive and furniture upholstery leathers). Two medium sized tanneries have also benefitted from modernization and restructuring projects.

b) Trade Related Factors

Effective January 1, 1987, Canadian tariff rates will be about 10% on shoe leather (represents 55% of U.S. leather exports to Canada) and around 7% on

glove and garment leather (represents 30% of U.S. leather exports to Canada). The U.S. tariff rate will be 5% on shoe leather (currently representing 70% of Canadian exports to the U.S.). Certain speciality leathers used to produce shoe linings and high-end footwear are accorded duty-free treatment on an MFN and GPT basis by Canada.

While there are little or no world-wide restrictions against imports of raw hides and skins (EEC, Japan, Canada and the U.S. provide duty-free treatment on an MFN basis), governments of many developing countries (noteably Argentina and India) impose restrictions on the export of raw hides and skins in order to promote domestic processing of raw hides into leather. As a result, tanners in these countries have access to government controlled lower-cost raw materials and can then export leather at less than market prices. Lower wage rates in these countries provide an additional competitive advantage.

In the U.S., the footwear industry is also the tanning industry's largest market, consuming an estimated 59% of leather shipments in 1985. Although shipments declined by about 13% from 1984, the U.S. industry continued to enjoy an 80% share of its leather market with exports representing about 20% of shipments.

Global footwear import quotas, which have been in place in Canada since 1977, will be gradually phased-out by 1988. During this quota period, the footwear industry has and will continue to restructure and upgrade its product lines, specializing in medium priced fashionable footwear (particularly winter boots, which require more leather per pair than shoes).

c) Technological Factors

The Canadian industry's overall level of technology is equal to that achieved in the U.S. and other developed countries. Machinery and equipment, which are available without restriction in the world marketplace, are becoming increasingly advanced in the tanning industries of developed countries. For example, precision control equipment is used to meter the flow of chemicals used throughout the tanning process. Equipment is also being installed to recycle chemicals and water thereby reducing input costs and the cost of waste disposal. It is expected that microcomputer technology will eventually be applied to most of the tanning and finishing operations which will reduce considerably the number of operators.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

The government has provided assistance to the industry since 1973, formerly under the Footwear and Tanning Industries Adjustment Program and more recently (since 1981) under the Canadian Industrial Renewal Program. Generally, CIR assistance has taken the form of consulting and capital contributions to promote restructuring of the industry (commitments under the CIRB program amount to $4.3 million). The CIR program terminated on March 31, 1986 and while the tanning industry is eligible for assistance under the IRDP which is available to all industrial sectors, most of the larger firms will not qualify due to their location in more advantaged areas of the country.

4. EVOLVING ENVIRONMENT

Over the next five years, the following factors are expected to affect the tanning industry:

- heightened environmental concerns will pressure the industry to invest in more sophisticated effluent treatment systems hence increasing costs of production.

- the application of new state-of-the-art technologies to leather tanning will increase over the medium term.

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° it is expected that demand for shoe leather will stabilize and possibly increase as domestic footwear producers expand their specialization in winter boots.

° Canadian tanners will continue to rely heavily on the domestic footwear industry which is expected to face continuing import competition in a footwear market that is expected to grow at the rate of 1-3%.

5. COMPETITIVENESS ASSESSMENT

Canadian tanners have capitalized on the abundant domestic supply of raw hides and skins and their close historical ties with the footwear industry to specialize in the production of shoe leather. The industry is competitive with other world producers (mainly developed countries) and continues to dominate this market segment in Canada. It has achieved considerable success in export markets (particularly the U.S.) and has sufficient management and marketing expertise to expand its performance in this area.

Glove and garment leather production currently represents a very small percentage of Canadian tanning output. This is due mainly to the industry's traditional heavy concentration in shoe leather production in addition to the absence of a domestic source of lightweight hides. In fact, the few remaining tanners that currently produce these fine leathers import semi-tanned leather from South America (mainly Argentina) for finishing in their plants. Argentina and Brazil in recent years have developed their expertise in this area to such an extent that they now dominate the Canadian glove and garment leather market in terms of intermediate leather. In terms of leather gloves and garments, low-cost countries ship significant quantities of these finished products to Canada.

Prepared by: Textiles, Clothing and Footwear Branch
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: JUN JUIN 17 1986

June 1986

FACTSHEET
(1980 SIC)

NAME OF SECTOR: LEATHER TANNERIES **SIC(s) COVERED:** 1711

1. PRINCIPAL STATISTICS

	1971	1980	1981	1982	1983	1984(e)	1985(e)
Establishments	32	34	30	37	35	35	33
Employment	2,885	2,283	2,313	2,091	1,962	2,150	2,000
Shipments ($ millions)	71	202	219	183	192	211	200
Gross Domestic Product (constant 1971-$ millions)	n.a.						
Investment ($ millions)	n.a.	9.7	7.2	7.1	6.2	6.4	6.5
Profits After Tax ($ millions)	n.a.						
(% of income)	n.a.						

2. TRADE STATISTICS

	1971	1980	1981	1982	1983	1984(e)	1985(e)
Export ($ millions)	9	34	39	35	35	38	40
Domestic Shipments ($ millions)	62	168	180	148	157	173	160
Imports ($ millions)	32	87	112	94	129	151	147
Canadian Market ($ millions)	94	255	292	242	286	324	307
Exports as % of Shipments	13	17	18	19	18	19	20
Imports as % of Domestic Market	34	34	38	39	45	47	48
Canadian Share of International Market	n.a.						

Source of Imports

	U.S.	E.E.C.	Other Dev.	Low-Cost
% Share - 1981	33	22	8	37
1982	31	23	11	35
1983	28	25	10	37
1984	22	29	10	39

Destination of Exports

	U.S.	E.E.C.	Other Dev.	Low-Cost
% Share - 1981	74	12	1	13
1982	80	9	1	10
1983	83	5	neg.	12
1984	81	6	1	12

3. REGIONAL DISTRIBUTION - 1983

	Atlantic	Quebec	Ontario	Prairies	B.C.
Establishments - % of total	6	29	40	20	5
Employment - % of total	(x)	12	67	(x)	(x)
Shipments - % of total	(x)	11	70	(x)	(x)

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants	Concentration % of Domestic Market
A.R. Clarke & Co. Ltd.	Canadian	Toronto, Ontario	n.a.
Canada Packers Inc.	Canadian	Acton, Ontario Aurora, Ontario	n.a.
Dominion Tanners	Canadian	Winnipeg, Manitoba Edmonton, Alberta Toronto, Ontario	n.a.

(e) Estimate
n.a. Data Not Available
(x) Confidential Data
neg. Negligible

Department of Regional Industrial Expansion

DRAFT

COMPETITIVENESS PROFILE
LOGGING EQUIPMENT

1. STRUCTURE AND PERFORMANCE

(a) Structure

The logging equipment sector consists of the machinery, equipment and tools used by the logging industry to extract commercial wood from forest stands, to process it in a form acceptable to the secondary processing industry, to ensure rapid reforestation of the logged areas, to treat growing stands and to defend and protect the resource.

Forestry equipment may be divided into two separate groups: (1) all-terrain vehicles used for skidding the logs and (2) fellers, delimbers, slashers and specialized accessories. Canadian shipments are broken down as follows: wheeled log skidders (60-65%), log loaders (4%), feller and delimber components or accessories (15%), and fellers, delimbers and slashers (10%). The balance (5 to 10%) consists of a whole range of machinery and accessories.

Fifty-four Canadian companies are registered as logging equipment manufacturers. Only ten report annual sales of over $10 million. In 1985, the sector provided 4,800 jobs and recorded $256 million in shipments, including $140 million abroad (68% log skidders). With the exception of the manufacturers of wheeled skidders, which are subsidiaries of foreign companies, the companies in this sector are generally Canadian owned.

The Canadian market for logging equipment was estimated in 1985 at $241 million, including $125 million in imports. Approximately 85% of imports are power train components (engines, gearboxes, clutches, axles and differentials), which are not manufactured in Canada and of which over 55% are re-exported in assembled machinery or as replacement parts. Our principal sources of components are the United States (95%) and Europe, led by the United Kingdom. Imports of assembled machines account for the other 15% and consist mainly of excavators that are to be transformed into fellers or delimbers by means of modifications or the addition of specialized Canadian-made attachments, and Scandinavian equipment intended for testing and performance studies in Canada.

Canadian-made, fully assembled equipment includes from 35% to 50% imported components, which explains the concentration of skidder manufacturers in southern Ontario close to the source of the component parts. Manufacturers of attachments for fellers and delimbers, which contain less than 10% imported components, are scattered throughout the logging regions of British Columbia, Quebec and Ontario.

Production capacity in most companies in the sector largely exceeds domestic market demand. Companies are currently using only 75% of their production capacity. In addition, they are dependent, if they are to expand, on the acceptance of their equipment on the foreign markets. Our principal export markets are the United States (90%), the South Pacific (7%), Latin America, Europe and Africa. Our competitors on these markets are the Americans (United States, South Pacific and Latin America), the Scandinavians (Europe, South Pacific and Africa) and the Brazilians (Latin America).

(b) Performance

In 1973, the apparent domestic market was equal to the total shipments of logging equipment: $118 million. Since 1980, shipments have exceeded the apparent domestic market as a result of the more rapid growth of exports. In 1973, 45% of total shipments were exported; this figure rose to 79% in 1984 and dropped back to 55% in 1985. Overall, during the period 1973 to 1985 inclusive, the domestic market increased by 104%, shipments by 117%, imports by 135% and exports by 164%. This growth, however, was irregular. From 1977 to 1979, sector shipments increased by an average of 39%. A sharp drop in logging activities resulted in a decrease in total shipments by the sector from $229 million in 1979 to $96 million in 1982. With the recovery of the logging industry, the sector bounced back in 1983, when shipments increased by 96%. In 1984 and 1985, logging equipment shipments increased by 18% and 15% respectively, totalling $256 million in 1985.

Among the first group of manufacturers (**manufacturers of skidders**), production became more highly concentrated during the period (1973 to 1985) when a number of major heavy equipment manufacturers, such as International Harvester of Canada Ltd., Massey Ferguson Ltd., Bombardier Ltée, Forano Inc., Pettibone of Canada Ltd. and others, left the sector. Manufacturers specializing in logging equipment remained, owing to the expansion of their distribution networks in the United States and the rest of the world.

Since the logging industry's production levels began to rise again (1984), the industry has been updating its equipment. This temporary catching up process reached its peak in 1984-1985. In 1985, demand on the domestic market for certain types of equipment, especially skidders, dropped. This drop was, however, compensated by increased consumption of other types of equipment.

2. STRENGTHS AND WEAKNESSES

(a) Structural

The main strengths of the **first group** (log skidders) are: the concentration of production in southern Ontario close to the source of the components, the size of the factories, the use of economies of scale, the access to a vast reservoir of specialized labour at competitive costs, and the use of very sophisticated production methods and vast networks of heavy equipment distributors specializing in the logging industry. In addition, four of the six largest manufacturers of wheeled log skidders in the world (including the two largest) produce their equipment exclusively in Canada. Canadian manufacturers of skidders have already captured 50% of the U.S. market and 60% of the markets of the rest of the world.

Since the components (engines, gearboxes and transmissions) are not manufactured in Canada, American components are used and make up from 35% to 50% of the manufacturing cost of the equipment. On the North American market, which represents 90% of the total market accessible to our producers, this factor is a major advantage, because the distributors' stocks of replacement parts are common to various machines and maintenance and repair techniques are familiar. However, in the South Pacific, Asia and Europe, where Japanese or European components enjoy the smae advantage, the use of American components is a major drawback.

The sector's **second group** manufactures innovative products that are best adapted to the regional needs of the users. Fewer imported components are used. The distribution networks for these products are less developed and often linked with the networks of the carrier vehicle manufacturers. However, as a result of their R&D efforts, Canadian companies have been able to overtake the competition by renewing their lines of products very frequently.

Scandinavian equipment is not a threat because it usually consists in multiple-function machinery that is less productive than the series of single-function machines generally used in North America. The Japanese competition, which is also based on economies of scale, can displace only imports of components or carrier vehicles since Japan does not offer specialized equipment. It therefore does not constitute a threat to the sector.

Canada has a slight advantage over its competitors in terms of the principal elements making up the manufacturing cost (labour, raw materials and energy).

Trade-Related Factors

Our exports to the United States are subject to the 3.3% general tariff on machinery in 1986, which is to drop to 3.0% in 1987.

Imports of logging equipment are subject to 8.6% customs duty in 1986 and 8.0% in 1987 if the equipment imported is deemed to be equivalent to Canadian-made equipment. If there is no Canadian equivalent, the importer is entitled to remission of the duty paid. In practice, almost all our logging equipment imports are entitle to remission because the logging industry uses Canadian equipment first and imports only what is not available locally. Similar benefits are available only in New Zealand and Australia, where tariffs vary from 0% to 20% when domestic products are available.

In Latin America our products are subject to tariffs that vary by country from 10% to 50%. Brazil, however, receives preferential treatment in Latin America. No non-tariff barriers are raised by our major trading partners in the sector.

(c) Technology Factors

The major firms in the sector all use computer-assisted design and manufacturing systems, programmable digitally controlled machine tools and computer-equipped manufacturing systems. Some also have computered-controlled testing cells. Micro-electronics has been introduced in a number of machines to facilitate the task of the operator and to maximize performance.

Manufacturers in the sector spend from 5% to 10% of their revenue on R&D and their efforts are integrated with the initiatives of their customer, the logging industry. In the area of technology, the Canadian sector is ahead of its competitors in terms of its range of products, its production facilities and its ability to adapt to the needs of the logging industry. In the United States there are no specialized manufacturers that work together with the industry. Also, the sector there is slower to adapt to technological changes.

(d) Other Factors

The lack of major forest resources eliminates a large number of countries as potential customers. Only our skidders can be exported throughout the world, no matter what species of trees are found in a country's forests. The rest of our logging equipment is adapted to low-density wood species made up of trees that are under one metre in diameter. This equipment cannot be used on heavy tropical hardwood.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

The sector benefits from the Machinery Program, which is intended to increase the efficiency of Canadian industry as a whole by enabling machinery users to obtain production equipment that is not available from Canadian manufacturers at the lowest possible price. At the same time, the Program provides tariff protection which benefits logging equipment manufacturers as soon as they are able to provide equivalents and also provides remission of duty for them on production components not available from Canadian sources.

The sector also benefits from a whole range of programs intended to help companies develop, establish, expand and modernize their production facilities, develop innovative products and penetrate the foreign markets.

4. EVOLVING ENVIRONMENT

The oil crisis, rise in interest rates, policies of the International Monetary Fund and so forth have forced the governments of the world to try to improve their trade balances. One of the methods most frequently used is import substitution by a domestic product even if the quality of the domestic product is inferior. In addition, in recent years a number of new forest products processing plants and new forests have been established in various countries. These new producers, who are often seeking to selling their forest products on the same markets as Canada, are looking for highly productive logging equipment, and as a result new markets have opened up for Canadian logging equipment. This trend should remain stable for the next decade and our exports outside North America should increase.

In North America, tariffs on Canadian wood could result in a displacement of demand for logging equipment toward the United States, where the mechanization of logging operations lags far behind the Canadian industry. In Canada, even the threat of customs duties is harmful to our domestic market since the logging industry is, as a result of the uncertain situation, delaying a number of its investments in production equipment. It will be very difficult to make medium- and long-term forecasts regarding the development of the logging equipment markets in Canada and the United States as long as this threat exists.

5. COMPETITIVENESS ASSESSMENT

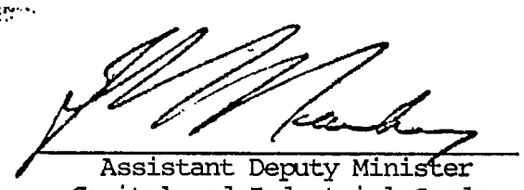
On the domestic market, this sector is very competitive since only it provides a whole range of equipment adapted to the Candian forests that is familiar to and accepted by Canadian users.

In the United States, our skidders are very competitive and should continue to increase their share of the market. Our tree felling and delimbing equipment is very price competitive and is already widely used in New England. However, the mechanization of logging operations has lagged behind in other regions of the United States, which constitute a promising potential market for our manufacturers.

In the rest of the world our skidders should continue to make progress and our fellers and delimbers are expected to make major advances in New Zealand and Australia in the near future.

The innovativeness of the sector in terms of its range of machnery, ability to adapt, close relations with the Canadian logging industry and production facilities leads us to predict that it will continue to be competitive during the next decade.

Prepared by: **Machinery and Electrical Equipment Branch**



Assistant Deputy Minister
Capital and Industrial Goods

Date: July 17, 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

FACT SHEET

NAME OF SECTOR: Logging Equipment: SIC(s) COVERED: 3192

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Establishments							54
Employment							4800
Shipments ($ millions)	118.7	204.9	151.4	95.8	187.9	222.3	256.2
Gross Domestic Product (Constant 1971-$ millions)							
Investment ($ millions)							
Profits After Tax ($ millions)							
(% of income)							

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Export ($ millions)	53.3	112.1	72.7	68.6	114.2	174.7	140.7
Domestic Shipments ($ millions)	65.4	92.8	78.7	27.2	73.7	47.6	115.5
Imports ($ millions)	52.8	99.5	65.7	27.8	79.8	137.2	125.5
Canadian Market ($ millions)	118.2	192.3	144.4	55.0	153.5	184.8	241.0
Exports as % of Shipments	45%	55%	48%	72%	61%	79%	55%
Imports as % of Domestic Market	45%	52%	45%	51%	52%	74%	52%
Canadian Share of International Market							

Source of imports (%)	U.S.	E.E.C.	ASIA	OTHERS
1981	94.8	3.2	1.8	0.2
1982	94.3	2.5	2.9	0.3
1983	97.2	1.6	0.6	0.6
1984	94.6	3.3	0.1	2.0
1985	-	-	-	-

Destination of exports (%)	U.S.	E.E.C.	ASIA	OTHERS
1981	74.4	3.6	0.3	21.7
1982	83.0	1.6	0.2	15.2
1983	94.5	1.1	0.1	4.2
1984	94.4	0.7	0.7	4.2
1985	-	-	-	-

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	2%	30%	31%	4%	33%
Employment - % of total	1%	30%	40%	4%	25%
Shipments - % of total	0%	30%	40%	6%	24%

4. MAJOR FIRMS

	Name	Ownership	Location of Major Plants
1.	Tanguay Industries Inc.	Canadian	St. Prime, Quebec
2.	Harricana Metal Inc.	Canadian	Amos, Quebec
3.	Koehring Canada Ltd.	Canadian	Brantford, Ontario
4.	Clark Equipment of Canada Ltd.	U.S.A.	St. Thomas, Ontario
5.	Caterpillar of Canada Ltd.	U.S.A.	Brampton, Ontario
6.	Hawker Siddeley Canada Ltd.	U.K.	Mississauga, Ontario
7.	Timberjack Inc.	U.S.A.	Woodstock, Ontario
8.	CECO Sales Ltd.	Canadian	Delta, B.C.
9.	Chapman Industries Ltd.	Canadian	Delta, B.C.
10.	S. Madill Ltd.	Canadian	Nanaimo, B.C.

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

DRAFT

COMPETITIVENESS PROFILE

MACHINE TOOLS AND TOOLING

1. STRUCTURE AND PERFORMANCE

Structure

The machine tools and tooling sector encompasses two distinct but related sub-sectors, the machines themselves known as machine tools, and the tooling which goes on to the machines:

i) **Machine tools** include metal-cutting machines which shape metal by cutting for example boring, drilling, milling, and grinding machines, lathes, planing machines, machining centres and custom transfer line type equipment. A related machine tool group is metal-forming machines which shape metal by pressing, shearing or rolling, for example presses, forging and die casting machines, punching and shearing machines, bending machines, etc. Either group can be manually controlled or numerically controlled by punched tape or computer. In recent years, there has been a strong trend to computer numeric control (CNC) machines. There is also a growing trend towards machine tool based systemization of manufacturing technology, in which CNC machine tools, materials handling robots and other computer controlled machines are combined into Flexible Manufacturing Systems (FMS) or Computer Aided Manufacturing (CAM) Systems.

ii) **Tooling** includes custom designed tools, standard cutting tools and machine accessories. Tool and die shops manufacture an extensive variety of tooling used with machine tools, e.g. tools and dies, jigs and fixtures, and gauges. Unlike tools and dies, cutting tools, such as drill bits, and machine accessories are produced as standard items by specialized manufacturers.

The **machine tool** industry in Canada is comprised of some 75 firms employing approximately 3,000 persons with estimated shipments in 1985 of $286 million, exports of $144 million, and imports of $555 million. The majority of Canadian machine tool manufacturers are small in size, very specialized, with a staff of 15 - 25 and annual sales from $2 to $3 million. Most larger Canadian machine tool firms are subsidiaries of foreign, mainly American companies. The seven largest firms in Canada each employ 125 to 250 persons. These firms, which are largely manufacturers of custom built machinery for the automotive industry, account for an estimated 60% of machine tool shipments. The industry is predominantly located in Southern Ontario with a number of firms in the Montreal area. In addition, there are some manufacturers of metal forming equipment located in the Vancouver area.

International production of machine tools amounted to some U.S. $22 billion in 1985 with trade accounting for U.S. $17 billion. The industry is dominated by Japan, West Germany, U.S.A. and Italy, in that order, who account for more than 50 per cent of world production and trade in machine tools. A growing portion of world production is being accounted for by larger corporations such as Cincinnati Milacron and Lamb Technicon of the U.S.A. and Toshiba, Toyoda and Yamazaki of Japan. Restructuring of the machine tool industry accelerated in the 1980's with Japan overtaking the U.S.A. as the leading producer and exporter in 1982. Twelve countries of Western Europe accounted for 32 per cent of world production in 1985 followed by Japan with 24 per cent and the U.S.A. with 12 per cent. A recent survey by American Machinist Magazine ranked Canada 17th in terms of production, 22nd in terms of exports, and 6th in terms of imports.

Machine tools make numerous metal products including other machines and are the fundamental element of industrial production. A modern efficient machine tool industry is considered necessary by most countries for the development of a strong manufacturing sector.

The **tool and die** industry in Canada is comprised of an estimated 300 to 350 firms employing approximately 3,000 persons, with estimated shipments in 1985 of $324 million, exports of $51 million, and imports of $124 million. Tool and die shops tend to be small, owner/manager operations specializing in the production of tooling for "niche" markets. The industry is concentrated in Southern Ontario. Tool and die shops are mainly independently Canadian owned whereas standard cutting tool producers are mainly subsidiaries of U.S. firms. Tools and dies are produced by some manufacturers for their own internal use and not included as statistics are not available.

The tool and die industry employs highly skilled craftsmen capable of operating modern machines to produce tools to precise, accurate tolerances. These skills are acquired over a number of years experience through apprenticeships.

Performance

Growth in **machine tool** shipments accelerated rapidly during the period 1979 to 1981 (from $208 million to $354 million or eighteen per cent in real terms) before experiencing a sharp cyclical decline during the recessionary period of 1983/84. Since 1984, however, Canadian machine tool shipments have again been increasing strongly, reaching an estimated $286 million in 1985. Overall, the generally good performance of the sector, since the late 1970's, has been attributable to the massive modernization programs undertaken by the North American automotive industry.

Exports, mainly to the U.S.A., have remained strong and have generally increased as a percentage of production. While the export orientation of the sector has fluctuated considerably, exports averaged 43 per cent of industry shipments between 1979 and 1985. Even during the 1983/84 recessionary period, the sector continued to experience a relatively strong export performance due, at least in part, to arrangements by several U.S.-based manufacturers to share existing orders for the United States automotive industry with their Canadian subsidiaries. Although the United States accounts for eighty per cent of Canadian exports of machine tools, Canada's share of U.S. imports is only three per cent, ranking at best, sixth in terms of country suppliers.

Imports of machine tools in the Canadian market are substantial and have been increasing in recent years as the sector has experienced a narrowing of its production base. On average, imports have taken seventy-five per cent of the Canadian market since 1980. To a large extent, these imports represent manual and CNC controlled standard configuration machine tools and sophisticated machining centres which are not produced in Canada. Imports from the United States have accounted for upwards of seventy per cent of total Canadian imports, however a recent survey by Canadian Machinery and Metalworking Magazine indicates the Japanese have a 30 per cent share of CNC machine tool imports. It is felt that a large portion of Japanese imports enter Canada via the U.S.A. and thus are reflected in Canadian statistics on U.S. imports.

Shipments of **tooling** by Canadian manufacturers have increased more gradually to an estimated $324 million in 1985, from a level of approximately $200 million in the mid-seventies. Shipments are largely to the automotive sector and to aerospace and defence related markets. The tooling sector is much more domestically oriented than the machine tool sector. Exports have averaged only about ten per cent of shipments during the past ten years but with an increasing trend during the last three years. Tooling exports are primarily to the U.S. automotive industry. Imports of tooling into Canada have also been fairly constant, averaging about twenty-five per cent of the domestic market since the mid-seventies. Recently, standard cutting tools have encountered strong price competition from developing countries.

2. STRENGTHS AND WEAKNESSES

Structural

Production of precision metal cutting **machine tools** in Canada is increasingly limited to selected types of equipment, usually in a narrow range of sizes. In fact, the most significant and competitive machine tool production capability is limited to the manufacture of specialized or custom built equipment (transfer machining lines) for the automotive industry as well as some standard lathes for institutional markets and small metal working

shops. Production of most other types of standard metal cutting machines in Canada has virtually disappeared in the face of strong European and Asian competition.

Canada and the U.S.A., and to a lesser extent European countries, are finding Asian labour costs one of the major hurdles to remaining competitive in the world market. In this regard, Ex-Cell-O Corp. of the U.S.A., recently announced that it will discontinue production of standard and custom built machines in Canada and the U.S.A. as part of its machine tool rationalization program. The only other major Canadian manufacturer of standard metal cutting machine tools, Standard-Modern Technologies, continues to manufacture but has restructured its operations following severe financial difficulties.

Production of metal forming **machine tools** in Canada on the other hand, is fairly complete although gaps exist for some equipment sizes and specialty functions. Canadian capabilities cover production lines for shearing, slitting and roll forming of metal, and there is good capability in most sizes of hydraulic and mechanical presses, press brakes and shears. However, Canadian capability does not exist for larger capacity, higher speed and more automated presses, an area where there is expected to be strong market demand. In general, cost structures appear to be well in line with those in the U.S.A.

A primary reason for the limited range of **machine tools** being produced in Canada is the small size of the Canadian market. World-wide, the industry is now mature and is dominated by a number of West German, U.S.A. and Japanese firms. The Canadian industry has experienced relatively low profits and high capital costs in servicing a cyclical market. This has made capitalization of new equipment and production processes difficult as the financial community frequently views the industry as being in the high risk category. This situation is aggravated by pressure applied in recent years on profit margins for machine tools by imports from low cost producers in Asia. This situation is not unique to Canada; all North American producers are facing cost as well as technological pressures from European and particularly Japanese suppliers.

The current difficulties of the U.S.A. machine tool industry (imports were 35 per cent of U.S. consumption in 1984 and 45 per cent in 1985) illustrates the difficulties of competing against lower cost and increasingly sophisticated Southeast Asian producers. As well, the Canadian industry is not well placed to enter the more sophisticated markets in the face of this competition. While Canada appears to be competitive in special purpose transfer line equipment and special tooling for the North American automotive industry, Canadian firms have limited capability in CNC machine tools. In addition, there is no capability in Canada in computerized machine controls, or in general purpose robots which are being increasingly integrated with machine tools into production systems.

Canadian **tool and die** producers have a strong position in a wide range of custom designed tools and dies, jigs and fixtures, and gauges, with a recognized reputation for high quality. There is limited capability in standard cutting tools and only selected capability in machine tool accessories.

Trade Related Factors

Machine tools and parts of machine tools imported into Canada are entered under Tariff Item 42700 with a MFN duty of 9.9 per cent (9.2 by 1987) if equivalent machinery is available from Canadian production. However, under the Machinery Program, which came into effect as part of a tariff realignment negotiated by Canada in the Kennedy Round of GATT negotiations, the duty otherwise payable on imports under this item may be remitted. Accordingly, exporters of machine tools to Canada enjoy substantial duty-free access. In total, it is estimated that two-thirds of machine tool imports into Canada are not subject to duty.

