INDUSTRY PROFILE

Industry, Science and Technology Canada
Industrie, Sciences et Technologie Canada

Mining Equipment

Canada

INDUSTRY PROFILE

MINING EQUIPMENT

1988

FOREWORD

In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to survival and growth. This Industry Profile is one of a series of papers which assess, in a summary form, the current competitiveness of Canada's industrial sectors, taking into account technological and other key factors, and changes anticipated under the Canada-U.S. Free Trade Agreement. Industry participants were consulted in the preparation of the papers.

The series is being published as steps are being taken to create the new Department of Industry, Science and Technology from the consolidation of the Department of Regional Industrial Expansion and the Ministry of State for Science and Technology. It is my intention that the series will be updated on a regular basis and continue to be a product of the new department. I sincerely hope that these profiles will be informative to those interested in Canadian industrial development and serve as a basis for discussion of industrial trends, prospects and strategic directions.

Robert de Cotret

Minister

Canada

1. Structure and Performance

Structure

The mining equipment industry consists of manufacturers of equipment necessary for the exploration, development and operation of mines, and of equipment to concentrate, refine and smelt the mined material. There is a wide variety of products manufactured in Canada, including exploration and geophysical equipment, drilling rigs, underground and open-pit mining equipment, ore concentrating and smelting equipment and coal preparation equipment. As a major mining nation, Canada has shown leadership in high-technology geological exploration, reduced labour mining methods and high-efficiency smelting techniques.

Shipments of Canadian manufactured mining equipment were $449 million in 1986, of which 73 percent ($327 million) were exported. Exports were principally to the United States (34 percent), and South America (40 percent). Canadian exports compete mainly with American, European and Japanese equipment. In 1986, imports into Canada amounted to $370 million, representing 75 percent of the Canadian domestic market, which is estimated at $491 million. The principal source of imports is the United States (70 percent), with most of the remainder coming from Europe and Japan.

Canada manufactures a complete range of mining products — the only exceptions are blast-hole drills larger than nine inches (23 cm), and power shovels larger than 15 cubic yards (12 m^3). These products have not been imported in recent years as they are required only for specific projects such as the tar sands exploitation or the development of large open-pit mines. All other mining equipment imports compete with equipment manufactured in Canada. Domestically, the mining equipment industry is heavily influenced by foreign governments' export assistance programs. These provide financing to foreign manufacturers at a lower cost than is available from Canadian sources.

The Canadian industry consists of approximately 185 firms located primarily in Ontario, Quebec, British Columbia and Nova Scotia. They provide an estimated 8200 direct jobs, of which 78 percent are located in Ontario and Quebec. Most of the equipment companies have fewer than 50 employees — only eight companies have more than 200.

Companies supplying equipment and services to the Canadian mining industry can be divided into two groups.

The first group comprises firms that have no product or market limitation. They represent about 20 percent of the Canadian market and account for all domestic exports. Of these companies, more than 50 percent are Canadian owned and those that are foreign owned are usually subsidiaries of companies whose primary business is not mining equipment.

The second group essentially consists of branch warehouse operations, primarily involving pre-sale assembly, and are limited to selling the parent companies' products in Canada. These companies only export from Canada when financing is tied to supply from Canada, or when Export Development Corporation (EDC) financing provides a net price advantage over sourcing the equipment from the foreign parent.

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*Imports, Exports and Domestic Shipments 1986**

** Estimate*

The principal source of imports is the United States. Imports are either complete pieces of equipment or components such as diesel engines, power train parts, hydraulic valves and pumps. The value of components is not reflected in this profile and would increase the value of imports by an estimated $40 million a year.

In the design, production and sale of mining equipment, the Canadian industry is closely linked to mining engineering firms that establish large project equipment specifications, and to mining companies which use the equipment and develop new processes. Domestic and export sales are generated because of these links.

Performance

Imports of mining equipment as a share of the domestic market have increased from 58 percent in 1973 to 75 percent in 1986, or, in current dollar terms, from $96 million in 1973 to $370 million in 1986. This represents a real growth rate of approximately two percent per annum, whereas the Canadian mining equipment market has remained virtually unchanged over the same period.

The collapse in commodity prices in 1982 severely affected the Canadian mining equipment industry. It is expected, however, that the recovery since late 1987 will stimulate equipment sales, particularly in the export market.

Domestic manufacturers have offset their declining share of the Canadian market by increasing exports, particularly to Latin America. Exports increased from $24 million in 1973, to $327 million in 1986 (in current dollars), a real average annual growth rate of 9.4 percent. Although the export of all mining equipment has recovered strongly after the recession of 1981-82, the recovery in drilling equipment has been most notable — approximately 80 percent of Canadian production is now exported. Continuing access to competitive export financing from EDC is critical to success in overseas markets.

2. Strengths and Weaknesses

Structural Factors

A major problem faced by the Canadian mining equipment industry in the domestic market is its inability to arrange competitive financing packages for Canadian end-users — financing which would match the lower rates offered by foreign manufacturers. Canadian interest rates tend to be higher than those in other Organization for Economic Co-operation and Development (OECD) countries. Many foreign manufacturers also benefit from attractive export assistance programs offered by their governments. In addition, about 87 percent of imported mining equipment enjoys duty-free entry into Canada. These disadvantages facing Canadian mining equipment manufacturers render them uncompetitive in the Canadian market in many instances.