Duties applicable to imports of machine tools into the United States currently range from 4.9 per cent to 7.4 per cent. U.S. rates of duty applicable to machine tools are generally higher than tariffs levied on other machinery items as machine tools production is viewed as strategically important in terms national defence.

There are no major non-tariff barriers which affect Canada/U.S.A. trade in machine tool products. However, the machine tool industry in the United States, concerned with the sharp import penetration of the U.S.A. market during the 1980's, filed a petition in March, 1983 requesting U.S.A. authorities to restrict imports under the 1962 Trade Expansion Act relating to national security. The imposition of import controls by the U.S.A., although aimed primarily at Japan, could have serious consequences for the Canadian machine tool industry. No decision has been made as yet on this petition.

Canada, like many other countries, is not an exporter of machine tools to Japan. In 1985, for example, machine tool imports by Japan were only U.S.$ 223 million as compared to exports from Japan of U.S. $2.1 billion. Japan has not been a major export market for any machine tool producing country. With respect to Western Europe, there are occasional exports of Canadian machine tools. However, Canada's limited product range, rather than any specific tariff or non-tariff barriers, is the primary reason for the low level of exports to Europe.

Technological Factors

The **machine tool** industry is facing radical changes as a result of micro-electronics technology. Initiatives to improve productivity and reduce costs across all manufacturing industries will significantly increase the demand for automated machine tools while the demand for conventional products will decrease. Product development in the machine tool industry is increasingly moving from the development of single, independent CNC machine tools to the design of automated production systems incorporating several CNC machines, industrial robots, and automated parts handling. Altogether, there will be a requirement to increase significantly the amount of R&D and innovation undertaken by machine tool builders. However, while there is considerable R&D being undertaken in Europe and Japan with substantial government incentives, the level and scope of such work underway in Canada is quite limited.

Tool and die producers generally build tools to customer designs. As their customers increasingly use computerized design to develop new products, the tool manufacturer must be able to build tools from computer design. While many Canadian shops have C.N.C. machine tools, they will require substantial capital outlays to update their support systems and controls to handle new demands. Growth in this sector will also be affected by the continuing trend to substitute moulded plastic away from formed metal parts.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

The machine tool sector benefits from the increased demand generated by broad framework policies such as depreciation allowances and tax credits aimed at encouraging all manufacturers to modernize through the acquisition of new industrial machinery and equipment. However, such demand-side incentives convey no particular favour on Canadian equipment as opposed to imports.

In addition, machine tool and tooling firms continue to benefit from the provisions of the Machinery Program which ensures that manufacturers receive duty protection on equipment they manufacture in Canada. At the same time, many of these same firms are assisted in rounding out their product line by receiving remission of duty on imported machines not manufactured in Canada.

The sector also benefits at the firm level from the full range of incentive programs for export development, R&D and innovation, and modernization.

4. EVOLVING ENVIRONMENT

Canadian manufacturers of **machine tools,** in particular transfer line equipment, are increasingly being required to respond to greater specialization of machining lines. In particular, there is a need to design more flexible manufacturing systems capable of machining a variety of different part sizes and shapes without the need for tooling changeovers. This trend to soft automation is bringing world equipment firms into closer collaboration with electronic based control suppliers as well as software systems specialists. While demand will increase for all types of computer-based machine tool products, the extent to which the relatively small Canadian firms will be able to participate in these emerging markets is uncertain due to high entry costs and significant scale requirements.

For Canada's specialized machine tools and tooling sector, change is likely to continue to be dictated by the North American automotive industry. Growth of North American assembly plants by foreign-based auto producers and increasing offshore automotive parts sourcing is expected to limit demand for the metal cutting transfer lines produced by Canadian companies.

5. COMPETITIVENESS ASSESSMENT

International market forces have already reduced the range of metal cutting machines available from Canadian production and several Canadian manufacturers have ceased production of standard machine tool products. Canadian strength now remains primarily in the design and manufacture of custom built systems for automotive markets. For these products, Canadian suppliers continue to enjoy a favourable cost structure, (i.e. labour, materials, exchange, etc.) in relation to their principal competitors in the U.S.A. In addition, Canadian subsidiaries, which make up the majority of firms in this sector, are well integrated into the U.S.A. market. Canadian metal forming equipment firms remain competitive within their particular areas of product capability. However, a number of these firms are more domestically oriented and are facing increasing offshore competition in the Canadian market. There is also limited production capability in the market growth areas of larger capacity and more automated machines.

In general, production of conventional machine tools in North America is increasingly shifting to lower cost European and Asian countries. Because of lower costs and technology, production of C.N.C. machine tools is shifting to Japan which has become the world's leading producer and exporter.

Canadian tool and die firms are continuing to operate profitably in a cyclically strong but regionally based and fairly mature market. It is currently a domestically oriented industry and trade does not play a major role. The sector's small firms will have to adopt computerized design and process technology in order to remain competitive and to secure new business from the rapidly automating industries of the U.S.A. and Canada.

Prepared by: Machinery and Electrical Equipment Branch
Department of Regional Industrial Expansion

Assistant Deputy Minister
Capital and Industrial Goods

Date: 16 June 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

FACT SHEET

NAME OF SECTOR: Machine Tools and Tooling SIC(s) COVERED: 3199/3062 *

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984**	1985**
Establishments							400
Employment						6300	6000
Shipments ($ millions)	220	679	654	639	467	553	610
Gross Domestic Product	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Investment ($ millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Profits After Tax ($ millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Exports ($ millions)	34	140	157	218	99	200	195
Domestic Shipments ($ millions)	186	539	497	421	368	352	415
Imports ($ millions)	190	725	929	492	409	561	679
Canadian Market ($ millions)	376	1264	1426	913	777	914	1093
Exports as % of Shipments	15.3%	20.6%	24.0%	34.1%	21.2%	36.2%	32.0%
Imports as % of Domestic Market	50.5%	57.3%	65.2%	53.9%	52.6%	61.4%	62.1%
Canadian Share of International Market	N/A	N/A	N/A	N/A	N/A	1%	1%

Source of imports (top 4)	**U.S.**	**E.E.C.(9)**	**ASIA**	**OTHERS**
1981	74%	13%	7%	6%
1982	71%	17%	5%	7%
1983	71%	15%	8%	6%
1984	70%	15%	8%	7%
1985	N/A	N/A	N/A	N/A

Destination of exports (top 4)	**U.S.**	**E.E.C.(9)**	**ASIA**	**OTHERS**
1981	82%	5%	3%	10%
1982	71%	12%	1%	16%
1983	88%	3%	1%	8%
1984	90%	2%	2%	6%
1985	N/A	N/A	N/A	N/A

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	0	10%	80%	5%	5%
Employment - % of total	-	-	-	-	-
Shipments - % of total	-	-	-	-	-

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants
Machine Tools:		
F. Jos. Lamb Co. Ltd.	U.S.A.	Windsor, Ont.
Kingsbury Machine Tool Canada	U.S.A.	Burlington, Ont.
Eagle Precision	Canadian	Brantford, Ont.
Standard Modern Technologies	Canadian	Toronto, Ont.
Brown Boggs Foundry & Machine	Canadian	Hamilton, Ont.
Tooling:		
Valiant Machine & Tool	Canadian	Windsor, Ont.
Butterfield Division, Litton Ind.	U.S.A.	Smiths Falls, Ont.
Valenite Modco	U.S.A.	Windsor, Ont.
International Cutting Tools	Canadian	Montreal, Quebec
Cochrane Tool & Design	Canadian	Toronto, Ont.

*SIC 1980 basis

**Estimated

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

DRAFT

COMPETITIVENESS PROFILE
MAJOR APPLIANCES

1. Structure and Performance

Structure: -

The major appliance industry produces domestic refrigerators, ranges, washers, dryers, dishwashers, freezers, microwave ovens, air conditioners, humidifiers and dehumidifiers. The industry is dominated by three full line suppliers which are subsidiaries of the three largest U.S. appliance manufacturers. They have ten manufacturing plants -- three in Quebec and seven in Ontario - and supply 82 per cent of the Canadian market. These firms operate as branch plants, producing mainly for the domestic market and making products similar to those made by the parent companies in their U.S. plants. There are seven smaller firms manufacturing selected products for niche markets, both in Canada and the U.S. Total production in 1985 was $1 billion, 95 per cent concentrated in Ontario and Quebec.

This industry is mature. Market saturation levels are high and relatively unchanging: 99 per cent for fridges and stoves; 77 per cent for washers and dryers; and 57 per cent for freezers. The microwave oven is the only new product introduced during the last fifteen years. Seventy per cent of the production of the sector goes to the replacement market where the potential for growth is limited since product life averages fifteen to twenty years. The balance of production goes to new housing construction and is therefore highly dependent on the state of the economy.

Manufacturing plants are large, (500 to 1000 workers), unionized, with a high degree of vertical integration. The main production processes are the stamping, forming and painting of sheet metal components, moulding of structural plastic components, and the assembly of complete units. While major structural components are made in house from basic raw materials, the industry purchases other parts such as electric motors, switches and controls. In 1984, total purchases of raw materials and parts totalled $500 million, most of which came from Canadian sources. The major focus in the industry internationally and in Canada has been the improvement in manufacturing efficiency and productivity. As a result, while shipments have increased, there have been plant consolidations and closures and a continuing drop in employment.

Lifestyles have been key determinants in the evolution of the industry. North Americans have preferred larger appliances, in some cases up to twice the capacity of the equivalent models sold in Europe. In contrast, smaller, more energy efficient appliances with sophisticated electronic controls have gained much greater market acceptance in Europe. Within North America, Canadians have preferred somewhat

smaller appliances with extra features while Americans have preferred larger appliances and have been more receptive to product innovation. These differences in consumption patterns and the impact of intercontinental transportation costs have influenced trading patterns such that there is little trade between Europe, North America and Japan.

Differences which exist between products made in Canada and the U.S. have created export opportunities in niche markets in both countries. However, Canadian exports of products such as freezers and air conditioners only partially offset imports from the U.S. of other niche products, appliance parts and microwave ovens.

Performance: -

Major appliances are consumer durables whose sales are strongly influenced by general economic conditions. During the early 1970's the market was particularly strong but the rise in world oil prices during the late 70's slowed demand resulting in overcapacity problems. The subsequent rise in interest rates to historic levels in 1982 had a marked effect on demand, compounding the existing overcapacity problem and initiating changes in the industry. Prior to this period a number of amalgamations had taken place and there was a general trend to introduce process improvements to reduce costs and maintain profitability. However employment levels and labour productivity had remained relatively constant. The impact of the 1982 drop in demand was to trigger a number of plant closures and increase the level of automation. Demand has improved recently but gains in productivity have added to the overcapacity problem such that Canadian plants are operating at an estimated 65% of capacity compared to the U.S. plants which operate at 80% of capacity. The combined effect of this surplus capacity and competition from U.S. imports has led to low profit margins, though return on capital has been consistently high.

Foreign-owned plants in Canada have traditionally concentrated on supplying domestic requirements with a small percentage of their output going to the U.S. Since the decline in demand in 1982 these plants have increased their exports somewhat, relying on products developed for the Canadian market to enter niche markets in the U.S. Some small Canadian owned manufacturers have been quite successful in U.S. markets, particularly in the export of freezers and air conditioners. Exports grew in constant dollars from $8 million in 1971 to $20 million in 1985. As a percentage of shipments, however, exports have remained relatively stable.

2. Strengths and Weaknesses

a) Structural: -

The key competitive elements for manufacturers in the major appliance industry are size, degree of specialization, process automation, part

supply infrastructure and access to markets. Major Canadian plants, although one-fifth the size of U.S. plants, are sufficiently large to achieve economies of scale if dedicated to a single product. However, the plants are vulnerable to competition for the following reasons:

Canadian plants are less efficient because they produce several products and because they must set up more often to produce more variations of each product. In contrast, 75 per cent of U.S. plants are single-product plants. As well, production runs are longer and set ups fewer for the larger American market. The small Canadian firms that have been successful in the U.S. are those which have specialized in single product lines such as freezers or air conditioners.

Canadian plants gain some advantage by being located close to markets in that transportation and inventory costs are reduced. However the major U.S. plants located in the central U.S. have achieved economies of scale sufficient to offset these costs and are able to supply the whole U.S. market. Canadian markets are closer to these plants than some of the major U.S. regional markets and are vulnerable to this potential source of competition.

The level of capital investment and automation in U.S. plants is higher than in Canadian plants. As a result production efficiencies and labour utilisation are considerably higher in the U.S. In Canada, investment has averaged 1.4 per cent of shipments while in the U.S. it has been 2.1 per cent of shipments. The Canadian manufacturers' problem is that the small market and low margins are not enough to stimulate capital investment.

Extended part supply networks in Canada have had a negative impact on production efficiency. Most plants are located in areas where basic raw materials such as sheet steel are readily available, and some, relatively less expensive. However, higher value parts such as compressors and timers must be imported. This is important as the introduction of inventory reduction programs and just-in-time manufacturing becomes more widespread. In the U.S. the infrastructure is more developed and most part sourcing is carried out within 150 kilometres of the plants.

Barriers to entry to the Canadian market have been substantially eroded as a result of two factors within the Canadian distribution system. Both result from the role of the major retailers (The Bay, Eatons, Sears) which control an estimated 60 per cent of the retail market. First, in Canada the distribution networks are dominated by these national retailers. The existence of these networks significantly reduces the entry costs for new suppliers. In the more diverse U.S. market the manufacturers' networks dominate and the cost of establishing distribution acts as a significant barrier to entry.

Secondly, Canadian manufacturers have lost their brand leadership to the major retailers who have been successful in establishing their own brands, contracting manufacturing to the suppliers. For a mature product a differentiated brand is important to retaining market share. The loss of this brand leadership by the manufacturers makes them vulnerable to the retailers, any of which could switch to alternate sources of supply in the U.S. if Canadian prices become uncompetitive.

b) Trade Related Factors: -

The Canadian branch plant industry owes its existence and continued survival to a protective tariff wall, currently at 14 per cent, reducing to 12.5 per cent in 1987. This has been sufficient to minimize import penetration from more competitive U.S. firms. The main imports are parts, products not made in Canada, products where Japanese and U.S. manufacturers have substantial cost advantages, and compact appliances from Japan and Europe.

U.S. tariffs applicable to imports of Canadian products range from 0.5 per cent for electric stoves to 5.5 per cent for dryers. These rates will decline to between 0 per cent and 5.1 per cent in 1987 and do not constitute a significant barrier.

Exports to the U.S. face no significant non-tariff barriers but exports to Europe are subject to cumbersome safety testing procedures and bureaucratic approval processes. There is a small market for Canadian appliances in Australia but access has been restricted by the establishment of a 20 to 30 per cent tariff.

c) Technological Factors: -

The appliance industry is mature with little proprietary technology and few product innovations. As is typical in such an industry greater emphasis is placed on the introduction of process improvements to reduce costs and improve profit margins. However, with saturated markets and few growth possibilities, particularly in Canada, there has been a general reluctance to make new investments. In Canada, this unwillingness to invest in new process technologies has left the industry vulnerable to more efficient U.S. suppliers. An example of this is the microwave oven. Canadian suppliers were early innovators but were under-capitalized and were unable to meet the challenge of U.S. and Japanese suppliers. As a result the Canadian market is now dominated by imports. Conversely some of the more specialized, smaller, Canadian owned plants have successfully introduced process improvements in order to be more competitive.

3. Federal and Provincial Programs

In 1980 the industry received $7 million in support through one element of the Industry Labour Adjustment Program. The aim of this support was to accelerate the ongoing adjustment process. Following the slump in

demand in 1982, reductions in provincial sales tax were introduced in Ontario and Quebec where 70 per cent of the Canadian market is located. The Ontario sales tax holiday lasted one year while Quebec extended it until 1985.

4. Evolving Environment

Two trends evident in the North American industry are the expanding introduction of process improvements and the continuing amalgamation of some of the major suppliers. Canadian industry had been slow to adopt new technology, but this pattern has recently been reversed. However, as a consequence of this push to introduce new technology and improve efficiency, a number of plant closures have occured and more are expected as the industry rationalizes to reduce overcapacity.

There have been a number of amalgamations and acquisitions of smaller suppliers in North America by the majors. This has led to increased industry concentration, but also to economies of scale in a relatively thin marketplace. A.B. Electrolux, a major European supplier with a small North American presence, has recently acquired Zanussi (another major European appliance maker) and W.C.I., one of the three largest North American suppliers. The more aggressive marketing style of Electrolux may accelerate change in the industry. A further challenge may result from the start of North American production of refrigerators by Matsushita and Sanyo.

5. Competitiveness Assessment

The Canadian major appliance industry is not competitive without the tariff barrier, currently 14 per cent but reducing to 12.5 per cent in 1987. The industry is dominated by a group of branch plant suppliers restricted to selling to a domestic market that is mature, saturated and with few prospects for growth. These branch plants, although sufficiently large to achieve economies of scale, are less efficient because of the wide range of products they produce. As well the plants lack investment and have been slow to introduce new technology. This puts them at a cost disadvantage with comparable U.S. plants for the production of core product lines. As new technology is introduced it is probable that further plant closures and reductions in employment will occur.

The small Canadian owned sector, where firms have specialized (freezers, air conditioners) and introduced process improvements, has been more competitive and has been able to penetrate some niche markets in the U.S.

Prepared by: Electronics & Aerospace Branch Date: June 6, 1986

ADM

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

May 1, 1986

FACT SHEET

NAME OF SECTOR: Major Appliances **SIC(s) COVERED:** 332

1. PRINCIPAL STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Establishments	33	40	35	34	26	24*	24*
Employment	11895	13824	12843	10271	10719	9000*	7500*
Shipments ($M)	349	863	877	762	924	998	1020
Gross Dom. Prod. (Constant 1971 $M)	145.6	185.3	170.3	125.4	166.9	147.7	
Investment ($M)	6.4	18.7	14.8	14.8	24.7	37.5	39.7
Profits after tax ($ million)	6.0	4.7	12.6	2.5	4.0	n.a.	
(% of shipments)	1.7	.5	1.4	.3	.4		

2. TRADE STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Domestic Exp. ($M)	9	57	67	57	66	67	70
Re-Exports ($ M)	1	1	1	2	1	2	1
Domestic Ship. ($M)	340	806	810	705	858	931	950
Imports ($M)	74	229	247	188	244	299	354
Cdn. Market ($M)	414	1035	1057	893	1102	1230	1304
Exp. as % of Ship.	2.6	6.6	7.6	7.5	7.1	6.7	6.9
Imp. as % of Dom. Mkt.	17.9	22.1	23.4	21.1	22.1	24.3	27.1
Cdn. share of Int'l Market							

Source of imports (Top 4) ($ millions)	U.S.	Japan	S. Korea	Taiwan	Total
1981	-	-	-	-	247
1982	-	-	-	-	188
1983	157	59	6	4	244
1984	175	89	7	7	299
1985	201	98	17	11	354

Destination of exports (Top 4) ($ millions)	U.S.	U.K.	AUSTRALIA	SAUDI ARABIA	TOTAL
1981	-	-	-	-	68
1982	-	-	-	-	59
1983	46	5	2	1	67
1984	46	5	3	2	69
1985	52	4	3	1	71

3. REGIONAL DISTRIBUTION - Average over the period 1980-82

	Atlantic	Québec	Ontario	Prairies	B.C
Establishments - % of total	3	23	70	-	3
Employment - % of total	1	22	67	2	2
Shipments - % of total	-	23	72	-	1

4. MAJOR FIRMS

NAME	OWNERSHIP	LOCATION OF MAJOR PLANTS	CONCENTRATION (% OF DOMESTIC MARKET)
1. Camco Inc.	53% Can-47% Foreign	Montreal; Hamilton; London; Orangeville	35%
2. Inglis Ltd.	47% Can-53% Foreign	Montmagny; Toronto; Port Credit; Stoney Creek; Cambridge	32%
3. W.C.I. Canada Ltd.	100% Foreign	L'Assomption; Cambridge	15%

* Estimate

COMPETITIVENESS PROFILE

MARKET PULP

1. Structure and Performance

a) Structure

Market pulp refers to pulp which is dried and sold to another non-integrated mill for further processing rather than formed directly into paper in the plant where it was produced. In Canada 35% of the pulp produced is sold as market pulp, the other 65% being converted to paper and board in integrated mills.

There are 53 mills producing market pulp in Canada. About 95% of their output is sold to paper producers and the other 5% to manufacturers of rayon, cellophane, acetate fiber and film, disposable diapers and other sanitary products.

Of the 8 million tonnes (valued at $3.9 billion) of market pulp produced in Canada annually, a million tonnes are sold domestically, mostly in Québec and Ontario, and 7 million tonnes are exported. The major export markets are the United States (50% of export shipments), Europe (25%) and Asia (19%). Although the U.S. market is the largest consumer of wood pulp in the world, it is largely self-sufficient, importing only about 7% of pulp consumption. Canada is the dominant foreign supplier to the U.S. (92% of imports) but one-quarter of shipments are captive, i.e. to related companies.

The subsector is concentrated mainly in B.C., with 44% of shipments originating from that area. The remainder is produced in Québec, Ontario and the Atlantic provinces, in roughly equal portions.

It is estimated that the subsector (based on capacity) is 62% Canadian-owned. The four largest companies constitute about 26% of total capacity. They are: MacMillan Bloedel Limited, B.C. Forest Products Ltd., Westar Timber Limited and Great Lakes Forest Products Ltd. Few companies produce market pulp exclusively. Most also produce papers, boards, lumber or a combination of these products, often on the same site.

Employment in this subsector is estimated to be 22,500.

The world's chemical paper grade market pulp capacity is 28.8 million tonnes. In addition, there is about 1.1 million tonnes of mechanical pulp capacity. The major producing areas (North America, Scandinavia and Brazil) account for 73% of the world's chemical paper grade market pulp capacity. Capacity is distributed to Canada (26%), the U.S. (19%), the Scandinavian countries (22%), and Brazil (6%).

b) Performance

Average annual rates of increase in pulp exports were 4% (by volume) in the 1950s, 7.2% in the 1960s, 4.3% in the 1970s, and 0% in the 1980s.

World-wide growth in demand for market pulp has been slowing gradually in recent years. Between 1985 and 1990, market pulp capacity in North America and Scandinavia is expected to increase at an average annual rate of only 1.3%. Paper and paperboard capacity (basically a pulp consumer) is expanding at a faster rate, but much of the capacity increase is expected to come onstream with integrated pulp supply.

Prices peaked in 1981, and then declined during the recession by roughly 25%. Prices increased early in 1984, but by year end, they had fallen to near recession levels. Prices have been increasing since the beginning of 1986 and are expected to increase further before the end of the year. There is still an overcapacity in the sector but most producers have been willing to take downtime in recent months and the market is now relatively strong.

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During the early seventies, Canadian pulp producers were at a cost disadvantage of 20 to 30 percent compared to producers in the U.S. South and Pacific Northwest. However, the devaluation of the Canadian dollar versus the U.S. dollar, along with an increased use of lower cost sawmill chips and wood waste have significantly improved the Canadian producers' position. Furthermore, the recent decline of the Canadian dollar against European currencies has eliminated the cost advantage enjoyed by the Scandinavian mills in the early 80s. Canadian producers, specially in B.C. now have the lowest unit cost, expressed in current U.S. dollars.

2. Strengths and Weaknesses

a) Structural

Canada is the world's largest market pulp producer. Of the 53 mills in Canada, 34 (75% of capacity) were built after 1960 and retain relative efficiency, only 19 of these (54% of total capacity), however, are of world class size. The older, smaller mills, are located mostly in eastern Canada. The other major producers, U.S.A., Sweden and Finland produce a much larger portion of their production in world class size mills with higher productivity. The persistant weaker Canadian productivity was sharply compounded in the early 1980 by the substantial depreciation of the Scandinavian currencies. As a result, during this period, the Scandinavian producers had the lowest production costs amongst the major exporting countries. The significant appreciation of the Scandinavian currencies against the North American ones since September 1985 and Sweden's much higher rate of inflation in recent years, have allowed Canadian producers to regain the advantage.

Wood costs represent about one-third of North American pulp costs and are thus the most important cost component. B.C. interior wood costs are at present the lowest of all North American producer areas due to the almost exclusive use of sawmill residues. Eastern Canadian wood costs are higher than the other areas but their lower distribution costs partially offsets this disadvantage.

In recent years, until 1984, labour/management relations in the pulp and paper industry had been turbulent. But since the contract settlements of that year, relations have been relatively peaceful. This has been due in part to the low profitability of many companies and the unions shifting priority from pay rates to job security. Although data on trained manpower are difficult to obtain, the skill level of mill employees has been identified as a problem facing the industry today. The industry and governments are taking action to improve job related skills.

b) Trade Related Factors

Market pulp encounters few trade barriers. It is normally traded in large quantities. Canadian exports to the U.S. enter free of duty and other trade impediments. Canadian imports are also free of any tariff.

Unlike newsprint there are no import duties or quotas for Canadian market pulp entering the EEC. Canadian market pulp thus enjoys the same level of access as market pulp from Scandinavia.

c) Technology Factors

The same market pulp manufacturing technology is available throughout the world. With respect to technology and size of facilities, the majority of Canadian mills are similar to their international competitors.

The development and perfection of the kraft (or sulphate) pulping process during the past 30 years has pushed this type of pulp into its present dominant position, representing 84 percent of world demand. Sulphite pulp which once dominated world consumption now amounts to only 8 percent. Mechanical pulps and

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dissolving pulps account for the other 8 percent. Several factors have combined to generate the relatively rapid growth in the world wide use of kraft pulp, especially bleached kraft pulp:

i) the pollution load is lower in the kraft pulping process than in sulphite pulping;

ii) the pulping characteristics of the kraft process allow for the use of almost all wood species including many hardwoods. The use of hardwood is important for Canada because several hardwood species are presently underutilized. Developing countries find the kraft process useful because much of their wood resource consists of hardwoods;

iii) consumer preference for high quality paper products for which bleached kraft is used predominantly.

The kraft pulping process is a mature technology that has not changed significantly in the last twenty-five years. The modern plants are more efficient than older ones, mostly because of their greater sizes and higher degrees of automation of the process control functions or computerization.

One of the most important developments in this sector has been thermomechanical pulp (TMP) and chemi-thermomechanical pulp (CTMP). These pulps are produced by purely mechanical refining of wood chips, allowing retention of most of the lignin which constitutes 50 percent of the wood, even in the case of CTMP where a small amount of chemical is used to soften the lignin. The increased use of these new processes has led to better wood resource utilization. As the technology is improved these pulps will be used to produce higher quality papers. At present, they are mostly used in integrated paper mills and account for only a few percent of the total market pulp capacity.

d) Other Factors

Currency fluctuations have a major influence on competitiveness of market pulp. The Swedish Krona declined in value vis-à-vis the U.S. dollar, by over 50% from (U.S.) $0.25 to (U.S.) $0.11 from 1980 to 1985. During the same period, the Canadian dollar declined by only 15% from about (U.S.) $0.85 to (U.S.) $0.73. As a result, the Swedish producers became relatively more competitive in the world markets than Canadian. Since late 1985, the Krona has increased in value to (U.S.) $0.14 (March 1986); while the Canadian dollar has declined slightly to the (U.S.) $0.70-$0.72 range. This change, coupled with some internal cost increases by the Scandinavian producers, has resulted in the Canadian industry currently being very competitive, despite its older mills.

3. Federal and Provincial Programs and Policies

The Pulp and Paper Modernization Program, announced in 1979 and now completed, resulted in federal/provincial agreements with Ontario, Quebec, New Brunswick, Nova Scotia and Newfoundland. The program was intended to encourage companies to replace old equipment and introduce new technology.

The Industrial and Regional Development Program (IRDP) has some similar objectives as the modernization program, but does not require provincial participation in cost sharing. Also, it is especially designed to promote research and development, and the upgrading of resource products.

The forest resources in Canada are owned primarily by the provinces. The provinces administer various programs for reforestation. For the purpose of harvesting, forest land is leased to forest products companies, who in turn pay stumpage fees.

4. Evolving Environment

There is a world-wide trend to integrate paper mills which will lessen the demand for market pulp. One factor contributing to this trend is the increasing use of the new mechanical pulps (TMP and CTMP), which are well suited for integrated operations, where electrical energy costs are reasonable.

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New and more sophisticated printing processes make stronger demands on paper quality and thereby on pulp quality. Also, consumer preference is changing with time, causing demand to shift between different products and qualities. Canadian market pulp producers specialize in high quality pulps. They are well positioned to capitalize on demand shifts to higher qualities.

The impact of the electronic media is likely to affect the future patterns of demand and usage of paper. While it is unlikely that the "paperless society" will become reality, it is reasonable to assume that new types of paper will be required, and demand for some of the present grades will be reduced. This, of course, could change the grade mix for market pulp and again, the expected shift to higher quality papers should advantage Canadian market pulp producers.

Given existing world-wide overcapacity, any investment the Canadian industry could make will likely be to upgrade and expand existing facilities, instead of building greenfield mills. This will eventually result in fewer but more competitive production units.

5. Competitiveness Assessment

Canada is the world's largest exporter of market pulp. At the current exchange rates between the Canadian, U.S. and Scandinavian currencies, the Canadian industry has lower unit production costs than its two main competitors. The Canadian industry is currently very competitive in its major market, the United States, though with world overcapacity prices and profits are still low.

The Canadian industry's productivity improvement has not kept pace with that of its foreign competitors, because the industry has not restructured or modernized its facilities to the same extent. Nonetheless, assuming no major adverse changes in exchange rates, Canadian producers are expected to remain broadly competitive with other suppliers to the end of the decade, and to maintain their dominant position in the U.S. import market.

Modernization of the Canadian market pulp industry is important to assure its long term viability. However, the required investment will not take place until prices and profitability increase.

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DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

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Consumer Goods, Services and Resource Processing

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DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION June 25, 1986

FACT SHEET

NAME OF SECTOR: MARKET PULP SIC(s) COVERED: 2711

1. PRINCIPAL STATISTICS

	1980	1981	1982	1983	1984	1985
Establishments (e)	53	53	52	50	53	53
Employment (e)	24,000	24,000	23,000	22,500	22,500	22,500
Shipments ($ millions)	4,140	4,005	3,383	3,519	4,300e	3,900e
(metric tonnes)	8,165	7,836	6,995	8,223	8,247	8,400
*Gross Domestic Product (Constant 1971$ millions)	1,436	1,394	1,254	1,349	1,401	NA
*Investment ($ millions)	1,984	2,885	2,597	1,721	1,953	2,471
Profits after tax ($ millions)	NA	NA	NA	NA	NA	NA

***Pulp & Paper Mills**

2. TRADE STATISTICS

	1980	1981	1982	1983	1984	1985
Exports (metric tonnes)	7,244	6,752	6,122	6,823	7,038	7,023
Exports ($ millions)	3,867	3,820	3,221	3,049	3,908	3,394
Domestic Shipments (metric tonnes)	921	1,084	873	1,400	1,209	1,377
Domestic Shipments ($ millions) (e)	460	550	420	600	630	640
Imports ($ millions)	79	83	88	86	128	131
Canadian Market ($ millions)	539	633	508	686	758	771
Exports as % of Shipments (vol)	89	86	87	83	85	84
Imports as % of Domestic Market (vol)	15	13	17	11	16	16
Canadian Share of International (vol) Market	34	33	33	33	33	33

e - denotes estimate

Source of imports (top 4)	U.S.	E.E.C.	Asia	Others
1981	95			5
1982	95			5
1983	95			5
1984	95			5
1985	94			6

Destination of exports (top 4)	U.S.	E.E.C.	Asia	Others
1981	51	30	16	3
1982	51	29	17	3
1983	50	27	20	3
1984	51	27	18	4
1985	50	25	19	6

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	17	17	14	8	44
Employment - % of total	16	12	21	9	42
Shipments - % of total	16	14	17	9	44

4. MAJOR FIRMS

Name	Ownership	Location
1. MacMillan Bloedel	57% Canadian 43% Public	Port Alberni (B.C.), Powell River (B.C.), Nanaimo (B.C.)
2. B.C. Forest Products	18% Canadian 41% Foreign 41% Public	Crofton (B.C.) Mackenzie (B.C.)
3. Westar Timber	100% Canadian	Prince Rupert (B.C.) Castlegar (B.C.)
4. Great Lakes Forest Products	54% Canadian 46% Public	Thunder Bay Dryden (Ont)

DRAFT - PROJET

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE

Meat and Meat Products Industries Sector

1. Structure and Performance

Structure

The meat and meat products industries sector (SIC 101) acts as the direct link between livestock production at the primary level and the wholesale/retail food distribution sector, by slaughtering and processing food animals. It produces a wide variety of meat products ranging from fresh and frozen to cured, smoked, canned, or cooked meats and poultry products, sausage and delicatessen products of all kinds and various by-products. The sector is comprised of two relatively distinct parts, the red meat and poultry industries, but because of the substitutability of products at the consumer level, these have been treated as one, noting the differences that exist. Marketing is targetted to the retail level, though an increasing volume of sales are made through the hotel, restaurant, and institutional trade.

The meat industry ranks fourth among manufacturing industries in Canada with $9.1 billion total sales in 1983. Estimates for 1984 and 1985 indicate that sales for each of these years were between $9 billion and $10 billion. An estimate of the breakdown of these shipments amongst the major subsectors would be: beef $3.4 billion, pork $2.3 billion, processed meats $2.1 billion and poultry and egg products $1.3 billion.

In 1984 there were an estimated 590 federally-inspected establishments employing approximately 42,000 persons. An additional large number of both provincially inspected and non-inspected establishments (neither of which can deliver product outside the province of location), account for less than 4% of the total meat production.

Production facilities range widely in sizes from those employing one or two persons to those in excess of one thousand. In 1982, 19% of the plants accounted for 77% of the total sales volume. The industry is dominated by Canada Packers Inc., which accounts for an estimated 29% of production. The next six somewhat smaller companies account for an additional 38% of the sector output. Concentration levels in the industry are declining. In 1965 the 4 largest firms accounted for 61.8% of shipments while in 1982 the figure was 39.8%.

Foreign ownership in this industry is estimated at about 5% of production. Recently some Canadian firms have purchased plants in the U.S.A. in order to improve export distribution of their products by utilizing the existing distribution networks of the U.S. operations.

The red meat industry originally developed as a series of "full-line" plants which slaughtered all species of livestock and further processed some carcass portions, so that they became wholesalers of fresh meats and all types of sausage and delicatessen products. The major companies have generally retained this structure, but during the past twenty years specialization has developed so that now, in addition, some plants only slaughter, some only cut, pack, and ship, and some only produce processed products. This specialization developed from the perception that new "single storey" plants dedicated to either slaughter or processing could be more efficient and more profitable than the old full-line plants. As the industry operates in a North American market for both livestock and meat, supplies of product are readily available to non-slaughterers at industry competitive price levels.

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This nation-wide industry is a major employer in all regions, but is more heavily concentrated in Quebec, Ontario and Alberta. Strong linkages exist between plant locations and either livestock production or human population. In general, slaughter plants locate where livestock production is dominant and processing plants concentrate in or close to major population centres. Supply management programs have distorted the location of poultry production. Livestock production has developed in areas that have competitive advantages due to availability of suitable or lower costing land, feed and water. Provincial programs aimed at developing regional self-sufficiency have caused a major shift of hog production, slaughter and cutting operations from the Prairies to Quebec.

The red meat and meat products industry exported over $1 billion worth of products in both 1984 and 1985. The breakdown of this total is approximately: red meats $721 million, poultry $14 million, processed meats $43 million and by-products $375 million. The major export markets are the U.S.A. and Japan for beef and pork, and the U.S.A. and Europe for fancy meats. Exports of processed meats are relatively minor. Poultry markets are chiefly the Pacific Rim countries, the Caribbean, Europe and the Middle East.

Imports in most years average less than ten per cent of total production, and in the red meat sector consist chiefly of the types of product that cannot be produced in sufficient volume to meet domestic needs. The major red meat import is "manufacturing beef" which is boneless beef used in the production of processed sausage and delicatessen products and in ground beef for the retail and hamburger outlet trade. These imports originate from Australia, New Zealand and the EEC. Product from the EEC, which is only competitive because the Common Agriculture Policy provides both producer and export subsidies, has at times depressed the Canadian boneless beef market, resulting in lower Canadian livestock prices and increased movement of live animals to the U.S.A. The bulk of red meat imports from the U.S.A. consists of high quality beef for the hotel, restaurant and institutional trade together with poultry under the global and supplemental import licensing program. Levels of meat imports and exports between Canada and the U.S.A. have varied considerably due fluctuations in livestock production in both countries.

The red meat segment of the industry operates in an almost free trade North American market with prices in the U.S.A. and Canada closely following each other. Market prices are widely reported and Canadian prices react quickly to fluctuations in exchange rates. The effects of both rising and falling market prices for finished products tend to be passed back to the livestock producer by increases or reductions in livestock paying prices.

Poultry imports are relatively stable due to import controls in support of supply management, and exports are negligible.

Performance

The major meat industry companies are mature, financially strong, and endeavouring to diversify, both within and outside the sector. As most of the major firms, and almost all the smaller ones are privately held, very little financial data is available. Most red meat slaughtering and processing companies have had net profits around one cent per sales dollar for the past few years, a performance which closely matches that of their U.S. competitors. Smaller companies engaged solely in processing appear to have a somewhat better performance. The poultry processing industry profit levels are also somewhat higher.

Red meat per capita consumption has declined from 168 lbs in 1975 to 154 lbs in 1985, due to a combination of perceived health problems, an aging population and an emphasis on poultry meat consumption, the latter having risen from 45 to 54.5 lbs per capita in the same period.

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Employment in the industry rose from 39,000 in 1973 to almost 47,000 in 1981, since declining and stabilizing at about 42,000.

Beef and hog slaughtering plants have operated at rates of capacity ranging from 55% to 90% over the past ten years, during which time plant closures have occurred. Current rates range from 75% to 90% and further closures will probably occur in beef slaughter plants. The poultry industry has also experienced plant closures over the past ten years. It is currently operating at an estimated 90-95% of capacity.

Strengths and Weaknesses

(a) Structural

There is overcapacity in both beef and hog slaughter operations and some plants have reached the end of their structural life. Modern equipment and technology are in use throughout the industry although the size of the Canadian market does not warrant the incorporation of some high speed production lines which, by virtue of the markets they service, are available to U.S. or EEC plants.

Some plants are unable to effect economies of scale achieved by their U.S. competitors and are further constrained by wage and fringe benefits levels above those in the U.S.A. In the past two to three years the U.S. meat packing industry has, by various means, challenged the traditional wage-setting tactics of union negotiations, resulting in reducing wage rates and in de-listing unions in many plants. To date the Canadian industry has not achieved the same level of control of labour costs. U.S. meat industry wage rates range from C$6.25 - $14.85 (C$1 = U.S. 0.72) per hour plus 0-15% fringe benefits, while in Canada the range is from C$10 - $12 plus 20-25% fringe benefits. The wide range of U.S. labour costs reflects the variations between unionized and non-unionized plants. In consequence, many U.S. plants have a labour cost advantage. Wages, salaries and fringe benefits account for about 10% of cost of sales in both Canada and the U.S.A. Some components of labour costs are sensitive to the volume of production. Livestock costs account for 78-80% of cost of sales in both Canada and the U.S.A.

During the last few years, a number of relatively small regional companies specializing in "ethnic" types of sausage and delicatessen products have been formed. These companies tend to be more profitable than those which concentrate on the production of "commodity" type products such as wieners, bologna and sliced bacon. While some higher priced products are exported into the immediately neighbouring regions of the U.S.A., total volume is not large.

Transportation costs have little effect on the competitiveness of the industry, usually being reflected in relative market values for livestock.

Growth in the poultry processing sector is hampered to some degree by the supply management system which controls regional and national production and prices of live poultry. As a result Canadian processors usually pay more for live poultry than do their U.S. competitors. Removal of this system would result in greater consumption of poultry products, but almost certainly at the expense of red meat products. Poultry plants are generally smaller than their U.S. counterparts and cannot therefore achieve the same economies of scale, in consequence Canadian unit labour costs are slightly higher than U.S. competitors.

As the industry operates on very low rates of return and intense domestic market competition, it has difficulty in developing sufficient capital to carry out needful modernization as rapidly as it would like.

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(b) Trade Related

For beef trade with the U.S.A. tariffs (which range from 2¢/1b to 4% ad valorem) are, with the exception of consumer-ready beef products, low enough to permit product flows.

Both Canada and the U.S.A. each have Meat Import legislation which, when invoked, can provide quantitative restrictions on the imports of beef and veal (and sheep and goat meat into the U.S.A.).

Canadian beef sales to the U.S.A. are mainly cow beef, bone in or boneless, and some ungraded steers and heifers. From the U.S.A., Canada buys higher quality, usually "Choice" and "Prime", cuts and some carcass beef. Fatter grades of beef are more costly to produce, due to the increased length of time in the feedlot and higher labour and feed costs. The U.S. grading system provides a premium for the fatter, and discounts the leaner, grades whereas the Canadian system does the reverse. In consequence, the leaner grades which are more readily available in Canada and which Canadian companies wish to ship to the U.S. markets often cannot compete with comparable U.S. product.

On other international markets, the major market for both high quality beef and pork cuts is Japan where tariffs are 10% on pork and 25% on beef. Canadian processors have been generally unsuccessful in beef exports. The Japanese have strict import limits on beef and the high quality fatter beef cuts required by this market are more readily available from the U.S.A.

As a result of substantial over-production of beef and pork in the E.E.C., caused by both production and export subsidies and by recent cut-backs in the European dairy programs, Canadian and U.S. processors of manufacturing beef and cattle and hog producers are now facing strong allegedly unfair import competition from European production which tends to depress North American market returns. In the case of beef, the U.S.A. was successful in the last MTN negotiations in securing a maximum import from the EEC of 5,000 metric tonnes per year.

Fresh and fresh frozen pork can enter Canada and the U.S.A. duty free subject only to health regulations which prohibit entry from countries where foot and mouth disease is endemic. In recent years pork has entered Canada only from the U.S.A., Denmark and Ireland, and beef from the U.S.A., Australia, New Zealand, Denmark, Ireland and Nicaragua.

Canada is one of the largest pork exporters in the world, our major competitors being Denmark and the U.S.A., in that order. The EEC has set restrictive quotas on beef and extremely high tariffs and variable levies on all meats so that access to that market for Canadian red meats and most poultry products is extremely difficult.

As a result of petitions by the U.S. National Pork Producer's Council a countervailing duty was applied to all imports of Canadian live hogs (effective July 25th, 1985) but not on dressed pork, reducing the movement of live hogs, but with no discernible effect on dressed pork movement into the U.S.A. A recent proposed change in the U.S. definition of "like products" may re-open the case for U.S. countervail action against Canadian dressed pork imports.

The Canadian poultry industry is both protected and restrained by supply management programs which place finite limits on both production and imports and, through price controls based on cost of production formulae, render exports largely non-competitive in world markets.

In the past few years Brazil, through heavy subsidies on the raising and export of poultry, has largely taken over many world markets which were formerly supplied by U.S. or Canadian exporters.

The major government impact on trade is often caused by special border inspection control measures which are imposed from time to time to endeavour tocounteract any major shifts in traditional trade patterns.

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(c) Technological Factors

The technology in use in the Canadian industry is generally at the same level as that in other developed countries. There are several plants in both the U.S.A. and the EEC which have incorporated high speed/high volume technology not in use in Canada due to the smaller size of Canadian markets.

In order to ship inter-provincially or internationally plants must meet Canadian Federal Meat Hygiene and Inspection Regulations.

(d) Other Factors

The rate of exchange of the Canadian dollar vis-à-vis the U.S. dollar and Japanese yen has had some effect on the industry's ability to compete in those countries. For example, in 1985 the relative rates between the yen and the Canadian dollar and the Danish Krone favoured imports of Danish rather than Canadian pork into Japan.

3. Federal and Provincial Programs and Policies

The government has major involvement through supply management programs which set production quotas and prices in poultry production. This is not so in the case of the beef and pork sectors. There are extensive federal health and inspection regulations. Changes have been made in beef cutting standards to make them more compatible with international practices.

Other government programs which have had a direct effect on the meat industry include:

- regional development assistance for the upgrading, reconstruction or establishment of new plants.

- stabilization programs at the producer level. These are designed to smooth out production cycles and stabilize the amount of product available. Many provinces have "top-loaded" the federal stabilization programs with programs designed to encourage livestock production in their own province and aiming at self-sufficiency. A new tripartite stabilization program for cattle and hogs, providing for equal participation by federal and provincial governments and the livestock producer, became law at the end of June 1985.

4. Evolving Environment

Domestic per capita demand for all meats will probably continue to decline in the future due to the aging of the population with its reduced potential for meat consumption; changing lifestyles; and real or imaginary health related factors. Substitution between red and white meats occurs and will continue to occur, limited to some degree by the poultry supply management programs. These factors will tend to limit domestic industry growth to population growth, currently one to one and one half per cent per annum.

Development of new products will continue with technological development. As an example, increased boxing of "block ready" beef cuts close to the slaughter point and eliminating shipment of "hanging" beef to the major markets, would increase "efficiency" but will require a restructuring of the distribution system. An extension of "block ready" boxing to "retail ready" is now being tested in some markets. ("Block ready" or "boxing" are the industry names for the process of cutting beef carcasses into primal and sub-primal cuts, vacuum packaging and boxing them and delivering to wholesalers for cutting into retailcuts. "Retail ready" is the term for this product further cut and packaged to consumer sizes.) It is seen as the future direction of the beef industry. There is potential to improve pork distribution and extend product shelf-life by introducing a similar

system for pork. These developments are already occurring in Europe and the U.S.A. and may eventually result in elimination of cutting and packaging at the supermarket and its replacement by central cutting and packing operations using controlled atmosphere packaging.

Some plant closures and modernization should continue in the 80's, with significant effect in some regions.

5. Competitiveness Assessment

There is still some overcapacity although plant closures have significantly eased that problem. The slaughtering and cutting industry is largely successful in remaining competitive with other exporting countries by continuously improving efficiency and lowering its cost of production in spite of limited economies of scale. Plant upgrading, the implementation of some robotics, and the maintenance of adequate capacity levels will continue to be required to maintain the competitiveness of this industry.

The chief competitive problems that the industry faces are those caused by the various subsidy programs operated by the EEC under the Common Agriculture Policy for both red meats and poultry; by Brazil in its poultry industry; by the various hidden subsidies under the U.S. production and export promotion programs. The E.E.C., through its Common Agriculture Policy and the consequent production of surplus stocks of all red meats, has become a major factor in Canadian and world markets for beef and pork, causing disruption of traditional trading patterns. While the Canadian industry can almost certainly remain competitive from the viewpoint of its slaughtering, cutting and processing operations, it will have difficulty in competing with the subsidized prices which are being offered in all world markets.

In the case of poultry, the slaughtering plants are not able to achieve the economies of scale of their larger U.S. counterparts. Additionally, the supply management programs result in higher costs for the live product inputs.

Prepared by: Food and Consumer Products Industries Branch
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: July 1986

DRAFT - PROJET

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

July 1986

FACT SHEET

NAME OF SECTOR: Meat and Meat Products Industries Sector **SIC(s) COVERED:** 1011 and 1012 *(1980)

1. PRINCIPAL STATISTICS

	1971	1980	1981	1982	1983	1984	Estimate Partial 1985
Establishments	564	637	594	586	592	590(E)	580(E)
Employment (thousands)	38832	46042	46594	44100	41803	42000(E)	42000(E)
Shipments ($ millions)	2,421	7,933	8,699	9,124	9,110	9,100(E)	9,100(E)
(volume, e.g. tonne where applicable)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Gross Domestic Product (Constant 1971-$ millions)	394.5	485.4	507.6	517.8	522.7	518.0(E)	520(E)
Investment ($ millions)	66.2	191.9	154.2	153.3	167.8	179.8	190.0
Profits After Tax ($ millions)	30.7	96.2	60.2	71.6	93.8	94.0(E)	95.0(E)
(% of income)	1.1	1.2	0.7	0.8	1.0	1.0(E)	1.0(E)

2. TRADE STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Export ($ millions)	159	808	873	1,046	1,103	1,147	1,076
Domestic Shipments ($ millions)	2,262	7,125	7,826	8,078	8,007	7,953(E)	8,024(E)
Imports ($ millions)	131	527	455	426	480	521	574
Canadian Market ($ millions)	2,393	7,652	8,281	8,504	8,487	8,474(E)	8,598(E)
Exports as % of Shipments	7	10	10	12	12	13(E)	12(E)
Imports as % of Domestic Market	5	7	6	5	6	6(E)	7(E)
Canadian Share of International Market	2.02	1.69	2.55	3.23	3.04	3.30	3.27(E)

Source of imports (% of total value)	U.S.	E.E.C.	ASIA	AUSTRALIA & N.Z.	OTHERS
1981	45.93	2.75	0.44	33.02	17.86
1982	46.71	3.76	0.14	39.44	9.95
1983	46.88	5.83	0.21	32.92	14.16
1984	50.48	11.71	0.12	21.50	16.19

Destination of exports (% of total value)	U.S.	E.E.C.	ASIA	AUSTRALIA & N.Z.	OTHERS
1981	42.96	10.42	28.64	0.007	17.97
1982	41.13	11.47	26.67	0.14	14.59
1983	41.61	8.70	23.48	0.27	25.94
1984	56.84	12.12	20.40	0.44	10.20

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	5.1(E)	25.3	35.8	25.3(E)	8.4
Employment - % of total	4.4(E)	24.8	39.9	23.5(E)	7.3
Shipments - % of total	2.6(E)	25.2	34.4	32.4(E)	5.4

(E) Estimated figures.

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4. MAJOR FIRMS

Name	Ownership	Location of Major Plants	Estimated Concentration (% of domestic market)
Canada Packers Inc.	Canadian	Ont., Que., B.C. N.B., P.E.I., Alta. Man., Nfld., Sask.	29%
Burns Meats Ltd.	Canadian	Alta, Ont., Man.	15%
J.M. Schneiders Inc.	Canadian	Ont., Man., Alta, B.C., Ont.	9%
Coopérative Fédérée	Canadian	Quebec	5%
Gainers Inc.	Canadian	Alta, Ont.	3%
Salaison Olympia	Canadian	Quebec	3%
Intercontinental	Canadian	Sask., B.C.	3%

5. RELATIONSHIP BETWEEN HUMAN POPULATION AND LIVESTOCK SLAUGHTER

Provinces	Human Population %	Cattle Slaughter %	Pork Slaughter %	Chicken Slaughter %	Turkey Slaughter %
British Columbia	11.6	2.5	2.1	9.4	9.7
Alberta	9.4	40.1	12.4	9.6	9.1
Saskatchewan	4.0	7.3	4.1	2.1	2.2
Manitoba	4.2	10.1	8.4	3.9	8.7
Ontario	35.4	29.8	31.5	36.5	43.8
Quebec	26.3	8.7	37.3	31.2	23.7
Atlantic	9.1	1.5	4.1	7.3	2.0

Source: Statistics Canada - Catalogue 23-005 and 91-001

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

DRAFT

COMPETITIVENESS PROFILE

METAL ROLLING MILL AND WELDING EQUIPMENT

1. STRUCTURE AND PERFORMANCE

Structure

This profile covers the metal rolling mill equipment used in the primary metal fabricating industry as opposed to the secondary industry (i.e. shop use). Rolling mill equipment consists of all the machinery used to shape and further process both ferrous and non-ferrous metals (mostly steel, aluminum and copper) once they have been cast. This equipment is supplied mainly to the steel makers industry (e.g. rail and shape mills, pipe mills, rolls, coilers, etc.), to construction material makers (e.g. aluminum sheeting, siding and roofing) and to wire makers.

It also includes welding equipment used in shops where metal is further processed (i.e. hand held, portable welders) and industrial operations (e.g. welding lines in vehicle assembly plants). However, consumables used in welding operations (e.g. welding wires, gases and fluxes) are not covered. Robots and machine tools are also excluded. Automobile manufacturers and appliance makers are major users of this type of equipment.

Finally the profile also includes but will not discuss metal surface finishing equipment (e.g. spraying, coating and plating equipment) because this sub-sector is much smaller than the other two. In general, the analytical part will refer to metal rolling mill equipment which is the most important of the three sub-sectors covered and deal specifically with welding equipment when necessary. The statistical part covers all three sub-sectors.

Some 85 companies employing approximately 3,500 people are active in these sectors which have a strong regional concentration with 80 per cent of the companies located in Ontario and most of the others in Quebec. In 1985 they realized factory shipments estimated at $472 million of which $55 million (12 per cent) were exported. Imports amounted to $176 million, representing 30 per cent of the Canadian market. These firms are characterized by a low volume production, mostly custom built machines adapted to specific mill or line considerations. A large amount of engineering goes into designing the equipment, building it and installing it to specifications. Inventory levels are kept to a minimum. Most manufacturers sub-contract operations which can be performed more economically by specialized suppliers such as precision machining of parts and sub-assembly.

The two industries are dominated by foreign ownership. American control is particularly strong with the larger companies involved in this sector although there is no clear domination by any one company. The largest companies will have approximately 250 employees with annual sales of some $30 million. It is estimated that 60 per cent of total shipments of metal rolling mill equipment and as much as 80 per cent of shipments of welding equipment originated from foreign owned companies in 1985. Many foreign owned subsidiaries started as sales and service operations before becoming full-fledged manufacturers. Duty protection has played a significant role in contributing to this transition along with factors such as development of the Canadian market, availability of export financing, proximity to North American industry users (e.g. Detroit-Windsor area), relative value of currencies and employee productivity.

The international industry is not dominated by a few large multi-nationals. It is rather composed of many small and medium manufacturers concentrated in the U.S.A., the Federal Republic of Germany and Japan. It is also from these countries that new technologies are emerging in both sectors.

The Canadian industry is competitive in the domestic market in small to medium size mill equipment. Our domestic manufacturing capability and expertise are very good in that segment of the industry. However, the large equipment segment (e.g. continuous casters) is largely dominated by Japanese and European builders. This characteristic can be explained by the size of the Canadian market which is too small to justify local manufacturing. This, however, does not hold true in the welding equipment sector where our production capacity is excellent throughout.

The metal rolling mill equipment sector is affected by the fluctuations of the North American steel market, which has been declining since 1981, and the welding equipment sector, by automobile production. Access to the U.S. market by Canadian steel producers and aggressiveness of foreign competition have a direct bearing on equipment manufacturers' output. Increased pressure imposed on the world market by Japanese, German, British and American rolling mill equipment manufacturers is forcing Canadian manufacturers out of the export market. This competition is particularly obvious in the lucrative American market. Between 1970 and 1980, the sector had maintained a rather consistent export performance with an export to shipments ratio varying between 20 per cent and 40 per cent. This ratio is low by total machinery industry average (40 per cent). However, the domestic orientation of foreign owned subsidiaries coupled with the modernization efforts undertaken by steel producers and the revival of automobile sales have led to an unprecedented 1985 domestic market size (estimated at $593 million) and share of the domestic market going to Canadian manufacturers (70 per cent).

Performance

From 1970 to 1975, shipments of metal rolling mill equipment grew rapidly (24.7 per cent average annual growth (AAG) expressed in constant 1985 dollars) largely in response to strong capital spending to expand the domestic steel industry. Growth slowed noticeably, however, during the late 1970s (-2.44 per cent AAG expressed in constant 1985 dollars) as steel producers cut back production in the face of considerable excess capacity. Since 1980, production of rolling mill equipment has again been increasing strongly to an average annual increase of 16.5 per cent (AAG in constant 1985 dollars) as suppliers benefited from significant modernization programs being introduced by the major Canadian steel producers. As a result, shipments are expected to have reached $472 million in 1985 and the combined AAG for the period 1970 to 1985 in constant 1985 dollars is 11.8 per cent. This increased business has strongly improved the manufacturers' financial position and almost all of them are now operating profitably.

From 1981 to 1985, the export share of sector shipments declined from 17 per cent to 12 per cent at $55 million. Major export markets for Canadian manufacturers were the United States, China, Australia and the United Kingdom. The U.S.A. was by far the most important foreign market, having purchased over 80 per cent of Canada's exports in this sector. However, while U.S.A. imports of metal rolling mill equipment have constantly increased, the Canadian portion of these imports has steadily declined from 16 per cent in 1981, to 9 per cent in 1982, to a mere 3 per cent in 1983, the last year for which U.S.A. data is available. During that year, Canada ranked in 7th position for U.S.A. imports of metal rolling mill equipment, behind Japan, Brazil, the Federal Republic of Germany, Sweden, the United Kingdom and Italy.* This decreasing share of the U.S. market reflects the displacement of Canadian manufacturers by an aggressive foreign competition and the concentration of their efforts on the domestic market. This is also demonstrated by the dramatic shift in trade orientation which happened in 1980-81 when our exports went from 41 per cent of total shipments to 17 per cent as a result of stagnation in the auto industry.

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* (Source: U.S.A. General Imports, Schedule A, December 1983, U.S.A. Dept. of Commerce, Bureau of the Census.)

At the same time, import penetration of the Canadian market also decreased from 41 per cent to 30 per cent. This trend to reduced imports is the opposite to that being experienced in most other machinery sectors. This can be explained by the fact that Canadian manufacturers concentrated their efforts on satisfying an increasing domestic demand and ended up capturing a larger proportion of the domestic market, moving from a 59 per cent share in 1981 to 70 per cent in 1985.

2. STRENGTHS AND WEAKNESSES

Structural Factors

Recent severely depressed world market conditions for steel and ensuing production overcapacity have resulted in increased business for rolling mill equipment manufacturers. Steelmakers have embarked on modernization plans which will carry on till the end of the decade. Welding equipment manufacturers are also favoured by lower interest rates which encourage a higher consumption of automobiles and consumer goods (e.g. appliances).

In general, the rolling mill and welding equipment sectors are considered to be strongly domestic market oriented as demonstrated by the high share of the domestic market occupied by Canadian producers (70 per cent) and the low level of export orientation (12 per cent) as explained previously. This dependency on local market conditions creates additional stress on the growth possibilities of the sector over the medium to long range. The relatively small size of the Canadian market also prevents investments in areas where significant import gaps could be filled (e.g. continuous casters, special types of rolls). Furthermore, the high proportion of foreign ownership has also resulted in low levels of research and development undertaken in Canada although the custom-built nature of most of these machines implies that engineering modifications have to be incorporated constantly. Foreign ownership has also had a negative impact on our external trade as many subsidiaries have restricted export mandates especially to the U.S. market which is often reserved for the american parent company. Some foreign owned companies will only get involved in third market exports provided they can have access to government institutional financing.

Most of the equipment considered in this paper is custom-built. As a result there are no manufacturing cost savings made by large manufacturers. In both rolling mill and welding equipment sectors, the cost structure of the Canadian industry is comparable to that of the U.S. industry.

A major problem faced by Canadian manufacturers of rolling mill heavy equipment where costs are extremely high is that of competitive financing. Because of the high level of costs involved, methods of financing and rates of interest play a major role in the awarding of contracts. Low cost foreign financing is available from countries such as the Federal Republic of Germany and Japan in an effort to help their manufacturers penetrate foreign markets, including Canada.

Trade Related Factors

Canada's rolling mill and welding equipment trade has traditionally been dependent upon favourable access to the lucrative United States market. Unlike in the steel industry where tariffs and non-tariff barriers are faced, equipment manufacturers have enjoyed relatively easy access to that market. The U.S.A. accounts for more than 80 per cent of Canada's imports and exports in this sector. Non-tariff barriers in the U.S.A. and in other developed countries have not been major factors affecting market penetration.

Effective import tariffs for rolling mill equipment are at 9.9 per cent (January 1, 1986) and 9.2 per cent (January 1, 1987) in Canada and at 5.2 per cent (January 1, 1986) and 4.9 per cent (January 1, 1987) in the United States. In Japan import tariffs are 4.6 per cent (January 1, 1986) and 4.2 per cent (January 1, 1987) imposed on CIF value. In the context

of their "liberalization program", the Japanese have unilaterally decided to lower the rate to 3.4 per cent. This rate is expected to remain applicable until otherwise decided. In the case of the European Economic Community, the rate applicable for this type of equipment is 4.9 per cent (January 1, 1987). Because of the EEC's accelerated application policy, this rate has already been put into effect as of January 1, 1986.

On the domestic market, these tariffs have proved to be important to protect Canadian manufacturers of small and medium size equipment from foreign, mostly European and Japanese competition. Duty protection along with the size of the domestic market account to a large extent for the importance of the foreign presence in this manufacturing sector in Canada.

Technological Factors

In both rolling mill and welding equipment sectors, subsidiaries of foreign companies, mostly American, have access to technologies developed by their parent or sister companies. These are introduced in Canada as rapidly as in the U.S.A. However, new technological developments now tend to come out of Japan, the Federal Republic of Germany and countries such as South Korea and therefore it is North American technology as a whole which is sometimes surpassed on the world market. Licensing arrangements with foreign manufacturers (e.g. German) to have key steel mill components manufactured in Canada have had some success in the past. However, market size coupled with the 1982 recession have precipitated some premature cancellations of these agreements.

More and more electronics and computer-based controls are being incorporated into various phases of the metal processing operations. In the welding sector, the systems approach is becoming widely used with the inclusion of artificial vision systems and robotics.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

Rolling mill and welding equipment firms benefit from the provisions of the Machinery Program which ensures that manufacturers receive the full benefit of protection from duty on imported equipment equivalent to that which they manufacture in Canada. At the same time, many of these same firms are assisted in rounding out their product line by receiving remission of duty on imported machines not manufactured in Canada.

The rolling mill and welding equipment sectors benefit at the firm level from the full range of incentive programs for export development, R&D, modernization and expansion.

4. EVOLVING ENVIRONMENT

The modernization of steel mills and the expansion in aluminum smelting capacity in Canada, will continue through the early 1990s. As a result, the Canadian market for rolling mill equipment will continue to be good for that period of time. The evolution of the world steel market and the life expectancy of the equipment are the predominant factors which affect the fluctuation of the economic cycle of the equipment market. Furthermore, as more and more countries industrialize and begin producing steel and other metals, the market for equipment is expected to shift in favour of these countries such as Brazil and South Korea.

It is worth noting that in the rolling mills equipment sector, there is a new tendency developing among some users, mostly in the North American market: more and more these machines become short run production equipment purchased for a very specific job and depreciated over short periods of time. It is becoming common to purchase smaller, less flexible but at the same time less expensive equipment and thus the concept of mini-mill equipment is gaining in popularity. This concept is also making advances in industrializing countries that are still net importers of steel but who wish to upgrade their industry. This type of equipment has the advantage of not being too expensive, a major consideration in many,

hard currency poor countries. This trend is expected to last until the turn of the century and could represent significant trade pattern changes for Canadian exporters.

The welding equipment sector will continue to benefit from the modernization efforts as well as new investments undertaken by automobile manufacturers to face foreign competition on the North American market during the next three years. However, experience is demonstrating that equipment sourcing policies tend to vary between North American and Asian automobile manufacturers. North American car makers are purchasing their welding equipment in Canada and the United States whereas Asian manufacturers buy this equipment from their traditional suppliers. Furthermore, sales of cars are expected to experience slow growth rates (1-2 per cent per year) in North America over the next five years and this new wave of investments in the automobile sector will result in overcapacity. As a result, it is expected that the welding equipment sector will not expand further and may experience a decline beyond this time frame.

Over the long term, the rolling mill and welding equipment sectors should experience a decline followed by a stable and mature market environment once major shifts in trade orientation have taken place and the domestic market size has returned to more manageable proportions. The growing trend to replace steel with composite materials and plastics will have a regressive effect on both sectors.

5. COMPETITIVENESS ASSESSMENT

The Canadian rolling mill and welding equipment sectors will maintain their competitiveness on the domestic market where the demand is expected to remain high over the next 3 or 4 years. In the rolling mill equipment sector, some of our manufacturing cost components (e.g. labour, land) are higher than those of some of our competitors from industrializing countries. However, in an industrial niche where financing is not so much of an issue (i.e. small to medium size equipment) Canadian manufacturers do not risk being displaced by producers from these countries in view of their lack of manufacturing capability in Canada or the United States. Problems are a lot more acute in the very large and expensive mill equipment where countries such as Japan and the Federal Republic of Germany have both the technology and the financing means to capture the Canadian market. In that sense the Machinery Program is playing an important role to protect Canadian manufacturers of less capital intensive equipment. In cases where very expensive equipment is involved, the 9.9 per cent duty imposed is not high enough to offset the advantages of foreign concessional financing.

In the early 1990s, following this period of sustained activity, the domestic market is expected to contract but at the same time new markets should also open in other countries as they develop their industrial infrastructure. The Canadian industry is not as competitive on foreign markets partly because of high production costs but mainly because of the ownership pattern which prevents some Canadian manufacturers from going after export business. In order to maintain their profitability, Canadian manufacturers will have to modify their trade patterns and further pursue these developing business opportunities.

Prepared by: Machinery and Electrical Equipment Branch
Department of Regional Industrial Expansion

Assistant Deputy Minister
Capital and Industrial Goods

Date: OCT 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

FACT SHEET

NAME OF SECTOR: METAL ROLLING MILL AND METALWORKING EQUIPMENT SIC(s) COVERED: 3199 *

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	Estimate Partial 1985**
Establishments						85	85
Employment						3200	3500
Shipments ($ millions) (volume, e.g. tonne where applicable)	57	109	331	370	336	398**	472
Gross Domestic Product (Constant 1971-$ millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Investment ($ millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Profits After Tax ($ millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(% of income)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985**
Exports ($ millions)	19	45	56	62	45	51	55
Domestic Shipments ($ millions)	38	64	275	308	291	347	417
Imports ($ millions)	43	176	195	193	145	158	176
Canadian Market ($ millions)	81	240	470	501	436	505	593
Exports as % of Shipments	33%	41%	17%	17%	13%	13%	12%
Imports as % of Domestic Market	53%	73%	41%	39%	33%	31%	30%
Canadian Share of International Market							

Source of imports (top 4)

	U.S.	E.E.C.	ASIA	OTHERS
1981	78%	17%	3%	2%
1982	67%	27%	3%	3%
1983	79%	15%	4%	2%
1984	73%	20%	4%	3%
1985	N/A	N/A	N/A	N/A

Destination of exports (top 4)

	U.S.	E.E.C.	ASIA	OTHERS
1981	75%	8%	6%	11%
1982	68%	11%	4%	17%
1983	75%	5%	2%	18%
1984	87%	5%	1%	7%
1985	N/A	N/A	N/A	N/A

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	-	20	78	1	1
Employment - % of total	-	15	84	0.5	0.5
Shipments - % of total	-	10	89	0.5	0.5

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants	Concentration (% of domestic market)
1. Wean United	U.S.A.	Cambridge, Ont.	
2. Pro-Eco	Canadian	Mississauga, Ont.	
3. John T. Hepburn	Canadian	Toronto, Ont.	
4. CEECO Machinery	Canadian	Concord, Ont.	
5. M.A.N. - Lepper Inc.	Germany	Scarborough, Ont.	
6. The Bradbury Co.	U.S.A.	Scarborough, Ont.	
7. Uniroyal - R.M.S.	U.S.A.	Kitchener, Ont.	

* 1980 SIC
** Estimated
NOTE: The statistics used in this exercise have been extracted from Statistics Canada data group 4 which contains rolling mill and metalworking equipment including welding and plating machinery. It does not include machine tools.

DRAFT - PROJET

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE

Metal Stamping, Pressing and Coating

1. STRUCTURE AND PERFORMANCE

a) Structure

The metal stamping, pressing and coating industry is made up of three sub-sectors: i) custom coating of metal products; ii) metal closures and containers; and, iii) other stamped and pressed metal products. The principal downstream clients are the automotive vehicle and parts industry, the appliance industry, the food and beverage processing industry, and the building products industry.

In the custom coating sub-sector, the most frequently used materials are paints and varnishes, zinc, nickel and metallic salts; in the other two sub-sectors the most usual materials are sheet and strip, either tin plate or galvanized, and cold rolled carbon steel.

The metal stamping, pressing and coating sector had shipments of $3,220 million in 1984, with exports of $415 million representing about 12.9 percent of shipments. Imports of $388 million represented about 12.2 percent of the domestic market. The U.S. supplies about 88 percent of Canada's imports and takes about 70 percent of Canada's exports. In general, this industry is domestically oriented.

Detailed and recent statistics are not available for many segments of this industry. The analysis in this profile was based on available statistics and information obtained from other sources, including consultations with industry.

The industry is fragmented and is comprised of a large number of small and medium-sized companies, many of them privately held. The industry is concentrated in Ontario and Quebec, and consists of 930 establishments, 63 percent of which have fewer than 20 employees. These small enterprises account for only 15 percent of shipments whereas 32 percent of shipments originate with firms having over 100 employees. Although 80 percent of the companies are Canadian controlled, several major producers are subsidiaries of American parents.

Custom coating of metal products covers such operations as spray or dip coating, galvanizing and electroplating. In 1984 the value of shipments totalled $615 million, representing 19 percent of total sector shipments. Of this, 15 percent were classified as products such as automobile parts and accessories; the rest was service work, such as custom electroplating (30 percent), custom painting (15 percent), custom galvanizing (nine percent).

Metal closures and containers covers the manufacture of metal barrels, cans and closures, accessories and parts. In 1984 this sub-sector reported shipments of $1,159 million, representing 36 percent of total sector shipments. Metal cans are the main products, accounting for 62 percent of shipments of the metal closures and containers sub-sector.

Other stamped and pressed metal products groups the establishments primarily engaged in manufacturing sheet metal products, such as metal lath and metal boxes, metal awnings, heating ducts, roofing and eavestroughing, metal stampings and coins, aluminum and steel siding, steel strapping, furnace pipe and culvert pipe. In 1984 this sub-sector reported shipments of $1,446 million, representing 45 percent of total sector shipments. These are largely intermediate products, feeding into further manufacturing and construction. Since this sub-sector receives orders through sub-contracting, it is characterized by short runs of a wide variety of products, necessitating flexibility in manufacturing. About 15 percent of the value of shipments of this sub-sector goes into the automotive industry. Because of the custom design nature of stampings, the trade is essentially North American.

The balance of this profile narrative does not deal with custom coating of metal products or the gold coin industry. However, the attached fact sheet does include figures for custom coating but shipments and trade figures do not include gold coins.

b) Performance

This diverse industry supplies many different end-use industries, and the fortunes of each segment are dependent on a variety of different factors. During the past five years, with the exception of the downturn of 1982 and 1983, establishments and employment have remained relatively constant with about 940 plants employing slightly more than 32,000 workers.

The Gross Domestic Product (GDP), in constant (1971) dollars, increased from $366 million in 1971 to $485 million in 1981, recording an average annual rate of real growth of three percent; the GDP then decreased by 25 percent to $386 million in 1982 (the last year for which figures are available).

The sector is characterized by a low long-term debt-to-equity ratio which increased from 0.09:1 to 0.26:1 during the period of 1971 to 1983. Current assets to current liabilities averaged 1.7:1. Capacity utilization decreased from 90 percent in 1974 to 65 percent in 1983. While the average after tax profit was 2.4 percent for the manufacturing industry over the period 1974-1983, this sector had an average after tax profit of 4.4 percent on total income. In 1982 profit was 1.4 percent and 2.9 percent in 1983.

In the metal closures and containers sub-sector, companies involved in product categories related to food canning have undergone, since the 1970's, a flattening out in the demand for their products as a result of the following factors: changes in packaging technology (such as the introduction of aseptic packaging); the shift from canned foods to frozen foods; the shift to plastic containers.

The segments of the other stamped and pressed metal products sub-sector that sell to the construction industry reflected the higher demand for their products for residential, industrial, and commercial construction during the second half of the 1970's. However, these segments also suffered from the sharp decline in construction activity through the recession. The companies supplying products to the housing sector have enjoyed an increase in demand since 1983 in response to the recovery in new housing construction. The segment of this sub-sector serving the automotive sector was particularly weak in the late 1970's because of the shift in consumer demand to small cars and the increase in market share of imported cars in North America. However, as the automotive sector moved out of the recession, the stamping and pressing industry related directly to automotive production also experienced growth.

Other segments of this industry enjoyed strong demand from the energy development activity in Western Canada during the 1970's but there has been little demand since 1982.

2. STRENGTHS AND WEAKNESSES

a) Structural Factors

The predominance of small plants with fewer than 100 employees in Canada also occurs in the U.S., Japan, and Europe. The large number of small plants in the industry has a significant impact on its capability in terms of management depth, technological know-how of the forming behaviour of metals, and ability to invest in modern equipment. These weaknesses are accentuated in Canada by short production runs of a wide variety of parts. This has a distinct impact on productivity and material utilization.

Canada's main competitors are U.S. plants which are more specialized and more efficient with longer production runs scaled to the larger U.S. markets. In most products, the U.S. industry has surplus capacity which can supply the Canadian as well as the U.S. market.

In the metal closures and containers sub-sector labour accounts for about 23 percent of cost of shipments and Canadian wage rates average about 75 percent of U.S. rates. Materials, mainly tin plate and aluminum sheet, account for 75 percent of the cost of shipments. Tin plate is less expensive and aluminum sheet is slightly more expensive in Canada.

In the other stamped and pressed metal products sub-sector labour accounts for about 20 percent of cost of shipments; wage rates in Canada average about 76 percent of the U.S. Raw materials represent 79 percent of cost of shipments and the main raw material, cold rolled steel, is about 10 percent less expensive in Canada.

Productivity in Canada for both the metal closures and containers sub-sector and the other stamped and pressed metal products sub-sector is about 70 percent of that of the U.S. industry.

b) Trade Related Factors

Recently the value of Canadian imports has been approximately equal to the value of exports during each of the past three years.

Canadian tariffs tend to be significantly higher than American in this industry. The following is a comparison of some of the more important sub-sector items for 1987:

ITEM	CANADA		U.S.	
Metal Cans	Steel 8-10.2%	Aluminum 10.2%	Steel Free	Aluminum Free-5.7%
Barrels and Drums	Steel 8-10.2%	Aluminum 10.2%	Steel Free	Aluminum Free-5.7%
Stampings (all metal)	APTA Free	Other 9.2%	APTA Free	Other 3.1%
Heating equipment	Pipe 4-4.5%	Fittings 6-10.2%	Pipe 1.9%	Fittings 6.2%
	Other 10.2-12.1%		Other 7.5%-8.0%	
Culvert Pipe	Cold Rolled 4-4.5%	Seamed etc. 10-12.2%	Cold Rolled 1.9%	Seamed etc. 7.5-8.0%
Sheet Siding	10.2%		5.7%	

Because of distance and the importance of shipping costs other markets such as the E.E.C. and Asia present few opportunities for Canadian firms.

Some U.S. legislation such as the Surface Transportation Assistance Act (STAA) and the Small Business Set-asides of the Buy American Act restrict our ability to compete in some products such as culvert pipe and guardrails.

Canadian N.T.B.'s have only a minor effect on this industry. Canada permits imports of a limited number of can sizes established by the Agricultural Standards Act. The objective is to help the consumer to compare prices. Some provinces have procurement policies which affect a small percentage of the market in this sector e.g. some sales of culvert pipe and metal siding.

About 15 percent of the products of this sector trade free of duty between Canada and the U.S.

c) Technological Factors

In the metal closures and containers sub-sector recent changes include conversion to the two-piece beverage can (in either steel or aluminum), utilizing a computer-automated production system with less labour and higher volume output.

The stamping and pressing industries in the U.S. and Canada employ similar technologies; a survey shows that the age of their equipment is also the same. However, Japanese industry utilizes significantly newer equipment. Quality and productivity is generally higher when equipment is more modern.

The Canadian plants are, on the average, somewhat behind the American competition in the acquisition of CAD/CAM for tool design and press versatility. In the same way, robotics and other forms of advanced materials handling have not been adopted as widely in Canada. The reason appears to be related to shortages of investment capital and a perception by some companies that there are no new markets into which they can readily expand. Finding employees with the requisite skills is also considered a problem by some firms.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

The industry has received very little federal or provincial support. For example, the can industry invested in excess of $150 million over the past four years in two piece can manufacture without government assistance.

Ontario introduced a policy delaying the introduction of aluminum cans until 1987 to allow the steel industry to develop a steel can to be competitive with aluminum cans. It appears that the steel companies have used this time successfully.

4. EVOLVING ENVIRONMENT

Due to the wide variety of products manufactured by the firms, views on the outlook for growth vary within the industry.

In the metal closures and containers sub-sector some producers of metal cans are not optimistic. Plastics in a variety of forms appear to present the greatest challenge to this sub-sector. Plastic containers and aseptic packaging will continue to make inroads into the traditional market segments served by metal can manufacturers. Metal cans will continue to become lighter in weight. However, it appears that collapsible aluminum tubes, aerosol containers, and aluminum cans have potential for continuing growth.

Similarly, the manufacturers in the other stamped and pressed metal products sub-sector will be affected by the introduction of product alternatives. The trend to lower weight automobiles will probably continue; therefore metal stampings will be replaced by plastics, plastic-fiberglass, and other types of composite materials.

The import pressure and the substantial Asian assembly investments in North America will result in a very competitive market situation toward the end of the 1980's. This would result in supply exceeding demand for the output of up to 10 assembly plants, resulting in a substantial drop in shipments for the North American parts manufacturers. Since the Asian plants are not expected to source parts in the same proportion as the existing North American automobile producers, this will result in over-capacity and employment losses.

It is projected that new housing construction will continue to decline over the next 15 years in response to changes in demographics. This decline would affect products such as aluminum and steel roofing and siding, and other metal building products of this industry.

Several significant trends in the industry are likely to lead to an increase in CAD/CAM installation. The major automotive manufacturers have established 1987-88 as the target for complete conversion to computer-aided design and drafting systems. Component suppliers must be capable of accepting computerized design data rather than blueprints.

Finally, in order to improve its productivity level the industry is being pressed to reduce die set-up times, minimize inventory through "just-in-time" production techniques, adopt statistical quality control techniques, and develop a better theoretical understanding of metal deformation.

5. COMPETITIVENESS ASSESSMENT

In the metal closures and containers sub-sector continued modernization will narrow the productivity gap between Canadian and U.S. producers. The relatively high shipping costs for metal cans will continue to protect most Canadian markets except those very near to U.S. producers. Likewise, shipping costs will prevent significant exports of Canadian cans and containers to distant U.S. markets. The terms under which technology has been purchased by some Canadian can producers also prevent export to the U.S. Cans will probably take some markets from glass containers, but plastic and other forms of packaging will take some markets from cans and drums.

The other stamped and pressed metal products sub-sector in Canada is on average competitive with U.S. industry. Canadian companies are continuing to modernize and therefore should remain competitive in production cost with the U.S. Freight is a factor limiting exports and imports of some products of this sector such as some bulky stampings.

Prepared by: Resource Processing Industries Branch
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: JUL 24 1986

FACT SHEET

NAME OF SECTOR: Metal Stamping, Pressing and Coating SIC(s) COVERED: 304

1. PRINCIPAL STATISTICS

	1971	1980	1981	1982	1983	1984(E)	1985(E)
Establishments	765	944	944	924	931	N/A	N/A
Employment ('000)	28.7	32.3	32.5	29.9	27.9	31.1	32.5
Shipments ($ million)	919.5	3381.6	3571.3	3337.4	2862.3	3220.2	3764.3
Gross Domestic Product (Constant 1971-$ millions)	203	476	485	386	N/A	N/A	N/A
Investment ($ millions)	37	149	136	101	112	254	375
Profits After Tax ($ millions)	43.7	180	201.8	53.3	104.2	N/A	N/A
(% of income)	4.1	4.3	4.9	1.4	2.9		

2. TRADE STATISTICS

	1971	1980	1981	1982	1983	1984(E)	1985(E)
Exports ($ million)	37.4	355.6	429.1	332.9	311.6	415.1	459.1
Domestic Shipments ($ millions)	882.1	3026.0	3142.2	3004.5	2550.7	2805.1	3305.2
Imports ($ millions)	59.9	278.0	304.0	268.7	296.3	388.4	431.1
Canadian Market ($ millions)	942.0	3304.0	3446.2	3273.2	2847.0	3193.5	3736.3
Exports as % of Shipments	4.0	10.5	12.0	10.0	10.9	12.9	12.2
Imports as % of Domestic Market	6.4	8.4	8.8	8.2	10.4	12.2	11.5

Source of imports (top 4)

	U.S.A.	E.E.C.	ASIA	OTHERS
1981	87	7	4	2
1982	86	8	4	2
1983	90	6	2	2
1984	88	8	3	1
1985	85	9	3	3

Destination of exports (top 4)

	U.S.A.	E.E.C.	ASIA	OTHERS
1981	50	5	2	43
1982	65	6	2	28
1983	74	6	5	16
1984	70	4	6	21
1985	83	3	3	11

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % Total	3	23	50	13	11
Employment - % Total	1	23	60	10	6
Shipments - % Total	1	26	58	9	6

4. MAJOR FIRMS

Name	Location of Major Plants	Ownership
Continental Can Canada Inc.	Quebec/Ontario	Canadian
American Can Canada Inc.	Quebec/Ontario	Canadian
Crown, Cork and Seal Canada Inc.	Quebec/Ontario	U.S.
Reynolds Aluminum Co. of Canada Ltd.	Ontario	U.S.
Baycoat Limited	Ontario	Canadian

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

DRAFT

COMPETITIVENESS PROFILE

MINING EQUIPMENT SECTOR

1. STRUCTURE AND PERFORMANCE

a) Structure

The mining equipment industry comprises firms engaged in the manufacture of equipment necessary for exploration, development and operation of mines, and of the equipment to concentrate, refine and/or smelt the mined material. There is a great variety of products manufactured in Canada, including high-tech geophysical and seismic equipment, drilling rigs, both underground and open pit mining equipment, ore concentrating, smelting and coal preparation equipment. Canada as a major mining nation has shown leadership in the high tech areas of geological exploration, reduced labour mining methods and high efficiency smelting techniques.

Shipments of Canadian manufactured mining equipment are estimated to have been $327 million in 1985 of which 71 per cent, (i.e. $232 million) was exported, principally to the U.S.A. and South America. The exports are in competition with American, European and Japanese manufactured equipment. In 1985, imports amounted to $391 million representing 80 per cent of the Canadian domestic market, estimated at $486 million. The principal sources of imported equipment are the U.S.A., Europe and Japan, with complete equipment and components from the U.S.A. Goods from the U.S.A. account for 72 per cent of imports. The U.S.A. is the major source of imported components used to build mining equipment, it is also a significant source of imported equipment. The major portion of the Canadian mining equipment market is captured by imports, this is not expected to change.

Canada manufactures an essentially complete range of mining products with only the following equipment not manufactured in Canada, blast hole drills larger than 8 inches, dragline, and power shovels larger than 15 cubic yards. These however have not been imported in recent years as they are required only for specific projects, such as the tar sands exploitation. All other equipment imported into Canada can be manufactured in Canada but the long established Canadian mining industry buys on the best international terms. The mining equipment sector is heavily influenced internationally by subsidies and concessional financing.

The Canadian mining equipment industry consists of approximately 170 firms located primarily in Ontario, Quebec, British Columbia and Nova Scotia, and provides an estimated 7,500 direct jobs of which 73 per cent are in Ontario and Quebec. Most of the companies have fewer than 50 employees with only eight companies having more than 200 employees.

Canadian mining equipment manufacturers and those companies selling various services to the mining industry can be divided in 3 groups:

1. Canadian owned firms with no product or market limitation.

2. Foreign owned firms, without product or market limitation, usually owned by a company whose primary business is not mining equipment, e.g., not a vertical relationship.

3. Branch plant/warehouse limited to selling the parent companies product in Canada. The branch plant/warehouse style of operation is increasing at a significant rate with plant operation limited to pre-sale assembly. These companies only export from Canada when EDC financing provides a net price advantage over supplying from the foreign parent.

The above are ranked in the order of importance for the export market. For the domestic market the order of importance is reversed.

Imports from the U.S. are in two principal groups. 1) Components used by Canadian mining equipment manufacturers such as diesel engines, power train parts, hydraulic valves and pumps; 2) complete equipment such as drilling equipment that was formerly manufactured in branch plants that are now closed.

There are two principal linkages in the design, production and sale of mining equipment, the first is the relationship to the mining engineering firms who establish the equipment specifications on large projects; and the second is to mining companies as users of equipment and developers of new processes.

b) **Performance**

The share of the Canadian market supplied by imports has increased from 58 per cent in 1973 to over 80 per cent in 1985. Imports in current dollars have increased from $75 million in 1970 to $391 in 1985. This is a real growth rate of 3 per cent per annum, whereas the Canadian mining equipment market remained virtually unchanged with a real growth rate of only 0.06 per cent per year over the same period.

The Canadian manufacturers have been offsetting the declining share of the Canadian market by increasing exports, particularly to Latin America. Canadian exports have increased from $24 million in 1973 to $232 million in 1985 (in current dollars) a real annual growth rate of 9.4 per cent. Although the export of all mining equipment has recovered strongly after the recession of 1982, the recovery in drilling equipment has been most notable resulting in approximately 80 per cent of production being exported. Continuing access to competitive export financing is critical to continuing export success.

The future of mining equipment and services is linked closely to the health of the mining industry and the realities of world commodity prices. The world mining industry is forecast to grow in the one to three per cent range per year.

2. STRENGTHS AND WEAKNESSES

a) **Structural Factors**

In the domestic market, the greatest problem faced by the Canadian mining equipment sector is its inability to arrange competitive financing packages for the end users, which would match the concessional financing offered by foreign manufacturers. Foreign manufacturers also benefit from export subsidies from their countries and in most cases, enjoy duty free entry into Canada. The net effect of these financial advantages means that in order for Canadian manufacturers to compete in their domestic market, their selling price would need to be at least 20 per cent less than that of the foreign manufacturers. In the reality of today's market, most manufacturers are operating at less than 10 per cent margin over costs.

A strength of the Canadian mining equipment sector is its ability to respond to the requirement for a high degree of product innovation demanded by the mining industry. Because of the high degree of customization that exists in the design and manufacture of mining equipment, economy of scale is not a major factor influencing productivity. The number of units made at one time tends to be very small therefore flexibility is most important. This results in the establishment of close contacts between equipment manufacturers and equipment users. There is a very small but influential group of Canadian mines that are very strong supporters of Canadian mining equipment manufacturers and it is the relationship between those mines and the equipment manufacturers that is the principal avenue of equipment development. This linkage is critical to the development of new equipment and improvement of existing equipment. This strong linkage between some of the mine operators and the equipment manufacturers is weakened by the fact that most Canadian mines do not share in the development of Canadian mining equipment. The majority of Canadian mines prefer to buy mature technology at best international price and terms.

The dominance of large foreign (principally U.S.) Engineer/Procure/Construct (EPC) firms on large mining projects, and the relative absence of competing Canadian EPC firms, has a negative impact on the Canadian mining equipment sector particularly in the international market. Because of previous alliances and familiarity, foreign EPC firms generally favour equipment manufactured in their own country.

b) Trade Related Factors

While the U.S. remains the largest export market (i.e. $76 million in 1984) for Canadian mining equipment substantial gains are being made in South America, Australia, the Pacific Rim, Central Africa and the Middle East. There are basic reasons for these successes the most important of which is the relative lack of trade barriers into those markets and the availability of competitive EDC financing.

In most developing countries, tariffs do not affect the competitiveness of Canadian manufacturers, as Canadians are competing on an equal basis with other foreign manufacturers. This is true in the countries in which Canada is enjoying a level of success notably Peru, Chile, Mexico, Columbia, Zaire and Ghana. Import duties into countries where we sell our equipment vary from as low as 4.5 per cent into the U.S.A. to 100 per cent into Peru, with 30-40 per cent being most typical.

Canadian manufactured mining equipment is able to compete against U.S.A. companies in the U.S.A. since the U.S. tariff is averaging 4.5 per cent and there are no non-tariff barriers into the U.S., but are at a distinct financial disadvantage to European manufacturers both in Canada, for the reasons already stated and in Europe because of tariff barriers (about 5 per cent), as well as non-tariff barriers. The non-tariff barriers include such things as the required inclusion of components unique to the buying country and in many countries preferential buying practices because of national ownership of the mines. These factors have combined to virtually exclude Canadian mining equipment and services from the European market.

Canada is the only country in the world with a significant mining industry and who manufactures substantial amounts of mining machinery, that allows many types of mining machinery to enter duty free. Eighty-seven per cent of equipment imported for use in mining was imported duty free in 1984. Most of our competitors have had the advantage of tariff protection and non-tariff barriers in their domestic market and at the same time could export into Canada without a tariff and with the help of export incentives. This has in the past mitigated against Canadian manufacturers in the Canadian market. Legislation that came into effect in 1985 which has modified the list of made/not made mining equipment which could improve this situation in the future. For the small percentage of mining end use equipment that is dutiable the rates of duty are currently either 5 per cent or 9.5 per cent depending on country of origin.

c) Technological Factors

The Canadian mining equipment industry is technologically competitive internationally offering technology that is as advanced as that offered by our competitors. So far, the industry has employed mostly mature technologies with limited incorporation of robotics and microelectronics into mobile mining equipment. The large stationary processes such as concentration and smelting are generally computer controlled as are some stationary mine processes such as crushing, hoisting, mine air, water and production recording. Canadian owned firms usually develop technology based on co-operation given by the small group of mines that are supportive of Canadian equipment. It is this small group of mines that are developing new mining methods and therefore creating the need for new equipment designs and concepts.

Although the mining equipment industry is one that reacts to users requirements in tailoring its R&D efforts, very few manufacturing companies use CAD/CAM to shorten the delivery time. There is, however, increasing use of computer controlled cutting and machining equipment in manufacturing operations.

3. FEDERAL AND PROVINCIAL PROGRAMS

The mining equipment manufacturers benefit from the normal marketing and development assistance programs.

Most mining equipment enters Canada on an end use basis and therefore does not benefit from the protection of the Machinery Program.

4. EVOLVING ENVIRONMENT

The major issues that Canadian mining equipment manufacturers will have to face are:

- Growing protectionism in export market countries.

- Competition from countries with emerging mining equipment manufacturing industries such as Brazil, South Korea, Australia and South Africa which will necessitate incorporation of advanced technologies into manufacturing methods and equipment. These improvements will be needed to compete with emerging countries that have much lower labour costs.

The survival of the mining equipment and services industry in Canada is primarily dependent on export and therefore the efforts of this industrial segment must be towards securing a larger share of the market in those countries where we are able to compete on an essentially even basis with our competitors, markets such as: U.S.A., Peru, Chile, Mexico, Columbia, Zambia, Zaire, Ghana, Indonesia and China.

It is very probable that the high labour content in mining equipment will be a weakness as competition from emerging countries increases. For example, Brazil is now significantly competitive both in Latin America and elsewhere. The emergence of sophisticated commercial infrastructures coupled with traditionally low wage costs will result in increased competition in mature design equipment.

There are significant changes being made in mining methods which are creating new equipment requirements. A very important change that is occurring is the increased use of underground bulk mining methods. This is creating a need for new types of equipment. Other evolutions such as remotely controlled equipment and computer controlled processes are also occurring. All of these processes and the equipment needed are being developed in Canada and are available from Canadian sources. For the export market there is an opportunity to procure designs for the manufacture of equipment such as large shovels (over 15 cu. yd.) and draglines. Opportunities for the domestic market are for acquiring manufacturing licenses for hydraulic components and machine components such as hydraulic drifter drills and hydraulic breakers.

5. COMPETITIVENESS ASSESSMENT

On technological and cost bases, the Canadian mining equipment industry competes successfully on the international marketplace with the exception of certain markets such as Europe and Brazil which are inaccessible to Canadian manufacturers because of tariff and non-tariff barriers.

Canadian manufacturers are not competitive on the domestic market where they have limited effective tariff protection and where they do not have access to competitive financing. Given the realities under which Canadian manufacturers compete for a share of the Canadian market it is reasonable to assume that imports will capture a progressively larger share of the Canadian market thereby making the export market even more significant. This may be reduced by changes in the made/not made list of mining equipment.

The Canadian mining equipment industry has started to incorporate microelectronics and robotics into its products and are developing new mining equipment needed to remain competitive in the export market.

Canada is currently a leader in the high tech areas of exploration, less labour intensive mining methods and in high efficiency smelting techniques. New equipment and process development coupled with agressive marketing; building on linkages with mining and EPC companies, should allow Canadian manufacturers to continue to be competitive and expand their share of world markets.

Prepared by: Machinery and Electrical Equipment
Department of Regional Industrial Expansion

T. Gérard

A/Assistant Deputy Minister
Capital and Industrial Goods

Date: 20 October 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

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FACT SHEET

NAME OF SECTOR: Mining Equipment SIC(s) COVERED: 3192 (1980)

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	Estimate Partial 1985
Establishments		120					170
Employment		6000					7500
Shipments ($ millions)	93	272	313	249	248	285	327
Gross Domestic Product (Constant 1971-$ millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Investment ($ millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Profits After Tax ($ millions) (% of income)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Exports ($ millions)	24	205	250	188	141	198	232
Domestic Shipments ($ millions)	69	67	63	61	107	87	95
Imports ($ millions)	96	372	414	314	263	332	391
Canadian Market ($ millions)	165	439	477	375	370	419	486
Exports as % of Shipments	26%	75%	80%	76%	57%	69%	71%
Imports as % of Domestic Market	58%	85%	87%	84%	71%	79%	80%
Canadian Share of International Market							

Source of imports (in %)

	U.S.	E.E.C.	ASIA	OTHERS
1981	72	13	1	14
1982	72	13	1	14
1983	72	13	1	14
1984	72	14	1	13
1985 Note A				

Destination of exports (in %)

	U.S.	E.E.C.	ASIA	OTHERS Note C
1981	64	5	6	25
1982	51	4	12	33
1983	29	5	27	39
1984	38	8	15	39
1985 Note B				

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	3	20	53	12	12
Employment - % of total	2	28	50	10	10
Shipments - % of total	1	21	62	5	11

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants	Concentration (% of domestic market)
Jarvis Clark	American	Burlington, Ontario	5%
JKS Boyles	Canada	Toronto, Ontario	3%
Boart Canada	South Africa	Mississauga, Ontario	3%
Long Year Canada	South Africa	North Bay, Ontario	3%
Kenroc	Swedish	North Bay, Ontaro	2%
J.S. Redpath	Canada	North Bay, Ontario	1%

Note A: The value of imports from Europe is higher than stated. This is believed to be because much of the material is imported via the U.S.A.

Note B: The value of exports to "other" countries is understated. This is believed to be because most of those shipments are via the U.S.A.

Note C: Principally Latin America and Australia

COMPETITIVENESS PROFILE
Name of Sector: Motion Pictures

1. Structure and Performance

a) Structure

The industry comprises establishments engaged in the creative production and the physical manufacturing of films and videos (referred to collectively as motion pictures). Production establishments are responsible for activities such as acquiring screenplay materials, selecting and engaging artists and creative personnel, and marketing the products. Manufacturing plants perform activities such as developing and processing films and duplicating videos. Integrated production facilities in television stations and in governments are excluded from the profile. Distribution and exhibition/retailing of motion pictures are also excluded, although their impact on production will be highlighted, where appropriate.

It is estimated that in 1985, the Canadian industry comprised 575 establishments (of which about 100 were engaged in manufacturing activities), employing about 2,100 people (of which 1,000 in manufacturing) on a permanent basis with revenue of $325 million. English-language motion pictures accounted for about 70 per cent of total production. The industry provides significant employment opportunities for freelancers, including screenwriters, performers, and technicians.

Sale and rental of motion pictures generated about $195 million in 1985. The industry's products serve three markets, i.e. promotional (such as television commercials), entertainment (such as theatrical feature films) and educational. They accounted respectively for 60, 35, and 5 per cent of all sale and rental revenues. Promotional motion pictures are produced under contract for clients (advertisers and their advertising agencies). In contrast, the initiative to make entertainment and educational motion pictures is generally taken by production firms themselves. Laboratory services, such as post-production work, and related activities, such as the renting of facilities to others, accounted for the balance of the industry's revenue in 1985.

The industry is highly concentrated in Central Canada, especially in the Toronto and Montreal Metropolitan Areas. Roughly 85 per cent of all firms have less than 10 employees and generate sales of less than $500,000 annually. At the other extreme, companies with sales of at least $1 million, about 7 per cent of the total, account for roughly 60 per cent of all revenue. The majority of the larger firms are engaged in both production and manufacturing activities and they supply all three markets. The industry is predominantly Canadian-owned.

There are about 150 companies producing predominantly French-language motion pictures with revenue of about $100 million. The average French-language company is much smaller than its English-language counterpart and relies more extensively on television commercials as a source of revenue.

The Canadian industry is labour-intensive. It employs predominantly skilled workers. A substantial portion of the non-permanent employees utilized by the industry are unionized. In the last few years, labour supply has not been a major problem area for the Canadian industry, although some specialized skills have been at times in tight supply.

b) Performance

In response to good market conditions and government support, industry's employment and shipment levels during the period 1973-85 increased at average annual growth rates of 5 and 17 per cent (in

current dollars) respectively. In the same period, Canadian exports of films and videos grew from $1 million to $6 million while imports into Canada expanded from $20 million to $34 million. To this trade in products should be added the flow of license payments associated with the use of motion pictures. The Canadian industry has generated an estimated average of $10 million annually in license payments from foreign accounts over the last few years. The industry has been particularly successful in selling relatively low-budget entertainment and educational motion pictures. The outflow of payments has averaged $125 million annually, concentrated primarily in the areas of high-budget theatrical feature films and television program series. Canada's trade (whether in products or license payments) is conducted primarily with the United States.

International trade in promotional motion pictures is small and conducted primarily between multinational parent advertisers and their branch plants abroad.

There are no reliable financial statistics at the sub-sector level. It is understood that the financial performance of the promotional sub-sector is good. In contrast, average profitability and return on investment levels tend to be low in the entertainment and educational sub-sectors.

Production of entertainment motion pictures, worldwide, is high risk. For example, it is accepted in the industry that eight out of ten theatrical feature films will at best cover their costs. However, those that do succeed can earn high rates of return. Consumer preferences are very unpredictable. In addition, the majority of these products have a very short "active" life cycle.

2. Strengths and Weaknesses

a) Structural Factors

The "content" factor which is associated with the production segment of the industry, is the key element in measuring international competitiveness. In contrast, manufacturing is generally a secondary factor in determining the level of international competitiveness. In the case of promotional motion pictures (such as television commercials), the content elements are usually provided by the clients, who in turn control their utilization. Production of promotional motion pictures is usually a domestic oriented activity in which clients are looking for a close supervision of the production process. Nevertheless part of the shooting may be done abroad to meet special climatic/geographic requirements. In the case of entertainment and educational motion pictures, production firms are responsible for discovering, developing, and marketing screenplays and artists.

There is a significant disparity in the abilities of the Canadian and American motion picture industries to develop and market their respective talent pool successfully on a sustained basis. For example, the largest Canadian firm reported revenue of Cdn $50 million from general motion picture activities in 1985, compared to worldwide revenues of U.S. $1.0 billion for the largest American producer of entertainment and educational motion pictures.

Because of their size and inherent economic advantages, which in turn is a reflection of their market base, the large American firms are able to acquire the best screenplays and hire the best artists, and produce a wide range of motion pictures in order to spread their risks. For example, the average budget of theatrical feature films released by major American firms has exceeded U.S. $10 million in 1985. In addition, it is not uncommon for these companies to spend several million dollars to promote a big-budget film.

In contrast, the Canadian entertainment and educational production sub-sectors are subject to the weaknesses usually associated with small scale. The majority of companies are underfinanced. After absorbing the creative and manufacturing costs, companies frequently have little funds left to undertake adequate promotion at home or abroad. Finally, the size of most companies restricts the extent by which a full-fledged management/technical group can be financially justified. The impact of these weaknesses is particularly noticeable in French-language Canada, given the small size of the market base.

Distribution occupies a strategic position in the entertainment motion picture market, worldwide. The distribution network for these products in Canada is dominated by foreign-owned companies, primarily American companies, whose parents are also engaged in producing motion pictures. The branch plants concentrate their activities in promoting products from their parent organizations and generally show little interest in distributing Canadian motion pictures. With their resources, the branch plants have developed close relationships with all the major theatre chains in Canada. As a result most of their releases are seen on Canadian screens, in preferred locations, on the best play dates. One of these distributors is integrated with the second largest theatre chain in Canada.

The United States is the world's largest producer and distributor of entertainment and educational motion pictures. It recorded an estimated positive trade balance of U.S. $1.2 billion in 1985. Even in countries such as the United Kingdom and France which have large internal markets and are able to support several major companies, the American presence is significant, albeit less pervasive than in Canada.

b) Trade Related Factors

Canada, like the United States and most developed nations, provides duty-free entry to motion pictures of an educational, scientific, and cultural character. On the other hand, television commercials, whether filmed or videotaped, are subject to a M.F.N. tariff rate of 12.4 per cent (11.3 per cent in 1987). In addition, copies of entertainment motion pictures are subject to rates of 1 cent per linear foot for films (roughly equivalent to an average of 9 per cent) and 12.4 per cent for videos. These rates will decline to 0.9 cent and 11.3 per cent in 1987. Finally, "originals" (sometimes called "masters") of entertainment motion pictures when imported for making reproductions or dubbing their sound tracks enter Canada duty-free.

In the United States, the tariff rates currently are 0.06 cent per linear foot for films and 0.22 cent per linear foot for videos. The rates will be zero and 0.2 cent respectively next year. By way of comparison, tariff rates in the E.E.C., where applicable, fall between the Canadian and American rates.

The Canadian-content regulation for programs broadcast on television stations is considered as a non-tariff measure by the United States. Most E.E.C. members have in place non-tariff measures including theatre screen quotas and dubbing requirements. The United States industry is not protected by non-tariff measures.

c) Technological Factors

In terms of manufacturing processes, the motion picture industry, worldwide, generally relies on suppliers of machinery and equipment to originate technological developments. Manufacturing technologies are available on a worldwide basis. The Canadian industry has kept pace in modernizing its manufacturing facilities.

In terms of shooting techniques, the National Film Board of Canada has been a world pioneer in areas such as three-dimensional film and animation. In addition, the Board has served as a training ground for many film-makers now active in the private sector.

3. Federal and Provincial Programs and Policies

The Canadian Government, primarily through the Department of Communications and its agencies, has introduced special measures to assist and protect the motion picture industry, notably the entertainment sub-sector. The overall objective has been to support the development of a Canadian culture by providing a medium in which Canadian performing artists and creators could flourish. The measures are aimed generally at motion pictures on a project-by-project basis as opposed to focussing on the development of companies. The principal measures in place are:

a) the Canadian Radio-Television and Telecommunications Commission requires that at least 60 per cent of the broadcast time on Canadian conventional television stations between the hours of 6:00 a.m. and midnight and between the hours of 6:30 p.m. and 11:30 p.m. during each calendar quarter must be directed to Canadian programs; a general 30 per cent Canadian-content requirement also exists for Canadian pay television; these requirements were introduced to encourage the production of Canadian motion pictures;

b) the Income Tax Act provides a 100 per cent capital cost allowance for investors in certified Canadian feature films, short length films and videos; this scheme was introduced to encourage the involvement of financiers not previously associated with the industry with a view to improving the industry's access to financing;

c) Telefilm Canada provides financial and technical assistance for the production, promotion and distribution of entertainment motion pictures; most of the funding is currently directed at television programs as opposed to theatrical films;

d) the Canadian government has negotiated co-production treaties with several foreign countries; motion pictures co-produced under these treaties are regarded as national products with full right to all resultant advantages; the objective is to spread financial risks and increase sales potential.

Another important measure is the Canadian Copyright Act. It came into force in 1924 and no major revisions have since been made. It is now anticipated that drafting of new legislation will commence in 1986. In comparison, the copyright law in the United States was completely revamped in the late-70's. In particular, it provides better protection against pirating of motion pictures through higher penalties.

Several provincial governments and municipalities provide important support to the industry, notably in promoting export sales and in attracting foreign producers to Canada to shoot their films and videos.

At a meeting of federal, provincial, and territorial ministers responsible for culture resources in March 1986, participants created a steering committee on motion pictures that will, among other things, study ways for further improving access to financial markets and examine mechanisms for solving the structural problems of the industry, notably distribution.

4. Evolving Environment

Overall, it is projected that market demand for motion pictures will continue to grow at a relatively strong rate over the medium term.

In the entertainment and educational markets, factors such as the amount of leisure time and the level of educational attainment of the population will continue to have strong positive effects. In addition, the next few years should see a substantial increase in the penetration rate of pay television and videocassette recorders which should have a beneficial impact on the demand for motion pictures. This will be partially offset by slower growth rates for both the population and real personal disposable income. In the entertainment market, the theatrical area will continue to remain the centrepiece of marketing strategies for the industry, although it will decline in importance in terms of revenue at the expense of the television area (conventional, pay and videos).

It is expected that the level of gross advertising expenditures on all Canadian media will continue to grow at a rate similar to that for the economy as a whole. While competition for the advertiser's dollar among media will be very strong, most analysts see little change in the media mix used by advertisers. Television should continue to remain the second largest recipient of advertising dollars, after daily newspapers, which auger well for producers of television commercials.

The industry's basic structural characteristics or methods of operation should remain basically the same over the medium term. In terms of manufacturing processes, most R&D efforts will be directed at improving existing technologies.

The world market for entertainment and educational motion pictures is dominated by the United States. It is the largest exporter as well as the home base for most of the multinational corporations in this field. In response, governments in most developed countries have established measures to protect and assist their domestic industries. This situation is expected to continue over the medium term.

5. Competitiveness Assessment

As indicated previously, manufacturing is generally a secondary factor in determining the industry's level of international competitiveness. As a general comment, the manufacturing segment is relatively healthy. Reflecting the nature of the products, the production of promotional motion pictures (such as television commercials) is essentially a domestic oriented activity.

In the entertainment and educational production sub-sectors, competitiveness is tied to the ability to attract and market screenplays and artists with mass appeal. In this area, the Canadian sub-sectors are not currently competitive. They suffer significant size-related economic disadvantages compared to their American counterparts. Government support, financial as well as regulatory, is largely responsible for the industry's development.

In March 1986, ministers responsible for culture resources at the federal, provincial and territorial levels established a steering committee to examine ways to assist the motion picture industry to overcome its structural problems.

PREPARED BY: FOOD AND CONSUMER PRODUCTS INDUSTRIES BRANCH
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

DATE: JUL 11 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

FACT SHEET

NAME OF SECTOR: MOTION PICTURES SIC(s) COVERED: 9611 and 9613 (1980)

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Establishments	152	351	443	579	572	575(E)	575(E)
Employment	1,265	2,007	2,331	2,464	2,041	2,100(E)	2,100(E)
Shipments/Revenue ($millions)	53	174	203	238	245	300(E)	325(E)
Gross Domestic Product (constant 1971 $millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Investment ($millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Profits After Tax ($millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(% of income)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Exports ($millions) (1)	1	1	1	2	3	3	6
Domestic Shipments ($millions)	52	173	202	236	242	297	319
Imports ($millions) (1)	20	34	37	38	41	34	34
Canadian Market ($millions)	72	206	239	274	283	331	352
Exports as % of Shipments	1.5	0.8	0.7	1.0	1.2	0.9	1.9
Imports as % of Domestic Market	27.5	16.4	15.7	13.8	14.5	10.2	9.6
Canadian Share of International Market	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source of imports (%)

	U.S.	E.E.C.	ASIA	OTHERS
1981	89.5	8.1	1.7	0.7
1982	89.9	7.7	1.6	0.8
1983	91.1	6.7	1.7	0.5
1984	88.4	9.6	1.4	0.5
1985	86.1	9.6	3.9	0.3

Destination of exports (%)

1981	78.4	8.6	2.4	10.6
1982	80.6	10.4	1.0	7.9
1983	81.7	6.5	1.4	10.4
1984	68.5	15.4	6.5	9.6
1985	89.3	6.9	1.7	2.2

3. REGIONAL DISTRIBUTION - 3 yr avg.

	ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	B.C.
Establishments - % of Total	2	25	52	10	11
Employment - % of Total	1	20	60	9	10
Shipments/Revenue - % of Total	1	20	60	9	10

4. MAJOR FIRMS

	OWNERSHIP	LOCATION OF MAJOR PLANTS
1. Astral Bellevue Pathe	Canadian	Montreal, Toronto and Calgary
2. Sonolab/J.P.L. Productions	Canadian	Montreal
3. Glen Warren Productions	Canadian	Toronto
4. VTR Productions/ Carleton Productions	Canadian	Toronto and Ottawa

(E): Estimate
N/A: Not available
(1): Covers products only, excludes license payments associated with their use.

DATE: _____

DRAFT - PROJET

05/05/86

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE

SECTOR: Pulp and Paper

SUBSECTOR: Newsprint and uncoated groundwood printing paper

1. Structure and Performance

a) Structure

The products of this subsector are newsprint for the publication of newspapers, and uncoated groundwood printing, or specialty paper for newspaper inserts, catalogues, directories and paperback novels. They accounted for shipment of $6.6 billion in 1985 or approximately half of the total Canadian pulp and paper industry sales. Unless otherwise noted, references to newsprint should be taken here to include groundwood printing papers.

The subsector comprises 43 mills owned by 21 companies with a total production capacity of 11.2 million metric tonnes, about one-third of world capacity. Production is located in Quebec (46%), Ontario (20%), B.C. (17%), Atlantic provinces (15%) and the Prairies (2%). The total direct employment of the subsector is 36,500.

It is estimated that, based on capacity, the subsector is 70% Canadian-owned. The four largest companies, controlling 48% of the subsector's capacity, are Canadian-owned. Few companies produce newsprint exclusively. Most also produce other papers, market pulp, lumber or a combination of these products. Since data are often presented only in consolidated corporate reports, cost and financial analysis on a subsector basis, are difficult.

World capacity for newsprint is 31,000,000 tonnes. With demand currently at 27,300,000 tonnes, overcapacity now stands at 13% after fluctuating between 8 and 18% during the last 5 years.

Canada exports about 87% of its newsprint production. Of the 8.8 million tonnes exported from Canada in 1985, 7.4 million tonnes (about 85%) went to the United States. The remaining 1.4 million tonnes were exported to offshore markets in European countries (4.2%), Latin America and the Caribbean (3.7%), Asia (5.3%), and others (1.9%). There are no imports. The main exporting competitors are Sweden and Finland.

The size of the newsprint subsector in Canada is determined largely by U.S. market demand. In 1965, Canada supplied about 70% of U.S. consumption in volume terms. By 1984, with growing U.S. self-sufficiency, the share of U.S. demand had declined to 60%. Despite this erosion of market share, the volume of Canadian exports has continued to increase. Depending on currency fluctuations, offshore suppliers sometimes gain market share in the U.S. of up to 5%.

b) Performance

The annual growth rate (in tonnes) of newsprint exports peaked at an average of 4% in the early 1960s. Since 1966, the annual average growth rate has been declining and was only 0.9% for the period 1975-1984.

Although the 1981/82 world-wide recession is long over, the newsprint sector has not seen much of the economic benefits which normally come with economic recovery. While demand has been relatively strong, especially in the large U.S. market, prices have remained close to recession levels because of persistent overcapacity. Canadian producers, despite their one-third share of world productive capacity and dominant position in the U.S. market, are not able to set prices in the international market. The economics of newsprint production require that capacity utilization be maintained at very high rates to be profitable. Consequently, marginal offerings by the European producers to the U.S. market at low prices influence the prices accepted by major suppliers who seek to maintain these high production rates.

With low industry prices, profitability has remained low for Canadian producers. As newsprint prices in the North American market are quoted in U.S. dollars, the decline in value of the Canadian dollar vis-à-vis the U.S. dollar, particularly since 1983, has increased the price in Canadian dollars and improved profit margins somewhat. There was also some reduction in wood costs for Canadian producers during that period. As a result, Canadian unit costs, expressed in U.S. dollars, fell by between 4% and 7%. However, until the price of newsprint increases significantly, the profitability of Canadian producers will remain low.

2. Strengths and Weaknesses

a) Structural

In recent years, two factors have had a major influence on comparative production costs amongst the exporting countries: technical efficiency and exchange rate changes. While Canadian newsprint producers had enjoyed considerable cost advantages over competitors in the 1960s, this advantage was eroded in the 1970s, when the Scandinavian producers invested heavily in improving and expanding manufacturing facilities. The U.S. industry also modernized. Significant Canadian upgrading did not begin until 1979. In absolute terms, Canadian investment in upgrading has exceeded the investments by Sweden and Finland. However, with such a large stock of facilities in need of revitalization, Canada has fallen, in relative terms, behind its competitors.

On the average, the Canadian industry is lagging behind foreign competitors in terms of the age of mills, the introduction of newer mechanical pulping processes, and the speed and size of paper machines. For example, in 1983, average newsprint machine capacity in Sweden and Finland was 45% higher than in Canada. Even in the U.S., average machine capacity in that year was 30% higher than in Canada. As a result, productivity in the Canadian newsprint industry has not kept pace with increases in productivity in the competing countries.

The weaker Canadian productivity performance was sharply compounded by the substantial depreciation in the early 1980s of the Scandinavian currencies vis-à-vis the Canadian and U.S. dollars. As a result, despite some inflationary cost increases in the Scandinavian countries during this period, the Scandinavian producers had for several years the lowest production costs amongst the exporting countries.

However, with the significant appreciation of the Scandinavian currencies against the North American currencies since September 1985, Canadian producers have gained an advantage. Although modernization and productivity are still lagging the pace in competing countries, the currency changes have been sufficent to make production costs in Canada (in particular in British Columbia and Quebec) the lowest among exporting countries. While B.C. and Quebec producers are experiencing some cost increases, they are expected to remain competitive with the U.S. and Scandinavian producers to the end of the decade. The exchange value of the dollar is, however, a critical factor in this regard.

Up to 1984, labour/management relations in the pulp and paper industry had been turbulent. But since the contract settlements of that year, relations have been relatively peaceful. This has been due in part to the low profitability of many companies and the unions shifting priority to job security. Although data on trained manpower are difficult to obtain, the skill level of mill employees has been identified as a problem facing the industry today. Steps are underway to improve skills.

Most newsprint is sold under long-term contracts. Moreover, producers often sell paper with properties which are tailored to meet specific needs of users. Consequently, there tends to be a certain amount of customer loyalty which maintains stable buying patterns even when spot prices fall below posted prices. However, producers often need to compromise by discounting their prices.

b) Trade Related Factors

With respect to newsprint and groundwood printing papers, there are no barriers to trade between Canada and the United States, and few barriers between Canada and the rest of the world.

In 1967, as a result of the Kennedy Round GATT negotiations, the European Economic Community (EEC) agreed to establish an annual duty-free newsprint quota of 625,000 tonnes. When the EEC was enlarged in 1973, the duty-free quota was increased by 875,000 tonnes to 1.5 million tonnes. Canada's quota was significantly reduced in 1984 when the European Free Trade Association (EFTA) gained free access to the EEC. Canada was granted a duty-free quota of 650,000 tonnes, and ex-quota rates of duty of 4.9% for waterlined newsprint and 9% for groundwood printing paper.

In 1984 and 1985, the relatively high value of the Canadian dollar vs the European currencies was a major factor preventing the industry from filling its quota. As the settlement gives the EEC the right to adjust the quota downward after it has not been fully utilized during three consecutive years, it could be reduced in 1987. There is a possibility that as the European currencies appreciate relative to the Canadian dollar, the new EEC quota could act as a real barrier to Canadian exports.

c) Technological Factors

The same newsprint manufacturing technology is available throughout the world. This technology, however, has evolved rapidly in the last 20 years, making the new or modernized plants much more efficient than the old. The technological status of the industry can therefore be measured by the relative level of investment in recent years.

Over the last 10 to 15 years, introduction of new pulping technologies such as thermomechanical pulp (TMP) and chemi-thermomechanical pulp (CTMP), has allowed chips made from sawmill waste to be substituted for roundwood as raw material. This has reduced input costs. Also, these new technologies have permitted the substitution of electricity for hydrocarbons as an energy input to the manufacturing process. In times of variable oil prices, this can lead to better control of total costs.

Until about 15 years ago, most newspapers were printed on a machine using the letterpress printing method. This relief or typographic printing made only modest demands on paper quality, and in return resulted in an equally modest overall product. The new offset and flexographic printing processes require better quality newsprint with better sheet uniformity, better surface quality, etc. All mills will need to be able to meet these requirements if they are to survive. While the majority of mills have now made the necessary adjustments, conversion has yet to be accomplished in those mills with less adequate financial resources.

d) Other Factors

Currency fluctuations have a major influence on competitiveness. The Swedish Krona declined in value vis-à-vis the U.S. dollar, by over 50% from (U.S.) $0.25 to (U.S.) $0.11 from 1980 to 1985. During the same period, the Canadian dollar declined by only 15% from about (U.S.) $0.85 to (U.S.) $0.73. As a result, the Swedish producers became relatively more competitive in the U.S. and European markets than Canadian producers. Since late 1985, the Krona has increased in value to (U.S.) $0.14 (March 1986); while the Canadian dollar has declined slightly to the (U.S.) $0.70-$0.72 range. This change, coupled with some internal cost increases by the Scandinavian producers, has resulted in the Canadian industry currently being very competitive, despite the required modernization.

3. Federal and Provincial Programs and Policies

The Pulp and Paper Modernization Program, announced in 1979, resulted in Federal/Provincial Agreements with Ontario, Quebec, New Brunswick, Nova Scotia

and Newfoundland. The cost-sharing agreements produced a total assistance package of $517 million. The program was intended to encourage companies to replace old equipment and introduce new technology. Some 60 projects were initiated and all available funds have been allocated.

The industry is also eligible for assistance under the Industrial and Regional Development Program (IRDP). The IRDP does not require provincial participation in cost sharing, and some use has been made of it.

Forest resources in Canada are owned primarily by the provinces. The provinces administer various programs for reforestation. For the purpose of harvesting, forest land is leased to forest products companies, who in turn pay stumpage fees.

4. Evolving Environment

In North America, Canada's principal market, newsprint is essentially a mature industry. Its growth potential is projected at 2% annually. Earlier predictions of a "paperless society" resulting from the impact of the electronic media have not materialized and are now seen as unrealistic. Nevertheless, some changes in patterns of demand for newsprint and groundwood printing paper could occur, with the demand for some types of paper falling, and that for others increasing. For example, less newsprint might be used to publish newspapers, but more paper might be required for computer related needs. Canadian newsprint producers, however, would be able to adjust to such new requirements.

In recent years, newsprint prices have not been high enough to provide producers with adequate profits for capital re-investment. Large scale modernization, when it comes, could produce some temporary unemployment. The large capital requirement and the relatively slow rate at which capital is currently accumulating suggest that changes will take place gradually.

5. Competitiveness Assessment

The Canadian newsprint and groundwood printing paper industry accounts for one-third of world production capacity. Given the present exchange rates between the Canadian, U.S. and Scandinavian currencies, the Canadian industry has the lowest unit production costs among the key exporting producers. The Canadian industry is currently very competitive in its principal market, the United States, though with world overcapacity, prices and profitability are low.

The Canadian industry's productivity improvement has not kept pace with that of its foreign competitors, because the industry has not restructured or modernized its facilities to the same extent. Nonetheless, assuming no major adverse changes in exchange rates, Canadian producers are expected to remain broadly competitive with other suppliers to the end of the decade, and to maintain their dominant position in supplying over half of the U.S. market.

The modernization required to assure the Canadian industry's long term growth will not, however, take place unless newsprint prices and profitability increase significantly.

Prepared by: Resource Processing Industries Branch
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: JUN JUIN 5 1986

DRAFT - PROJET

May 5, 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

FACT SHEET

NAME OF SECTOR: Newsprint and uncoated groundwood printing paper **SIC(s) COVERED:** 2712 (1980)

1. PRINCIPAL STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Establishments	N/A	43	43	43	43	43	43
Employment*	N/A	37500	37500	37000	37000	37000	36500
Shipments ($ millions)*	1113	3918	4616	4509	4648	5557	6674
(volume, '000 tonnes)*	7286	8979	9286	8732	9231	9986	10088
Gross Domestic Product (Constant 1971-$ millions)	N/A						
Investment ($ millions)	N/A						
Profits After Tax ($ millions)	N/A						
(% of income)	N/A						

2. TRADE STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Export ($ millions)*	1111	3827	4504	4358	4329	5345	5815
(volume, '000 tonnes)*	7229	7984	8276	7495	7997	8794	8789
Domestic Shipments ($ millions)*	97	466	566	643	660	790	859
Imports ($ millions)	No imports						
Canadian Market ($ millions)*	97	466	566	643	660	790	859
Exports as % of Shipments (tonne)	99	88	89	86	87	88	87
Imports as % of Domestic Market	No imports						
Canadian Share of International Market (based on volume)	62	63	63	63	63	63	63

Source of imports (top 4)

U.S.	E.E.C.	ASIA	OTHERS
No imports			

Destination of exports (top 4)

	U.S.	E.E.C.	ASIA	OTHERS
1981	79	8	4	9
1982	81	9	3	7
1983	83	8	3	6
1984	85	6	4	5
1985	85	4	5	6

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	17	49	23	2	9
Employment - % of total	N/A	N/A	N/A	N/A	N/A
Shipments - % of total	15	46	20	2	17

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants
1. Abitibi-Price	100% Canadian	Grand Falls (Nfld.), Stephenville (Nfld), Alma (Que.), Beaupré (Que.), Kénogami (Que.), Chandler (Que.), Fort William (Ont.), Iroquois Falls (Ont.), Thunder Bay (Ont.), Pine Falls (Man.).

*Denotes estimate

...2

	Name	Ownership	Location of Major Plants
2.	CIP	100% Canadian	Dalhousie (N.B.), Gatineau (Que.), Trois-Rivières (Que.)
3.	Consolidated-Bathurst	84% Canadian	Shawinigan (Que.), Port Alfred (Que.)
		16% Foreign	Trois-Rivières (Que.), Grand'Mère (Que.)
4.	MacMillan Bloedel	100% Canadian	Powell River (B.C.), Port Alberni (B.C.)

DRAFT - PROJET

March 27, 1986

COMPETITIVENESS PROFILE

Nickel Smelting and Refining Sector - #SIC 295

1. Structure and Performance

Structure:

The nickel smelting operation transforms mineral concentrates into crude metal, while the refining operation upgrades metal purity.

About 80 per cent of Canadian nickel production comes from Ontario and the remainder from Manitoba; however, reserves would indicate that the ratio will approach 70/30 eventually.

The Canadian nickel industry is made up of three companies. Inco, the largest, is fully integrated, processing its ores from some 14 mines in Ontario and Manitoba through two smelter/refinery facilities at Sudbury, Ontario and Thompson, Manitoba. Falconbridge, the second largest nickel producer, smelts concentrates at Sudbury and transports its nickel-copper matte to its refinery at Kristiansand, Norway. Sherritt Gordon Mines has no nickel mining operations but processes nickel-bearing concentrates from Inco's Thompson mill into nickel powder and briquettes at its Fort Saskatchewan, Alberta plant. Unlike Inco and Falconbridge, Sherritt Gordon Mines is not dependent upon the nickel market as its fertilizer and chemical division accounts for about 70 per cent of the company sales.

The two principal companies, Inco and Falconbridge, are Canadian companies whose shares are widely held while Sherritt Gordon Mines is controlled by Newmont Mining of U.S.A. The combined employment of Inco and Falconbridge in Canada is now approximately 14,000.

Performance:

		Nickel Exports (tonnes)					
	Production	In Matte	In Oxide	Refined Metal	Total	Refined Imports	Consumption
1973	244,461	91,259	59,835	125,424	286,518	15,731	10,783
1980	184,802	42,647	16,989	88,125	147,761	4,344	9,676
1981	160,247	53,891	14,390	79,935	148,166	2,335	9,440
1982	88,795	27,037	13,127	62,314	102,478	2,431	6,637
1983	121,836	40,087	11,167	66,949	118,203	2,357	4,800
1984	161,831	59,410	20,080	80,414	159,904	3,479	4,800
1985 Est.	171,725	59,950	17,972	81,687	159,604	3,336	N/A

In the period 1946 to 1973, western world annual nickel consumption grew at an annual rate of over 6 per cent. The growth rate changed abruptly after the oil shock in 1973, due to the sharp decline in the overall performance of the world economy. Except for a brief period in the late 1970's, nickel consumption has yet to surpass the 1974 peak.

Canada has been the dominant producer of nickel in the world since the turn of the century. In the 1950's, Canada accounted for more than 76 per cent of the world nickel production but by 1977, Canada's share had dropped to 37 per cent. During the past five years, this has shrunk further to about 30 per cent.

In large measure, the change in role from dominant supplier to swing supplier by Canadian producers can be explained by the emergence of the LDC's in the world nickel market and the increase in state ownership and control of producers in the 1970's. Over 40 per cent of the world production capacity is either directly or indirectly state-controlled. These operations are not responsive to the usual price/cost relationships because their primary goals are raising foreign currency and maintaining

employment. During the latest recession high-cost, state-owned companies maintained production, depressing prices and forcing private producers to cut back disproportionately.

The two largest Canadian nickel companies suffered large losses in the years 1981 to 1983. Falconbridge, which returned to profitability in 1984, has improved its performance in 1985, with a profit of $39 million. For its part, Inco, after sustaining losses over 13 consecutive quarters, generated a small profit in the fourth quarter of 1984, and a $52 million profit for 1985. The year 1986 does not look so promising as prices have fallen and production cutbacks have been announced.

The recent recession has had a profound impact on employment: Falconbridge has reduced its workforce by 38 per cent, Inco, 35 per cent. While production cutbacks accounted for some of the layoffs, the major reductions were due to productivity improvements and rationalization of operations throughout the organizations.

The value of exports of primary nickel fell by about 35 per cent in the 1982-83 period to less than $750 million. Recovery has been slow as nickel prices remain depressed. Nevertheless, exports are recovering and reached $1,030 million in 1985.

2. Strengths and Weaknesses

a) Structural:

It is generally acknowledged that sulphide nickel producers (such as those in Canada) have lower costs than the lateritic nickel producers (those in tropical countries). In fact, some estimates place laterite production costs at 1.6 - 2.0 times higher when oil price is over U.S. $30 per barrel. The large difference in production costs is due in part to the volume of energy required to smelt nickel. Energy constitutes about 15 per cent and 60 per cent of the production cost of sulphide and lateritic nickel, respectively. With oil prices at less than half their peak levels, and still dropping, the laterite nickel producers can be expected to experience a marked improvement in their cost competitiveness. It is estimated that a reduction of U.S. $1.00 per barrel of oil results in a decrease of 5 cents per pound in the production cost of lateritic nickel. (Canadian nickel production costs are about U.S. $2 per pound)

Another part of the difference in production cost is attributed to the by-product credits received by sulphide nickel producers from the sale of copper, cobalt, platinum group metals and other precious metals.

Labour cost represents about 40 per cent of the Canadian operating cost, down from the 50 per cent of only a few years ago. Canadian wage rates are significantly higher than those in "laterite" producing countries. However, a well trained workforce, modern mining practices, such as bulk mining, and modern processing facilities help the Canadian industry achieve a low unit production cost.

The high level of interest rates, applicable to a considerable debt, results in a significant added cost to Canadian producers.

Environmental regulations in Canada entail costs which some foreign producers do not have to incur. New sulphur dioxide (SO_2) control orders will raise operating costs and capital charges at domestic operations. The stricter SO_2 emission control limits on non-ferrous smelters will require that this gas be converted into sulphuric acid and will increase the production of smelter acid by 1.2 million tonnes per year (mtpy) by 1994. Canadian companies would need to sell that incremental annual volume of acid to new, more distant markets. As an example, the cost of selling acid in the Florida market would be $25 per tonne of acid (or 8 cents per pound of nickel) over and above the cost of selling it in traditional markets.

b) Trade Related Factors:

Most Canadian nickel exports are in the form of refined metal, nickel-copper matte and nickel oxide sinter. Of these, about 55 per cent is exported as refined nickel primarily to the U.S.A. and the EEC. Nickel-copper matte, a partially smelted material, which represents about 30 per cent of exports, is shipped to Norway and Japan. Nickel oxide sinter exports, accounting for about 10 per cent, are shipped to U.S.A. and U.K.

There are no significant tariff or non-tarriff barriers on exports of Canadian nickel but there are some other difficulties. Uneconomic smelter operations are being kept in production by some NIC governments, as social rather than commercial criteria dictate production decisions. The unpredictability of Soviet shipments to western Europe is another destabilizing factor. The strong Canadian dollar in terms of many currencies has been an impediment to the competitiveness of Canadian producers.

c) Technological Factors:

Inco has traditionally been the world leader in developing both new production processes and new applications for nickel uses. In recent years, however, Inco could no longer afford to carry on the latter work and instead has been concentrating its R&D efforts on new technologies in mining, milling, and smelting. On the other hand, Sherritt Gordon Mines, has been the leader in developing hydrometallurgical and powder metallurgy processes. Finally, Falconbridge has focused its R&D activities on improving its productivity and reducing its sulphur dioxide emissions.

The technological challenge facing Inco and Falconbridge in the near future is to develop affordable processes that will permit the reduction of SO_2 emissions to levels stipulated in the new Ontario regulations. While the new regulations are in line with Falconbridge's expectations, Inco is required to revise downward its planned emission target. It may be a difficult task for the Canadian nickel producers to maintain low levels of cost in the light of the new environmental regulations, which could require major capital expenditures and increase operating costs.

3. Federal Provincial Programs and Policies

The Ontario government has, under the Ontario Mining Act, the legislative power to force companies to increase further processing of ores in Canada, but has allowed specific exemptions. For instance, Falconbridge has received continued sanction of nickel-copper matte export to its refinery in Norway, because of a long standing relationship.

Under its exemption, Inco is allowed to ship an unspecified amount of nickel oxide sinter to its plant in Clydach, Wales for processing, continuing a long established relationship. It is also allowed to ship nickel sulphide under long-term contract to two Japanese refineries in which it has an equity interest.

Following the federal-provincial acid rain agreement to reduce SO_2 emissions by 50 per cent by 1994, the Ontario government has recently issued new control orders to Inco and Falconbridge. Under the new regulations the two companies will be obliged to cut SO_2 emissions to 365,000 tonnes per year by 1994 from the current level of 882,000.

4. Evolving Environment

The demand for nickel in the western world is expected to grow at 1.5 to 2.5 per cent per annum to the end of this decade. This compares with an average annual growth rate of over 6 per cent in the period 1946 to 1973 and a meager one per cent in the period 1974 to 1982. The main factors underlying this slow-growth forecast are the maturing of the nickel market and the moderate growth forecast for the western world economy. Although

there are few substitutes at present for nickel, there have been rapid developments in ceramics, plastics and high-strength-low-alloy steels (HSLA) that could affect nickel markets over the longer term. On the other hand, the producers have formed the Nickel Development Institute to develop and promote new applications for nickel.

By the year 2000, total western world nickel consumption could approach 658,000 tonnes. In contrast, present world nickel supply capacity is 850,000 tonnes and this could increase if Cuba and USSR follow through on announced expansion plans. Also, as a result of the precipitous drop in oil prices, many lateritic nickel plants could be reactivated in the coming year.

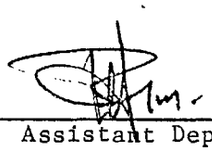
Despite the cost-competitiveness of Canadian nickel producers, this sector is not likely to return to the level of production experienced in the 1970's. Canadian production levels will be affected by global overcapacity, slower growth in world demand and currency exchange rates.

5. Competitiveness Assessment

While Canadian producers are expected to remain the lowest cost producers in the western world, the experience of the 1982 recession indicates that cost competitiveness does not ensure protection of market share. In fact, Canadian producers have absorbed most of the recent production cutbacks, while state-controlled producers have continued to keep unprofitable facilities in operation. Inco and Falconbridge reduced output by 48 per cent in 1982, while the drop in world production was only 20 per cent.

At this juncture, both Inco and Falconbridge have rationalized their operations to the extent that net production costs are about U.S. $2.00 a pound. With nickel prices remaining in the range of U.S. $1.70-1.85 a pound, cost cutting measures are continuing. The continuing overcapacity situation would be expected to continue to depress prices.

Prepared by: RESOURCE PROCESSING INDUSTRIES BRANCH, DRIE



Assistant Deputy Minister

Date: March 27, 1986

FACT SHEETS

NAME OF SECTOR: Nickel Smelting and Refining Sector **SIC(s) COVERED:** 295 (part) 1980 *

1. PRINCIPAL STATISTICS

	1971	1980	1981	1982	1983	Estimate 1984	Partial 1985
Establishments*	7	7	7	7	7	7	6
Employment**	N/A	24,000	20,000	16,000	18,000	17,000	14,000
Shipments ($ million)***	728	1,182	1,181	759	784	1,069	N/A
(volume, tonne)	266	152	157	109	123	168	N/A
Gross Domestic Product**** (Constant 1971 $ millions)	507	568	568	488	541	607	N/A
Investment ($ millions)****	300	870	997	807	745	1,114	1,236
Profit (Loss) After Tax ($ millions)	N/A	328	(482)	(299)	(249)	(59)	N/A
(% of income)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* Nickel refinery at Port Colborne was closed permanently on December 17, 1984.
** Employment cannot be broken out for the smelter and refinery segment, thus estimates include mining and milling employment as well.
*** Actual total shipment figures are not published. The figures used were obtained by adding exports and domestic consumption since the domestic market is supplied by Canadian producers.
**** Total value for SIC 295, which includes all smelting and refining of non-ferrous metals except aluminum; nickel is not separated out.

2. TRADE STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Exports ($ million)	704	1,097	1,106	715	741	1,013	1,031
Domestic Shipments ($ millions)	24	85	75	44	43	56	N/A
Imports ($ millions)*	39	21	18	17	15	6	21
Canadian Market ($ millions)	24	85	75	44	43	56	N/A
Exports as % of Shipments	97	93	94	94	95	95	N/A
Imports as % of Domestic Market	162	24	24	39	35	11	N/A
Canadian Share of International Market	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source of imports (%)	U.S.A.	EEC	ASIA	OTHER
1981	35	2	N/A	63
1982	31	3	N/A	66
1983	28	28	N/A	44
1984	27	3	N/A	70
1985	32	3	N/A	64

Destination of exports (%)	U.S.A.	EEC	ASIA	OTHER
1981	39	26	N/A	35
1982	25	34	N/A	41
1983	30	33	N/A	37
1984	26	36	N/A	38
1985	33	33	N/A	34

* Imports have little effect on the domestic market since the Canadian producers do the bulk of the importing.

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % Total	0	0	57	43	0
Employment - % Total	0	0	86	14	0
Shipments - % Total	0	0	61	39	0

* Please indicate whether using the SIC on 1970 or 1980 basis.

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants	Concentration (% of domestic production)
Inco Ltd.	Widespread ownership: 35 per cent by Canadians	Smelters and refineries at Sudbury & Thompson	
Falconbridge Ltd.	Widespread ownership: 95 per cent Canadian, 31.5 per cent controlled by Dome Mines, Ltd.	Smelter at Sudbury.	
Sherritt Gordon Mines	34.7 per cent owned by Newmont of U.S.A.	Hydrometallurgical plant at Fort Saskatchewan.	

Inco Performance

Primary Metals ($ millions)	1984	1983	1982	1981
Sales by product				
Primary nickel	720	$ 603	$ 552	$ 891
Refined copper	170	98	117	194
Precious metals	110	56	68	103
Cobalt	24	10	24	58
Other products	28	19	24	24
Net sales to customers	$1,052	$ 786	$ 785	$1,270
Operating earnings(loss)	$100	$(138)	$(130)	$ 283
Deliveries (pounds in millions)				
Primary nickel and intermediates	316	278	216	298
Nickel contained in alloy products	40	36	35	44
Total nickel	356	314	251	342
Copper	273	140	167	240

Falconbridge Performance

Primary Metals ($ millions)	1984	1983	1982	1981
Sales by product				
Primary nickel	$ 252	$ 212	$ 151	$ 232
Refined copper	63	46	40	53
Precious metals	7	6	5	8
Cobalt	33	12	13	35
Other products	43	37	37	40
Net sales to customers	$ 398	$ 313	$ 246	$ 372
Operating earnings (loss)	28.7	(18)	(85)	(4)
Deliveries (pounds in millions)				
Total nickel	83	80	51	62
Copper	79	53	48	56

SELECTED FINANCIAL RATIOS

	INCO			FALCONBRIDGE		
	Interest Coverage	Net Return On Equity	Debt/ Equity	Interest Coverage	Net Return On Equity	Debt/ Equity
1973	9.2(Times)	19.1%	27:63	4.9(Times)	21.1%	51:49
1980	3.9	11.1	38:62	5.2	21.8	38:62
1981	1.5	(2.1)	45:55	.8	(1.8)	50:50
1982	(1.0)	(18.9)	44:56	(1.1)	(19.1)	55:45
1983	(1.8)	(22.8)	47:53	(0.2)	(3.6)	54:46
1984	N/A	(10.9)	46:54	1.4	12.6	38:62
1985	N/A	N/A	43:57	N/A	N/A	N/A

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

CONFIDENTIAL

COMPETITIVENESS PROFILE

THE NON-FERROUS SEMI-FABRICATING INDUSTRY

1. STRUCTURE AND PERFORMANCE

a) Structure

The industry is engaged in the manufacture of rolled, extruded, and cast products from aluminum, copper, zinc, lead, nickel and their alloys. The products include plates, sheets, strips, bars, rods, cast shapes, pipes, tubes, and other extrusions. There are three major sub-sectors: aluminum, copper, and other non-ferrous semi-fabricated products (primarily die casting of non-ferrous metals such as aluminum, zinc, copper, magnesium and lead). These sub-sectors account for 51, 21 and 28 per cent respectively of total shipments.

Rolling is the major semi-fabricating activity, accounting for 49% of overall operations. It requires capital-intensive installations and only the larger corporations invest in rolling mills. Extruding, which includes the production of pipe, tube and shapes, accounts for 34% of the activity. The remaining 17% is almost entirely casting, including die casting. Rolling and extruding are carried out in plants dedicated to either aluminum or copper while die casting plants use mainly three metals (aluminum, zinc and magnesium).

A common characteristic of the industry is that most products tend to be high volume, low profit margin items. The principal markets for semi-fabricated products are the packaging, construction, electrical, transportation, and consumer durables industries.

In 1983, the non-ferrous semi-fabricating industry's shipments were valued at $2.2 billion. The industry employed about 14,000 people in 200 establishments. Seventy-eight per cent of the enterprises are small, with fewer than 100 employees. In 1984, Canada's exports of $778 million exceeded imports which were $760 million. The U.S. purchased 77 percent of Canadian exports, and supplied 80 per cent of Canada's imports.

Corporate concentration in the sub-sectors is high. In aluminum, the top four firms account for 88.1 per cent of shipments; in copper, the top four firms account for 79.3 per cent of shipments; in other non-ferrous semi-fabricated products, the top four firms account for 38.6 per cent of shipments.

Overall, the industry is about 80 per cent Canadian owned. Foreign ownership does not vary significantly from one sub-sector to another. The major firms are Alcan Canada Products Limited and Reynolds Aluminum Company of Canada Limited in aluminum; Noranda Metal Industries Limited and Arrowhead Metals Limited in copper and copper alloys; Amcan Castings Limited and Burlington Die Castings Company Limited in die casting.

The non-ferrous semi-fabricating industry is concentrated in Ontario, Quebec, and to a lesser degree in British Columbia.

b) Performance

The industry is sensitive to the business cycle and is closely tied to the performance of the automotive, construction, and consumer products sectors. Currently, the industry is operating at a relatively high rate of capacity (75 per cent).

During the 1973-83 period the industry's real Gross Domestic Product (GDP) grew by approximately 0.5% on average per year. The copper sub-sector's GDP, however, declined by approximately three per cent per year. The aluminum sub-sector and the other non-ferrous semi-fabricated products sub-sector had GDP growth of one per cent and two per cent per year, respectively.

Import penetration increased from 20.0% of the apparent Canadian market in 1973 to 22.6% in 1983. In comparison, exports as a percentage of shipments declined from 34.6% in 1973 to 23% in 1983 due mainly to the downturn in the automotive industry in the early eighties.

During the 1973-83 period the per capita consumption of aluminum semi-fabricated products increased. Aluminum replaced copper in applications such as automobile radiators and zinc in die castings. Plastics took some markets away from aluminum, copper and zinc during the past 10 years. Significant reductions in employment occurred at Noranda Metal Industries, in Montreal and Arrowhead, in Toronto, the largest copper semi-fabricating operations.

The industry continues to modernize and rationalize its facilities. About one tenth of the industry's production capacity has been rationalized since 1982. Noranda has centralized copper tube production and modernized its Montreal East plant. Alcan has shut down its extrusion operations in Kingston, Ontario and moved part of this capacity to central and western Canada.

A separate financial assessment of the non-ferrous semi-fabricating industry cannot be made as available information includes smelting and refining activities.

2. STRENGTHS AND WEAKNESSES

a) Structural

Much of Canada's non-ferrous semi-fabricating industry was established to supply the small, tariff protected, domestic market and to take advantage of the British Preferential Tariff rates which provided access to the U.K. and its ancillary markets.

The Canadian industry uses short production runs to manufacture a multitude of products, for the small domestic market. Canada's main competitors are U.S. plants which are usually larger, more specialized and more efficient with longer production runs scaled to the larger U.S. market. In most semi-fabricated products the U.S. industry has surplus capacity which could supply the Canadian as well as the U.S. market. Competition from off-shore is also significant and has intensified in recent years.

Production costs vary according to production techniques used, the age of plant equipment and the metals used to produce semi-fabricated products. Production costs vary widely from sub-sector to sub-sector and from plant to plant. Raw materials (metals) account for between 50 and 65 percent of total production costs, but metals are available in all world markets at approximately the same delivered price when expressed in the same currency. In terms of energy costs, which are about five to 10 percent of production costs, Canadian industry may have a slight advantage over its U.S. competitors.

Canadian hourly labour costs, which represent between 20 to 35 percent of production costs are higher than those of most European and Asian competitors. Canadian labour costs are also higher than those of their U.S. counterparts, except for the large integrated sheet and extrusion firms where costs are comparable and for die casters who have a labour cost advantage when competing with producers located in the northeastern U.S.

Non-ferrous semi-fabricated products tend to have relatively low value per unit weight so that shipping costs can be a significant factor in the price of the product. Thus the most economical plant location is generally the one closest to the major market. Canadian exports are not hampered by the cost of transportation into the larger U.S. markets in the northern states. On the other hand, shipping costs due to distances, tend to discourage Canadian sales to offshore markets and, to some extent, protect Canadian producers from offshore competition in the domestic market. However, economies derived from high volume of production can offset these costs from offshore operations.

Much of the aluminum rolling and extruding capacity in Canada is on a smaller scale than in the U.S., except for Alcan's Kingston sheet rolling mill which is a world class operation. Alcan and Reynolds are MNE's with corresponding technical, financial, and management strengths and are responsible for most of the industry's output and trade. Canada is competitive in the U.S. market for a small range of flat-rolled and extruded aluminum products and sand castings.

Plants in the copper sub-sector are old except for the Noranda Metal Industries tube mill in Montreal which was recently modernized. Significant investment would be required to modernize the rest of the industry but the potential return may be too low due to the declining rate of world consumption. A significant portion of the U.S. industry has been recently shut down and the remaining operations are being modernized to improve their competitiveness. Strengths of the Canadian sub-sector are lower freight costs, as compared to imports into Canada and the U.S. from off-shore, and the ability to rapidly service the varying domestic and nearby U.S. customer requirements. Some Canadian products such as copper sheet, strip, bars and standard size tubes are competitive in the U.S.

In die casting the major strength is the ability of Canadian firms to adapt modern technology to produce new products for a cyclical market on a cost competitive basis (e.g. aluminum die castings for the North American automotive industry). The main disadvantage of the sub-sector is that the remaining portion of the industry is made up of small firms, with limited resources, geared to the short term. Overall, Canadian die casters compete successfully in the northern U.S.

b) Trade Related Factors

By 1987, the bulk of U.S. MFN tariffs on imported non-ferrous semi-fabricated products will be less than 5 per cent. Canadian duties on non-ferrous semi-fabricated products vary but will not exceed 10 per cent. The other major markets - Japan and E.E.C. - present few opportunities for Canadian firms even without the tariffs, which range from zero per cent to 13 per cent, because of longer distances and the importance of shipping costs.

Most castings (e.g. gravity, low and high pressure die castings, and sand castings) are traded under the tariff item of the end product for which they are made. Most of these items are traded duty free as original equipment under the Canada-U.S. Auto Pact. Similarly, castings for defence items and agricultural equipment are traded duty free between Canada and the U.S.

Non tariff barriers are not significant in the U.S., E.E.C., Japan or Canada. A minor irritant is the U.S. requirement for country of origin marking on imported goods.

c) Technological Factors

The pace of technological change in this industry is modest. In general, although Canadian industry has smaller scale plants and shorter runs, it is technologically on a par with the U.S. except perhaps in flat copper products.

Alcan does a significant amount of research and development in Canada at several laboratories. Some of Alcan's research has focused on the production of aluminum sheet by continuous casting of liquid metal directly from the smelter. The process is now in use and may enable the company to increase exports of aluminum sheet to the U.S.

The Noranda research establishment at Pointe-Claire, Quebec has several R&D programs related to the production and application of copper products. At corporate laboratories in Sheridan Park, Ontario, Cominco has devoted major R&D resources to improving the die casting of zinc and to the search for new applications for zinc.

d) Other Factors

Over the 1981-84 period there has been a surge of exports of Canadian and Japanese semi-fabricated aluminum products into the U.S. because of the relatively high value of the U.S. dollar.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

The industry has received very little federal or provincial financial support. The federal government support has been for innovation and for the establishment and modernization of facilities.

The Canada-U.S. Auto Pact has been important to the aluminum die casting industry. It has provided duty-free access to the large U.S. market which has enabled Canadian die casters to enjoy economies of scale.

4. EVOLVING ENVIRONMENT

The aluminum sub-sector is losing some markets to plastics (e.g. in windows and siding). It is gaining an increasing share of the beverage can market and the market for specialty packaging foils.

Alcan, the industry's largest integrated semi-fabricator is responsible for much of the Canada-U.S. trade in aluminum. There is concern with the possibility of U.S. section 201 action (escape clause) against imports of some aluminum semi-fabricated products.

Copper continues to encounter increasing competition from plastics in areas such as drain, waste and vent tubing, and competition from aluminum for auto radiators. The industry is having some success in marketing copper for roofing applications. The only fast growing application for copper is as semi-conductor strip.

The demand for zinc die castings for the automotive industry has been decreasing due to downsizing but growth will continue in miniature precision die castings for sophisticated office and defence equipment. While aluminum castings will continue to find increasing applications in automobiles, the obvious opportunities will have largely been exploited in the new engines and transmissions introduced in the next few years. The automotive industry forecasts that by 1990 the average car will contain as much as 91 kilograms of non-ferrous castings, compared to about 59 kilograms in 1982. However, most new Japanese and Korean auto plants in Canada will initially import complete engines, transaxles and other components for their assembly operations from Asia. This threatens to reduce the market available to the Canadian die casting industry.

There likely will be an increase in the installation of CAD/CAM and robotics in the die casting industry in Canada. The major automotive manufacturers have decreed that by 1987-88 part suppliers must be capable of accepting computerized design data rather than blueprints if they are to remain suppliers. Most of the industry will be able to adapt.

In response to these changing conditions, the industry will likely reduce the number of product lines and pursue product specialization, consolidation and joint venture/investment in order to remain competitive.

Based on the foregoing it appears that in the domestic market the non-ferrous semi-fabricating industry will have moderate growth and continuing international competition. In the U.S. market the Canadian industry will face growing protectionism and international competition. Exports to the U.S. are expected to continue to grow at a moderate rate but exports to other countries will likely remain low.

5. COMPETITIVENESS ASSESSMENT

Transportation costs, customer service and the ability to supply products on short notice are the main factors which make most Canadian products competitive in the domestic market. In the U.S., these same factors, as well as the favourable value of the Canadian dollar in terms of the U.S. currency, assist certain Canadian products to compete successfully. The Canadian non-ferrous semi-fabricating industry is generally not competitive in off-shore markets except for a small number of highly specialized products such as miniature die castings.

Canada is competitive in the U.S. in a small range of aluminum flat-rolled products. However, in total, the balance of trade in flat rolled aluminum is heavily in favour of the United States and this is unlikely to change in the short to medium term regardless of changes in the relative values of Canadian and U.S. currencies. Nevertheless, exports of rolled products are projected to increase in the future due in part to the anticipated increase of Alcan's continuous casting operation in Quebec. The capital intensive nature of rolling mills lends stability to the pattern of trade.

In the market for aluminum extrusions, price, delivery and customer contact are usually most important. Producers attempt to locate their facilities close to high volume customers. Generally, American producers have an advantage over Canadian competitors.

In aluminum sand castings, Canada is competitive in the northern U.S. market and would remain competitive, if the Canadian dollar remained below 85 cents U.S.

The Canadian copper sub-sector is not generally competitive internationally except for certain products in the U.S. market. This is a mature industry worldwide. In the short term, it is likely that Canadian operations may experience some shrinkage and in the longer term, prospects for copper products are uncertain.

Die casting is generally competitive in the northern U.S. Much of the Canadian die casting output goes into automotive applications where the industry competes successfully with U.S. firms. The industry is expected to adopt new technology and will likely remain competitive in the future.

NOTE:

This profile is based on limited data available from Statistics Canada, a few company annual reports, and contact by DRIE officers with some companies and associations on particular aspects of their business. Therefore, some aspects of this diverse sector are not covered in depth. This report will be updated as additional information becomes available.

Prepared by: Resource Processing Industries Branch
DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: JUN / JUIN 5 1986

DRAFT - PROJET

FACT SHEET

June 2, 1986

NAME OF SECTOR: Non-Ferrous Semi-Fabricated Industry **1980 SIC(s) COVERED:** 296, 297, 2999

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Establishments	190	218	210	205	200	n/a	n/a
Employment ('000)	14.8	15.5	14.7	13.5	13.9	n/a	n/a
Shipments ($ millions) (volume, e.g. tonne where applicable)	937	2,227	2,325	1,783	2,236	n/a	n/a
Gross Domestic Product (Constant 1971-$ millions)		n/a	n/a	n/a	n/a	n/a	n/a
Investment ($ millions)	55.2	97	115	107	105	133	136
Profits After Tax ($ millions)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
(% of income)	n/a	n/a	n/a	n/a	n/a	n/a	n/a

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985
Exports ($ millions)	325	589	545	449	515	778	n/a
Domestic Shipments ($ millions)	612	1,638	1,780	1,334	1,721	n/a	n/a
Imports ($ millions)	153	522	593	434	503	760	n/a
Canadian Market ($ millions)	765	2,160	2,373	1,768	2,224	n/a	n/a
Exports as % of Shipments	34.7	26.4	23.4	25.2	23.0	n/a	n/a
Imports as % of Domestic Market	20.0	24.2	25.0	24.5	22.6	n/a	n/a
Canadian Share of International Market	not significant						

Source of imports (top 4)	U.S.A.	E.E.C.	JAPAN	OTHERS
1981	84.9	11.2	1.3	2.6
1982	80.8	13.9	1.5	3.8
1983	80.2	14.1	2.5	3.2
1984	74.3	20.2	2.5	3.0

Destination of exports (top 4)	U.S.A.	E.E.C.	JAPAN	**OTHERS
1981	68.4	7.0	0.5	24.1
1982	69.6	5.8	0.5	24.1
1983	77.5	4.4	0.3	17.8
1984	76.0	2.8	0.3	20.9

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	Not available at this level.				
Employment - % of total	See individual SIC(s)				
Shipments - % of total					

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants	Concentration (% of Domestic Market)
Alcan Canada Products Limited	Cdn	Kingston	n/a
		Jonquière	n/a
Reynolds Aluminum Co. of Canada Ltd.	U.S.	Cap-de-la-Madeleine	n/a
Noranda Metal Industries Limited	Cdn	Montreal East	n/a
Arrowhead Metals Ltd.	Cdn	Toronto	n/a
Amcan Castings Limited	Cdn	Hamilton	n/a
Burlington Die Castings Co. Ltd.	Cdn	Burlington	n/a

**These exports are to over 40 countries, none of which is a significant customer for more than a single product.

DRAFT - PROJET

March 25, 1986

COMPETITIVENESS PROFILE

Name of Sector: NON-RUBBER FOOTWEAR

1. STRUCTURE AND PERFORMANCE

Structure:

The industry's major products are men's, women's and children's boots, shoes and sandals made of leather, plastic or canvas*. Some 172 establishments in 1985 had estimated shipments of $785 million with exports of $56 million. Imports in that year amounted to an estimated $465 million. Footwear firms are the major customers of the tanning and shoe findings (laces, heels, etc.) industries and important users of coated and other fabrics purchased from the textile industry.

In 1985, about 48% of the industry's establishments (54% of employees) were located in Ontario, 45% (43% of employees) in Quebec, and 7% (3% of employees) in other parts of the country. The principal footwear producing centres in Canada are Quebec City and the surrounding area, Montreal, Toronto and the Kitchener/Cambridge area.

The largest four and largest eight firms account for some 22% and 36%, respectively, of industry shipments and this concentration has been increasing somewhat over time. Medium to larger footwear plants (with more than 150 workers) are generally considered to be of minimum optimum scale and comparable in size to their counterparts in other countries. Nevertheless, there are a few very large establishments, particularly in the Far East which realize additional scale economies by specializing in one or two non-leather product lines for the world market.

Six footwear firms in Canada are foreign owned (4%) and these are generally larger than average, accounting for some 15% of industry employment. Some multinationals, producing a range of footwear, own and operate a number of retail stores in Canada (e.g. Bata, Kinney, Church and Florsheim) providing these firms with brand recognition and faster feedback on consumer preferences. This "forward" integration is also in evidence in the U.S. and some other developed countries.

Most Canadian firms are not actively involved or well known on international markets. However, Bata, the largest footwear firm in the world with some 700 footwear workers in Canada, is a Canadian owned multi-national with an estimated total of 79,000 employees, operating in 91 countries with 97 plants and 6,000 retail stores. Smaller firms active outside Canada include Natural Footwear (Roots) with retail stores worldwide, and Bastien Brothers and Genfoot with strong market identities in the U.S. (Bastien also operates a plant in France).

With the modest cost of basic technology and the availability of more expensive machinery on a rental basis, barriers to entry in the industry are insignificant and the industry overall has historically operated with excess capacity.

Performance

Over the period 1973-84 import volumes increased by 32% and production declined by 10%. Footwear employment, however, fell by only 800 (5%) to reach 16,000 in the latter year. The relatively stable employment

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* Standard Industrial Classification (S.I.C.) #1712, excluding rubber footwear

maintained during a period of falling production volume can be explained by the restructuring of the industry which has been ongoing since 1974. Canadian firms have been gradually upgrading their product lines by reducing their production of non-leather sandals and jogging type footwear which compete directly with low-cost imports and concentrating on the manufacture of more fashionable and higher quality leather footwear which requires more labour input per pair but less labour as a percentage of the total value of the product. This increased specialization and move up market is reflected in an increase of 22% in constant dollar GDP since 1973.

After tax profits on capital employed in the industry were less than the all-manufacturing average from 1974 to 1977. However, this situation was reversed from 1978 to 1982, the latest period for which data are available.

Canada has traditionally exported 6 or 7% of its footwear production, virtually all to the U.S. market. The Canadian industry has traditionally maintained a trade surplus with the U.S.A. (which amounted to an estimated $21 million in 1985).

2. STRENGTHS AND WEAKNESSES

a) Structural

Footwear production in Canada and world wide is highly labour intensive; for example, wages in the Canadian industry account for 23% of shipment value compared to 13% for manufacturing as a whole. Labour costs, therefore, are an important factor affecting competitiveness. Other considerations including economies of scale are also very important.

In 1983, the latest year for which detailed information is available, unit labour costs (the cost of labour to produce a unit of output) were about 8.5% higher in Canada than in the U.S. industry. This gap was likely due to economies of scale achieved in the U.S. with fewer styles produced per establishment. This differentiation was more than offset by the 10.7% reduction in the value of the Canadian dollar by 1985 (to $1.365 to $1.00 U.S.).

Smaller Canadian firms are structured to compete only on the domestic market catering to small niches and relying on low overheads, quick response times and client marketing expertise.

Canadian footwear production is concentrated in leather footwear and although competition from low wage countries (with the exception of Brazil and Eastern Europe) does not constitute a direct threat, there is an important secondary impact. The leather segment of the footwear market in Canada (and world wide) has been declining and, in terms of pairs, now accounts for less than half of all footwear sold domestically. This market shift has a significant impact on the competitive ability of the footwear firms in industrial countries because the use of less expensive materials compounds the labour cost advantage of producers in low-wage countries.

Due in large measure to the increasing popularity of non-leather athletic/leisure footwear supplied by Asian countries, the value of imports over the period 1973-1984 more than quadrupled and the industry's share of the domestic market declined from 53% to 43% in volume terms. If the athletic/leisure category is excluded (given there is very little Canadian production), the domestic share of the market in 1984 would be 53%.

With the restructuring and specialization which have taken place, assisted in many cases by government contributions, the domestic industry has improved its competitive position and generally competes in the high end of the market, with imports from the U.S. and EEC countries. It has all but abandoned the largely non-leather athletic/leisure market to imports from the Far East. In 1985, low-cost sources supplied 73% of all footwear imports into Canada, the bulk of which was non-leather (Taiwan and South Korea together account for over 50% of total footwear imports).

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In its recent comprehensive report on the situation in the domestic footwear industry, the Canadian Import Tribunal concluded that domestic firms can compete successfully against imports from Europe and the U.S. However, it is believed that leather footwear producers continue to be at a disadvantage when competing with imports from Brazil (in women's footwear) due primarily to the latter's low wage rates and from East European countries (men's footwear) where prices in many cases do not reflect total costs.

Management expertise in the footwear industry has improved in all areas since 1974, particularly in the production and financial control sections. Although many firms have made major improvements in marketing, this remains an area which the industry as a whole needs to improve in order to take advantage of domestic and international opportunities.

b) International Trade Related Factors

Unlike apparel and textiles, footwear is subject to the normal rules of GATT which require that any import quota be applied to imports from all sources (and not just those from low wage countries). Based on the recommendations of the Canadian Import Tribunal, the global import quota which was in place in one form or another since late 1977 was replaced in November 1985 with a three-year import quota only on women's and girls' dress and casual footwear (accounting for some 40% of the Canadian footwear market in pairage terms and 42% of total industry sales).

Australia, New Zealand and Japan maintain global import quotas on footwear. In the case of the EEC, formal quantitative restrictions are limited to imports from Eastern European countries and China and industry-to-industry arrangements are in place between the United Kingdom, South Korea and Taiwan, as well as between France and Taiwan. The U.S. footwear industry is currently afforded no special measures of border protection despite an import share of the market which has reached 73%.

Canadian tariffs on most imports of non-rubber footwear are currently 22.8% (non-rubber footwear is excluded from the General Preferential Tariff [GPT]). This compares with rates of 7-8% in the EEC and 8-10% in the U.S., although the latter's tariff structure calls for duty rates of up to 37½% for such items as rubber soled slippers.

Almost 60% of the industry's input costs are leather of which about one-quarter is sourced in the U.S. at duty rates of 12.5%. Plastic coated fabrics account for another 7% of input costs and are subject to duty rates of some 25% (vinyl) or 7.5% (polyurethane). Most other input materials are sourced domestically and are covered by duty rates averaging from 10-15%.

c) Technological Factors

Technology is basic and it is the practice in the industry internationally to purchase equipment from specialized machinery manufacturers who conduct R & D for the industry world wide.

As evidenced by the continued high labour component of world production in footwear, the evolution of technology has been slow. Unlike primary textiles, there have not been technological breakthroughs which offset to any great extent the labour cost advantage of Third World suppliers. However, over the next decade it is possible that the application of robotics to shoe production and the further development of computerized machines and production controls in a multi-product environment will reduce substantially the labour portion of total costs.

d) Other Factors

The industry is very sensitive to the price of cattle hides which are traded on the international market and fluctuate widely in price.

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There are indications that with rapidly escalating labour costs in newly industrialized countries (NICs) such as Taiwan and South Korea there may be increasing emphasis on the production of better quality leather footwear which would compete more directly with the bulk of Canadian production.

3. GOVERNMENT PROGRAMS AND POLICIES

In addition to import quotas and high tariffs the government has also provided financial assistance to the industry since 1973, formerly under the Footwear and Tanning Industries Adjustment Program and, from mid-1981 until March 31, 1986 under the Canadian Industrial Renewal Board (CIRB). Generally, CIRB assistance has taken the form of consulting and capital cost contributions to promote the restructuring of the industry. (CIRB commitments and payments to the footwear industry as of February 1986 amounted to $21.4 million and $4.0 million, respectively). With the termination of CIRB, footwear firms will be eligible for assistance under the Industrial and Regional Development Program (IRDP), which is available to all industrial sectors but with the level of support dependent on the location of the project.

4. EVOLVING ENVIRONMENT

Over the next five years or so the following factors are expected to affect the industry:

° Modest market growth of 1-3% (the higher rate could be achieved if there is an increase in the supply of cheaper foreign footwear which was not imported during the period of the global quota).

° A small decline in employment in 1986 and 1987 with the removal of most quotas and the phase-out of the remaining quotas on women's and girls' footwear. A relatively stable employment situation in 1988 and thereafter (with reductions essentially reflecting productivity improvements).

° Canadian manufacturers, with the removal of the quotas, will generally show greater propensity to export, particularly winter boots to the U.S. North East.

5. COMPETITIVENESS ASSESSMENT

The Canadian footwear industry has undergone major changes in the past ten years, specializing its product lines, raising the level of expertise of its management, and improving its production, financial control and domestic marketing. While not competitive in many product areas, notably the low-end markets in which imports from low-wage countries are concentrated, the industry is competitive and successfully exports to the U.S. in certain quality niches such as leather winter boots. In addition, given the present tariff, the industry competes successfully in the domestic market against imports from developed countries; and has the potential to remain competitive with developed countries in a freer trading environment if provided with an adequate adjustment period.

Except in certain products such as injected moulded plastic footwear which requires relatively little labour input, existing tariff levels are not sufficient to offset the labour cost advantage of low-wage countries. Non-leather imports from low wage countries and imports of leather dress and casual footwear from Brazil and East European countries will continue in the medium term to exert pressure on domestic manufacturers to specialize further and upgrade product lines.

In terms of exports, the past restructuring and improvements in styling and quality have earned a solid reputation for sub-sectors such as work boots and leather winter boots. Nevertheless, for the overall industry, management generally lacks international marketing expertise, mainly due to

the small size of the average firm which inhibits costly and sustained marketing efforts. It is estimated that fewer than one in five firms can be considered regular exporters, although this ratio is expected to increase with the termination and phase-out of import quotas.

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DATE: 25.3.86

STATISTICAL INFORMATION

NON-RUBBER SECTOR

1. Principal Statistics

	1980	1981	1982	1983	1984	1985
Establishments	162	158	162	168 (e)	168 (e)	168 (e)
Employment	15,496	16,494	14,355	15,200 (e)	16,000 (e)	16,000 (e)
Shipments ($ million)	618.7	704.4	651.0	698.3(e)	843.0(e)	850.4(e)
Exports ($ million)	36.9	35.8	49.3	46.8	52.1	52.1(e)
Domestic Shipments ($ million)	581.8	668.6	601.7	651.5	790.9	798.3(e)
Imports ($ million)	306.0	372.6	373.0	403.5	460.4	465.0(e)
Canadian Market ($ million)	887.8	1,041.2	974.7	1,055.0(e)	1,251.3(e)	1,263.3(e)
Exports - % of shipments	6.0	5.1	7.6	6.7(e)	6.2(e)	6.1(e)
Imports - % of Domestic Market	34.5	35.8	38.3	38.2(e)	36.8(e)	36.8(e)

2. Regional Distribution-1985(e)

	Atlantic	Quebec	Ontario	West
Establishments - % of total	1	45	48	6
Employment - % of total	2	43	54	1
Shipments - % of total	2	43	54	1

3. Foreign Trade ($)(e)

		Total Developed	U.S.	E.E.C.	Other Developed	Low Cost
Imports - % of total	1981	41	10	25	6	59
	1982	45	7	31	7	55
	1983	43	6	30	7	57
	1984	45	6	31	8	55
Exports - % of total	1981	98	75	19	4	2
	1982	98	83	11	4	2
	1983	98	86	10	2	2
	1984	99	92	9	1	1

4. Major Firms

NAME

1. Greb Industries Ltd. (Mississauga, Ontario)
2. Bata Ltd. (Don Mills, Ontario)
3. Susan Shoe Industries Ltd. (Hamilton, Ontario)
4. H.H. Brown Show Co. (Canada) Ltd. (Richmond, Quebec)
5. Bastien Bros. Inc. (St. Emile, Quebec)

Source: Statistics Canada Catalogues 33-002, 65-004, 65-207 and Office of Industrial Adjustment estimates

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

DRAFT

COMPETITIVENESS PROFILE

OIL & GAS FIELD EQUIPMENT

1. STRUCTURE AND PERFORMANCE

Structure

The oil and gas field equipment manufacturing industry in Canada produces a wide variety of machinery and components used in exploration, drilling and servicing of oil and gas wells, and the production and processing of oil and gas. Included are geophysical prospecting equipment, drilling rigs and ancillary tools, pumping, cementing, and well-fracturing units, as well as dehydrators, separators, treaters, and other field processing components. The sector includes drilling and processing equipment on offshore platforms but does not include the platforms per se or sub-sea equipment.

The industry is composed of approximately 300 small to medium-sized companies which employ about 5,500 including many skilled workers and professionals. In addition, there is a significant amount of subcontracting of component parts and assemblies to small, local machine shops. The sector manufactures custom-made equipment such as drilling rigs and field processing units as well as a wide range of standard products and high volume production items, most of which have to meet API (American Petroleum Institute) standards. Proven dependability and readily available service of oil and gas equipment are of key importance to purchasers and users. Many pieces of equipment are considered to be critical in the sense that a breakdown of a single component can stop an entire drilling or servicing operation.

The industry draws upon a wide variety of supplier sectors for basic steel, castings, forgings, pumps, engines, vehicle chassis, and instrumentation. Its principal markets are oil field supply houses (distributors), drilling contractors, and the oil companies.

Sector shipments in 1985 were an estimated $650 million[1] of which some $200 million or 31 per cent were exports. The U.S.A., accounted for about 25 per cent of Canada's exports, while the Soviet Union, South Asia and China currently account for some 50 per cent, and South America, the Middle East and Africa another 25 per cent. Imports amounted to approximately $450 million and captured about half of the domestic market. About 95 per cent of these imports were from the U.S.A., Canada's biggest competitor in both domestic and export markets. Competition in international markets comes mainly from the U.S.A., U.K., France, Italy, and Japan.

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1. Statistics Canada data, shown in the Fact Sheet are taken from SIC 3192. The data shown for the oil and gas industry underestimate the size of the industry, i.e. shipments, imports and exports. For example, skid mounted drilling rig packages which represent a significant level of industry shipments and exports have been frequently combined with that for earth drilling and mining equipment and are not included in oil and gas equipment data. Also excluded from industry data are mobile drilling and service rigs, drill bits, and some valves and pumps commonly used by the industry. A recent industry survey of manufacturers (April 1986) indicates that $60 million of rigs, not included in SIC 3192, were supplied to the domestic market, and $64 million exported during the year 1985. Also, industry import data do not take into account an estimated 50 to 60 rigs, some second hand, which were imported from the U.S.A. in 1985.

Adjusted data for 1985 are shown in the Fact Sheet and have been used for analysis of the industry.

For the last two to three years there has been substantial worldwide overcapacity in the oil and gas equipment sector, and competition in export markets is fierce. The recent decline in oil and gas prices has exacerbated a general slowdown which existed in the U.S. market as a result of declining oil consumption in the early 1980's. As a result there has been greatly increased competition from the U.S.A., where substantial amounts of new and used equipment are idle and are being offered at "fire sale" prices, sometimes at less than one quarter of the original price.

About 50 to 55 per cent of the total number of companies in this sector are foreign-owned, mostly subsidiaries of U.S. manufacturers. These firms account for approximately 55 per cent of total domestic shipments. Many of the Canadian-owned companies had their origin as service and repair shops and took advantage of a niche in the market to commence manufacturing. Some of these companies have since developed excellent technologies and during the recessionary period of the early 1980's, were able to enter overseas export markets where they achieved considerable success. However, many of these companies are inadequately financed and vulnerable to economic downturns.

In the domestic market, over 70 per cent of oil and gas field equipment is sold to drilling contractors and oil companies through supply houses. With few exceptions, the major supply houses in Canada are subsidiaries of supply houses in the U.S.A. These in turn are frequently related to major manufacturers of oil drilling equipment. Most supply houses regard their Canadian operations as an extension of their U.S. market and tend to centralize purchasing policies at their head offices in the U.S.A. As a result, a Canadian manufacturer wishing to market a product in Canada often must obtain the approval of the U.S. parent. This makes it difficult for many small Canadian firms to overcome established buyers' preferences for well known equipment of U.S. origin which exist with both drilling contractors and the major oil companies. The remainder (less than 30 per cent) of sales not handled by supply houses are made to original equipment manufacturers or directly to the oil companies.

In general, the supply houses are reluctant to carry products made by competing firms but will occasionally be asked to do so by drillers who have particular preferences. Most drilling contractors and oil companies, however, purchase on a "brand name" basis.

Performance

The oil and gas equipment manufacturing industry in Canada is relatively new. There was practically no production capability twenty years ago. At the present time the sector exports about 31 per cent of its production and supplies approximately half of the Canadian market. The equipment manufacturing sector is directly linked to the health of the overall petroleum industry, which historically is highly cyclical.

During the 1970's the domestic market experienced rapid growth. Exports increased modestly during this period, however import penetration of the Canadian market was substantial, averaging about 73 per cent. Sector shipments peaked in 1981, then experienced a significant downturn primarily as a result of the lowering of demand for crude oil.

Most of the companies which survived this economic downturn underwent considerable internal rationalization. Total employment decreased from 9,000 in 1981 to 5,500 in 1985 and shipments by approximately one third. During the past three years there have been a number of mergers and acquisitions, the majority of which were undertaken by foreign firms, mostly American.

While total industry shipments and imports increased in 1985 due to a substantial increase in domestic drilling activity, the sector is still operating at 50 per cent capacity with about one third of its total output dedicated to export markets. However, as a result of the substantial fall

in world oil prices, which occurred in November 1985, oil company revenues are down considerably. Consequently, expenditures on exploration and production have been reduced and many marginal wells have been shut in. This in turn, is adversely affecting both the manufacturing and service industries. By June 1986 many Alberta manufacturers had laid-off a significant number of employees or had commenced work-sharing programs.

2. STRENGTHS AND WEAKNESSES

Structural

The Canadian oilfield equipment manufacturing industry is substantially underdeveloped in comparison to that of the U.S.A. This is partially due to its newness, and also because in recent years some U.S. oilfield equipment companies have withheld technology transfer and consequently thwarted opportunities for expansion in Canada in order to protect U.S. facilities which were operating well under capacity.

However, the sector is strong in the areas of technology and product servicing, particularly with respect to specialized equipment developed to accommodate Canada's climatic and topographical conditions and its resource characteristics. Designed especially for heavy oil and sour gas applications, some Canadian developed equipment is well suited for export to other nations which have similar reserves such as India, China, and the Soviet Union.

The slowdown in the oil and gas industry, which started in 1982, resulted in a significant rationalization in the equipment manufacturing sector. As a result of downsizing and expenditures on automation, most firms have become more efficient. However, the industry's wage rates, material, and overhead costs are higher than those of its U.S. competitors. Furthermore, the sector does not benefit from the same economies of scale as do many of its international competitors who have world-scale facilities.

Over half of the firms in the sector are foreign-owned and most of these do not have export mandates. Furthermore, they do very little research and development in Canada. On the other hand many of these firms have access to the technology and financial strength of their parent companies.

Canadian-owned firms, in pursuing market niches have developed considerable expertise and technology. However, because many of these firms are relatively small in size, undercapitalized, and still carry heavy debt loads incurred during the early 1980's, they often lack the resources to carry out extensive R & D and export promotional programs. The financial vulnerability of many of these firms in time of industry downturn is the principal weakness of the Canadian oil and gas field equipment manufacturing industry.

Trade Related Factors

Almost all imports to Canada are from the U.S.A., and most of this equipment (approximately 70 per cent in terms of dollar value) enters Canada duty-free under end-use tariff items. Dutiable U.S. equipment is subject to rates varying from 2.8 to 9.9 per cent depending upon the products. Canadian equipment exported to the U.S.A. is dutiable at rates varying from 2.8 per cent to 8.5 per cent.

Some of the major operating oil companies (e.g. Esso Resources, Shell, Petro-Canada, and Nova) have formal purchasing policies to encourage the development of the Canadian industry and give preference to domestic suppliers who are competitive and whose products carry a high Canadian content. Some of the U.S.-owned oil companies and consulting firms established in Canada, have a similar preference for the purchase of U.S. manufactured equipment. This presents a major barrier to market entry for Canadian manufacturers.

State-owned oil companies, such as those of France, Italy, Brazil, and Mexico all have policies favouring their domestic equipment manufacturers. Other non-tariff barriers facing Canadian exporters are the U.S. Buy America Act which supports domestic sourcing for major projects where government funding is involved. The U.K. and Norway also have mechanisms in place which favour domestic producers.

Canada, through the Canada Oil and Gas Lands Administration (COGLA) has regulations to promote domestic sourcing. Newfoundland also has a mechanism for the procurement of services and goods produced within the province.

Technological Factors

Canada's oil and gas equipment manufacturers possess a high level of technical competency, and from a technological perspective the Canadian industry is on an equal footing with major international competitors.

Much of the mechanical oilfield equipment produced today is of a conventional design, not subject to sudden technological change. Nevertheless significant technological advances have been made in recent years by Canadian firms, not only in applied electronics but also in such areas as slant-hole drilling rigs, continuous sucker rods, and production choke valves.

The most promising area for future product development is in the field of drilling technologies using robotics, computerized equipment, control systems, and advanced telemetry. This will make field production more efficient and economical and will improve employee safety.

Some Canadian manufacturers utilize modern computer-numerically-controlled (CNC) machinery, and computer-aided-design (CAD) in their manufacturing operations. There is considerable scope for upgrading through further automation.

Other Factors

The low value of the Canadian dollar in recent years has helped to offset the country's high labour costs. Should the value of our dollar increase substantially, Canada's competitive position in both the export and domestic markets could be seriously impaired.

3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

There are no government programs directed specifically at the oil and gas equipment manufacturing industry. However, the sector does benefit indirectly from the following programs and policies intended to stimulate the oil and gas industry in general:

Four Federal-Provincial Accords have been signed with the energy-producing provinces during the past year aimed at stimulating job creation and energy self-sufficiency. They are: The Western Accord (with the Western Provinces), the Atlantic Accord (with Newfoundland and Labrador), the Agreement on Natural Gas Markets and Prices, and Canada's Energy Frontiers: A Framework for Investment and Jobs. In addition to the Accords a Federal-Provincial agreement signed with Nova Scotia in 1984, is presently being updated.

COGLA encourages the oil and gas industry to discover, develop, and ultimately to produce oil and gas on the Canada Lands. During 1984, for instance, exploration activity resulted in 11 new discoveries, more than double that of 1983. Also some 47 new exploration agreements were concluded under the requirements of COGLA.

The Government of Alberta has recently approved $200 million in short-term assistance, bringing to more than $700 million the total amount of financial assistance given to the oil and gas sector in the

first half of 1986. The assistance is in support of the drilling, well servicing, and geophysical sectors of the industry.

4. EVOLVING ENVIRONMENT

There is likely to be very little investment in plant expansion in the near future due to the depressed market demand for oil and gas equipment, and industry overcapacity. There could, however, be some investment in the area of machine tools to modernize, and to manufacture new products for the exploitation of tarsands and heavy oil. Most investment is expected to be made in Alberta.

If world oil prices return to a level above $20 U.S. per barrel, production of oil and gas could grow by as much as 20 per cent annually during the next 15 years, with tarsands and heavy oil development projects providing the principal thrust. If, on the other hand, oil prices continue at their present level the overall oil and gas industry, including the manufacturing sector would continue to contract, resulting in more layoffs and failures. Depressed oil prices will result in a decrease in export sales as the international market is in the same situation as that of Canada.

A major industrial development opportunity for the Canadian oilfield equipment manufacturing sector lies in overseas markets in India, China, and the Soviet Union where there is a growing interest in Canadian-developed technologies for sour gas and heavy oil treatment.

5. COMPETITIVE ASSESSMENT

The industry is generally not cost competitive, however this factor has been largely offset by the low value of the Canadian dollar. Should the dollar increase substantially in value, Canadian manufacturers will find their ability to compete in both domestic and export markets reduced accordingly. Also, with large inventories of new and used equipment idle in the U.S., and now available at liquidation prices, there will be increasing competitive pressure on Canadian producers in the near future.

Some companies have developed a niche in the market with specialized equipment and application technology developed to meet Canada's climatic and topographical conditions, and resource characteristics. These companies have been successful in selling their products in both the U.S.A. and overseas markets which have similar characteristics. Canadian firms are recognized as world leaders in sour gas and heavy oil technology.

The most promising firms are those which have the experience and technology to develop and exploit a specialized market niche, as well as those producing small, custom-design process plants where there are single or short production runs. On the other hand, companies producing standard mass-produced equipment competing against firms with greater economies of scale will undoubtedly experience difficulty.

Quality of product notwithstanding, brand preference is frequently detrimental to smaller, lesser known Canadian products.

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M M Bourgon

Assistant Deputy Minister
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Date: 9 July 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

FACT SHEET

NAME OF SECTOR: Oil and Gas Equipment SIC(s) COVERED: Ex. of 3192 *

1. PRINCIPAL STATISTICS

	1973	1980	1981	1982	1983	1984	1985	Adj.** 1985
Establishments							300	
Employment							5,500	
Shipments ($ M)	20	316	525	472	276	327	377	650

2. TRADE STATISTICS

	1973	1980	1981	1982	1983	1984	1985	1985**
Exports ($ M)	8	34	112	115	46	50	42	200
Domestic Shipments ($ M)***	12	282	413	357	231	277	335	450
Imports ($ M)	33	555	451	409	292	269	375	450
Canadian Market ($ M)***	45	837	864	767	522	546	710	900
Exports as % of Shipments	39	11	21	24	17	15	11	31
Imports as % of Domestic Market	74	66	52	53	56	49	53	50

Source of imports (%)

	U.S.	E.E.C.	ASIA	OTHERS
1981	92	4	2	2
1982	87	6	6	1
1983	90	4	5	1
1984	95	4	-	1

Destination of exports (%)

	U.S.	E.E.C.	ASIA	OTHERS
1981	79	4	3	14
1982	50	6	15	29
1983	39	7	17	37
1984	42	10	15	33

3. REGIONAL DISTRIBUTION - **Information based on sector data.**

	Québec	Ontario	Alberta	Others
Establishments - % of total	5	10	80	5
Employment - % of total	5	15	75	5
Shipments - % of total	5	10	80	5

4. MAJOR FIRMS

Name	Ownership	Location of Major Plants
Dreco Energy Services	Cdn.	Edmonton
National Supply Ltd.	U.S.	Red Deer
Smith International	U.S.	Edmonton
Legrand Industries Ltd.	Cdn.	Calgary
Canadian Fracmaster	Cdn./U.K.	Calgary
Porta-Test Systems Ltd.	Cdn.	Edmonton
Stream-Flo Industries Ltd.	Cdn.	Edmonton
Western Rock Bit	Cdn.	Calgary

*SIC's on 1980 basis
**Adjusted data per page 1 footnote
***May not add due to rounding

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

COMPETITIVENESS PROFILE
OILSEED CRUSHING INDUSTRY

1. STRUCTURE AND PERFORMANCE

a) Structure

The oilseed crushing industry (SIC 106) processes oilseeds into crude vegetable oil and protein meal. The oil component is subsequently refined and further processed to produce, for example, salad oils and margarines. Refined vegetable oil is utilized as an ingredient in a wide range of other food products. Protein meal is incorporated into animal feed.

The two major oilseeds processed in Canada are canola (improved varieties of rapeseed) and soybeans. Relatively small quantities of flaxseed and sunflowerseed are also processed domestically. Canadian processors utilize virtually all of the domestic soybean crop and approximately 40-50% of the canola production. Most of the rest of the canola crop is exported to Japan where crushers are able to pay a premium for the seed due to their tariff structure favoring the importation of seed.

In the world context, Canada is by no means a major producer of oilseeds. Canada produces approximately 1% and 19% of the world's production of soybeans and canola (rapeseed) and crushes 1% and 8% respectively. Internationally, oilseeds and oilseed products are generally subject to considerable government involvement in terms of subsidies, tariffs, import controls, etc.

Canola is mainly crushed for its oil because its seed yields about 39% oil and 59% meal. Soybeans are crushed more for the meal since they yield about 78% meal and 18% oil. The profitability of crushers depends largely on the difference between the price of oil and meal and the cost of seed. Due to the variability of product prices, the market is sometimes "oil-driven" and at other times "meal-driven".

Canadian production of oilseeds is very regionalized. Canola is grown and processed mainly in western Canada, whereas soybeans are mainly grown and processed in southwestern Ontario. This is slowly changing as a result of plant breeding efforts. Canola is increasingly grown in eastern Canada and soybeans can now be grown commercially outside of Ontario.

Western crushers produce for their regional market as well as the eastern Canadian and export markets. Ontario crushers focus mainly on the domestic market east of Manitoba.

The Canadian oilseed crushing industry comprises 9 companies - 6 in western Canada and 3 in Ontario. Together they employ over 1300 people. Approximately 500 are employed in the western crushing industry. Four crushers have some forward linkages as they also further refine part of their output. Statistics Canada therefore includes some refined oil within the total output of oilseed crushers. However the bulk of the crude oils would be refined in establishments separate from the crushing plants.

In 1983, industry shipments were valued at $834 million of which 23% was for crude canola oil, 13% for other crude oils mainly soybean, 13% for refined oils, 44% for protein meal and 7% for other products including lecithin and seed hulls and screenings. The relative proportions of canola and soybean crushings vary from year to year.

Exports of oilseed products consist mainly of canola oil and canola meal. Total exports in 1985 were $279 million, of which canola oil accounted for $213 million and canola meal, $40 million. Canada is a net exporter of oil but a net importer of meal. Soybean meal is our

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major oilseed import item accounting for $144 out of $248 million of oilseed product imports in 1985. About half of the soybean meal goes to eastern Canada and half to western Canada. Other imported products include palm oil, olive oil and various other edible oils.

Major Canadian canola oil markets are India and Algeria, while the major markets for canola meal are the USA, Norway and South Korea.

Major competititors in the international oilseed products market include the USA, the EEC, Brazil, Argentina, and Malaysia. Canola and soybean oil compete in the international market with other oils such as palm, peanut and cottonseed. For many uses competition is mainly on the basis of price.

b) Performance

Employment in the industry has been declining as plants continue to modernize by incorporating labor and energy saving technologies and more efficient oil extraction procedures.

Profitability is very cyclical and the industry has recently experienced a period of major losses. Crushing margins, an indicator of profitability, tend to fluctuate dramatically due to volatile product or input prices.

The Canadian oilseed crushing industry is affected by the international demand for and supply of canola and soybeans as well as other competing oilseeds. Similarly, the price of vegetable protein meals and vegetable oil is also determined on the international commodity markets. By and large, products within these categories are substitutable and price is a major determinant of market share. Other major exporting countries offer export subsidies or concessionary financing which keep international market prices low. Although crushing operations at these prices may not be profitable they help offset the plants' fixed costs, and Canadian plants frequently keep operating, even if average crushing margins are negative.

Canola oil and meal have improved in quality due to plant breeding work and over the past decade have gained a significantly larger share of the domestic oil and meal markets. Canola oil in 1984 accounted for about 55% of the vegetable oil market compared to 29% for soybean oil. Relative shares were about 33% and 36% respectively in 1975. Other vegetable oils e.g. corn, sunflower, and peanut oil made up the remainder. Canola meal represents about 25% of the vegetable protein meal market and soybean meal for the balance. Ten years ago the ratio was about 18% to 82%.

Oilseed product markets, however, have not met expectations partly because the shift from dairy fats (butter) to vegetable oils (margarine) has slowed and international production of other highly competitive oils has increased. The latter are frequently highly subsidized in the international market.

2. STRENGTHS AND WEAKNESSES

a) Structural

With approximately 65-75% of the oil produced being used as an intermediate product in the domestic market, the competitiveness and viability of the refining and further processing industries are important factors affecting the crushers. At present our refineries are generally smaller than those in the USA and less specialized, but the Canadian industry is currently going through a rationalization process.

Recurring shortages of seed for crushing, due to climatic considerations or farmers' planting and sales decisions are a major problem which has plagued the canola industry in particular. This has put domestic canola crushers at a major disadvantage in developing and

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maintaining export markets as they must compete with Japanese crushers for Canadian canola seed. The latter are in a position to pay a premium for Canadian seed as a result of the high level of Japanese tariff protection for oilseed products.

The domestic industry as a whole has been operating at about 65-80% of capacity. Government industrial development assistance and an overestimation of market potential are the two main factors which led to this situation. The total number of plants has not changed significantly since 1980 but there has been a substantial increase in plant capacity. The average size was estimated to have nearly doubled in eastern Canada and tripled in western Canada during 1970-1980. The eastern plants, however, remain on average at least double the size of western plants. Plant capacity ranges from 50 tonnes per day to 1,800 tonnes or more.

While the large Canadian crushing plants are as efficient as comparable U.S. plants, many of the latter have a size advantage. A few large U.S. soybean crushing plants have a capacity of around 3,000 tonnes per day. Canadian canola crushing plants, however, are among the largest in the world.

The western canola industry is affected by regulated freight rates which apply under the Western Grain Transportation Act to certain grain and grain products moved to export points in western Canada and to Thunder Bay/Armstrong in Ontario.

Western crushers also receive at present concessionary rates, known as minimum compensatory rates (MCRs), on products moving from Thunder Bay to eastern Canada. These rates give a competitive advantage to western crushers in the eastern domestic market. As a result Ontario crushers face lower prices and have a lower market share, than would otherwise be the case. As MCRs move upwards with general rate increases shipments from western crushers to the eastern market may be reduced.

Although soybean meal and canola meal are fairly substitutable, nutritional considerations and user preferences for soya meal limit the level of canola meal used in animal rations in Canada. The western Canadian soybean meal market (200,000 tonnes) therefore remains strong and is supplied from the USA primarily because of transportation considerations. In eastern Canada, local crushing capacity is more than adequate to meet soya meal requirements of about 200,000 tonnes. However, crushings at this level would result in surplus soybean oil which would have to be disposed of on the international market at uneconomic prices. As a result, eastern crushers deliberately limit their throughput and the shortfall in soybean meal is imported.

b) Trade Related Factors

Crude and refined vegetable oils are subject to considerable protection measures and tariff escalation world-wide to protect local crushers and refiners and in some cases growers as well. In Canada, tariffs are applied to crude vegetable oils and refined oils. By 1987, these MFN tariffs generally will be reduced to 7.5% and 15% respectively, although the tariffs on canola (rapeseed) oil will be 10% and 17.5%. Raw seed and meals can enter Canada duty free. Preferential tariff rates are also applied to imports of oils (e.g. palm and coconut) from developing countries. An import prohibition on margarine also benefits the domestic refiners and indirectly the crushers.

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The USA's tariffs range from 4.0% on crude or refined corn oil to 22.5% for crude or refined soybean oil. The tariff on canola oil will be reduced to 7.5%. Meal tariffs range from 0.12¢ to 0.3¢/lb. In some countries there is an outright prohibition on canola products (e.g. South Korea - canola oil). Other countries employ restrictive import licenses (Morocco - refined oils) state trading agencies (Algeria) or high tariffs (Japan on vegetable oil: 17 - 28 yen/kg.).

Although Canada exports approximately 25-35% of its vegetable oil production, export expansion will be limited because of (1) weak export markets, (2) currency exchange rates favouring other exporters, (3) programs of self-sufficiency by traditional importers, (4) aggressive export policies by other countries, e.g., concessional export financing, (5) high tariffs (e.g. Japan) and nontariff barriers (e.g. import ban in South Korea) which favor the importation of oilseeds rather than processed products and (6) frequently large supply availabilities in other exporting countries.

At present, exports of canola meal and canola oil to the USA through Vancouver or Thunder Bay also benefit from the subsidized freight rates under the WGTA. These growing exports face the threat of U.S. countervailing duties.

The EEC'S production of rapeseed is increasing and this former importer could become a major contender for Canadian canola markets. Government subsidies to European producers and crushers combined with export restitutions could make them competitive in world markets.

The use of export credit programs by the EEC and the USA is increasing as each of them compete for export market share. Their intense competition is a major element in determining export opportunities. Canada's Export Development Corporation only recently implemented a Medium Term Credit Facility for Bulk Agricultural Products to provide export credit insurance to cover sales of vegetable oil and meal for terms of up to three years on a matching basis.

Increasing production in developing countries, e.g., Brazil and Argentina (soybeans) and Malaysia (palm oil) also increases competition in world markets and reduces marketing opportunities for Canadian vegetable oils.

c) Technological Factors

Most of the crushing and refining technology has been developed abroad. The latest technology is incorporated as Canadian plants are built or renovated.

A major development in the mid 1970's was the development of improved rapeseed varieties (referred to as canola) which made this crop more acceptable as a source of edible oil and protein meal in Canada. The market shares of canola increased at the expense of soybeans.

Plant breeders have also developed varieties of canola and soybeans which are more adaptable to a wider range of Canadian climatic conditions, thus broadening the resource base. This development will also slowly reduce the regionalization of the oilseeed industry as canola is adapted to eastern Canadian conditions and soybeans to the Prairies and the Maritimes.

d) Other Factors

Current exchange rates vis-à-vis the USA favor Canadian exporters in that market, however, other factors such as export subsidies, credit programs and import barriers have mitigated the effect of exchange rate changes which would have encouraged increased exports elsewhere.

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3. FEDERAL AND PROVINCIAL PROGRAMS AND POLICIES

The government has assisted the industry at various levels including research, plant establishment, marketing, transportation and regulation. Federal research played a major role in establishing the oilseed industry in Canada through the development of suitable varieties for the Canadian climate and the development of improved cultivars (e.g. canola). Agriculture Canada and External Affairs continue to support research through their various programs. Provincial government food processing development centres and the POS Pilot Plant Corporation provide research facilities and expertise for product and processing development and testing.

Many of the processing plants, particularly in western Canada, have received either federal or provincial assistance for establishment, modernization or expansion. Export marketing assistance has been provided under the Promotional Projects Program and the Program for Export Market Development. Federal officials have also actively negotiated reductions in foreign tariff and nontariff barriers.

Concessionary freight rates have already been described as a benefit to western crushers.

4. EVOLVING ENVIRONMENT

The overall outlook for world demand for vegetable oils and meals is for a continued oversupply situation in the short term. The potential does exist however for an increase in demand if the world economy recovers momentum.

Exports to the USA and selected third world countries of Canadian canola oil and canola-containing products could be expanded in the short run. On January 28, 1985 the USA officially granted GRAS (generally recognized as safe) status to canola oil, permitting its use for human consumption. Some of our current exports of soybean oil containing products, however, could be displaced to the detriment of the Ontario soybean industry. In the long run, the USA is expected to increase its production of canola and to use some of its underutilized crushing capacity to produce canola products.

If the expansion of rapeseed (canola) production in Europe continues, it could have a major negative impact on the marketability of Canadian oilseeds and products given the EEC's policy of subsidizing production and exports. Similarly the expansion of rapeseed production in China could lead to lost sales to Japan.

Technological developments will mean that oilseeds will be increasingly grown outside of the traditional Canadian production areas. This will lead to pressure for the establishment of processing facilities in these new areas. Crushing facilities do not have to be located in the immediate proximity of the production area, but the closer farmers are to the crushers the higher the net return to the growers.

Having just gone through a number of years of major financial losses, the majority of the existing firms would not be willing to undertake major investments on their own at this time. Any additional investment in large part will be for productivity improvements which at the processing level will include energy and labor cost savings.

5. COMPETITIVENESS ASSESSMENT

The competitiveness of the Canadian crushing industry must be viewed in the context of widespread policies of assistance worldwide to local growers, crushers and refiners, and a resultant oversupply situation in crude and refined vegetable oils. While the Canadian crushing industry is cost competitive in producing crude oil and vegetable meal for the domestic market, it is becoming less and less competitive in the export market in the face of foreign subsidy programs.

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This situation curtails export opportunities, reduces crushers' returns and contributes to excess crushing capacity. A recent Task Force Report commissioned by the western crushers and presented to the federal and provincial governments confirms that the western industry will require restructuring and rationalization to remain viable. Western crushers because of their dependence on export markets are particularly vulnerable.

It should also be recognized that the domestic refining industry purchases 65-75% of the crushers' output. Although the Canadian refining industry is presently going through a rationalization process, it is still generally considered uncompetitive vis-à-vis the USA.

Over time the premium payable for raw canola seed by Canadian crushers is expected to be reduced as Japan diversifies its seed sources and the USA begins growing significant quantities of canola. Lower seed costs could lead to improved canola crushing margins and profitability.

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DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

for Assistant Deputy Minister
Consumer Goods, Services and Resource Processing

Date: JUN JUIN 17 1986

DEPARTMENT OF REGIONAL INDUSTRIAL EXPANSION

June 13, 1986

FACT SHEET

NAME OF SECTOR: OILSEED CRUSHING INDUSTRY **SIC(s) COVERED:** 1061 (1980)

1. PRINCIPAL STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Establishments	10*	10	11	12	10	10	10
Employment	750	1460	1515	1504	1342	n.a.	n.a.
Shipments ($ millions)	136	739	829	722	834	n.a.	n.a.
Gross Domestic Product** (Constant 1971-$ millions)	468.5	621.2	655.4	632.0	653.7	n.a.	n.a.
Investment ($ millions)	6.2	17.6	42.2	53.0	21.6	13.6	22.8E
Profits After Tax ($ millions)***	68.9	169.9	183.5	161.2	220.5	n.a.	n.a.
(% of income)	4.5	3.1	2.9	2.5	3.2	n.a.	n.a.

* includes small linseed crusher in Alberta not included in subsequent years
** includes all processors in SIC 108 (1970)
*** includes other food manufacturing industries in SIC 131, 133, 135, 139 (1960)

2. TRADE STATISTICS

	1971	1980	1981	1982	1983	1984	1985
Export ($ millions)	32	200	202	152	121	258	274
Domestic Shipments ($ millions)	104	539	627	570	713	n.a.	n.a.
Imports ($ millions)[1]	53	195	193	173	205	286	248
Canadian Market ($ millions)	157E	734E	820E	743E	918E	n.a.	n.a.
Exports as % of Shipments	24	27	24	21	15	n.a.	n.a.
Imports as % of Domestic Market	34	27	24	23	22	n.a.	n.a.
Canadian Share of International Market	--	--	--	--	--	--	--

[1] overstated relative to "shipments" because of the inclusion of further processed products which are not included in the "shipments" statistics

		U.S.	WESTERN EUROPE	ASIA	OTHERS
			estimated		
Imports - % of Total	1981	80	6	13	1
	1982	81	6	12	1
	1983	80	6	13	1
	1984	80	5	14	1

		U.S.	WESTERN EUROPE	ASIA	OTHERS
			estimated		
Exports - % of Total	1981	9	34	37	20
	1982	10	23	20	47
	1983	21	14	37	28
	1984	14	11	55	20

3. REGIONAL DISTRIBUTION - Average over the last 3 years

	Atlantic	Québec	Ontario	Prairies	B.C.
Establishments - % of total	--	--	27	73	--
Employment - % of total	--	--	31	69	--
Shipments - % of total	--	--	49	51	--

4. MAJOR FIRMS

	Name	Ownership	Location of Major Plants	Concentration (% of production capacity)
1.	CSP Foods Ltd.	Canadian	3 in Sask. & Man.	19%
2.	Canadian Vegetable Oil Processing Ltd.	Canadian	Hamilton, Ont.	19%
3.	Maple Leaf Monarch Co.	Foreign	Windsor, Ont.	15%
4.	Victory Soya Mills Ltd.	Foreign	Toronto, Ont.	13%

E - estimate