There is concern that the highly labour-intensive element will put additional pressure on the industry as competition from low-cost, newly industrialized countries increases. For example, Brazil is now competitive both in Latin America and elsewhere. The emergence of sophisticated commercial infrastructures, coupled with traditional low wages, will result in increased competition in mature equipment.

A strength of the Canadian mining equipment industry is its ability to respond to the high degree of product innovation demanded by the mining industry. Because of the custom-built nature of mining equipment, flexibility is more important than economy of scale. In fact, the number of units made at one time tends to be very small. There is a small, but influential group of mining firms in Canada that is a strong supporter of Canadian mining equipment manufacturers. This relationship provides the principal avenue for the development and improvement of existing equipment. However, most mining firms in Canada do not share in the development of mining equipment, preferring instead to buy mature technology at the best international terms.

The dominance of foreign-owned (principally American) engineer/procure/construct (EPC) firms in large-scale mining projects, and the relative lack of success of competing Canadian EPC firms, has had a negative impact on the Canadian mining equipment industry, particularly internationally. EPC firms generally favour equipment manufactured in their own country because of previous alliances and familiarity.

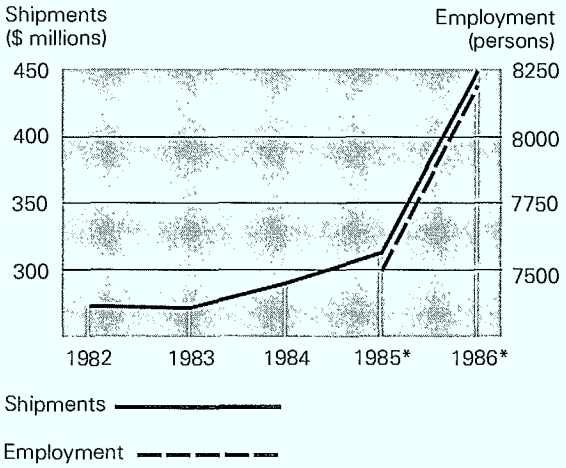
Trade-related Factors

Although the United States remains a large export market for Canadian mining equipment, substantial gains are being made in South America, Australia, the Pacific Rim, Central Africa and the Middle East. The reasons for these gains are the relative lack of trade barriers and the availability of EDC financing at competitive rates. However, the international debt and the inability of some traditional customers to meet their financial obligations have led to the withdrawal of EDC financing and the erosion of sales to these markets.

In most developing countries tariffs do not affect the competitiveness of Canadian manufacturers, since they compete on an equal basis with other foreign manufacturers. This is true in countries such as Peru, Chile, Mexico, Colombia, Zaire and Ghana where Canada has achieved a level of success. General import duties can vary from a low of 2.9 percent in developed countries like the United States to 30 to 60 percent in developing countries such as Peru. Most countries are in the 30- to 40-percent range.

Canadian-manufactured mining equipment competes in the U.S. market because the import tariff averages 2.9 percent and there are no non-tariff barriers (NTBs). However, Canadian manufacturers have distinct financial disadvantages compared to European manufacturers — both in Canada and in Europe, because of tariff barriers (about five percent) as well as some NTBs. The NTBs include the required use of components sourced from the buying country and, in many countries, preferential buying practices. The latter is a result of the state ownership of mines. There are new situations in which state governments purchase mines in other countries and then impose their own equipment on them. These factors combine to virtually exclude Canadian mining equipment and services from the European market.

Eighty-seven percent of imported mining equipment entered Canada duty-free in 1985, despite the fact that all the equipment was essentially available from Canadian sources. Canada's competitors in mining equipment have the advantages of tariff protection and NTBs in their domestic market. At the same time, they can export into Canada duty-free, aided by concessional export financing and other export incentives. For the small percentage (13 percent) of mining end-use equipment that has been dutiable, the General Preferential Tariff (GPT) is 2.5 percent and the Most Favoured Nation (MFN) tariff is five percent.



*Total Shipments and Employment**

** ISTC estimate*

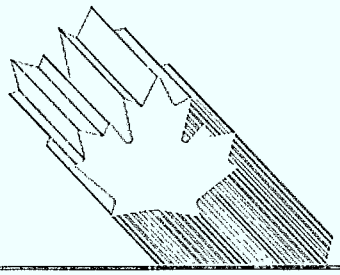
The Canada-U.S. Free Trade Agreement (FTA) will eliminate all remaining bilateral tariffs in five years beginning January 1, 1989. Other elements of the FTA are of less importance to the mining equipment industry.

Technological Factors

The Canadian mining equipment industry is technologically competitive worldwide. Thus far, the industry has employed relatively mature technologies, with limited incorporation of robotics and micro-electronics in mobile mining equipment. The large, stationary, above-ground processes such as milling, concentrating and smelting are generally computer controlled, as are some stationary mine processes such as crushing, hoisting, mine air, water and production recording. Canadian-owned equipment firms usually develop technology based on co-operation with the small group of mines that are supportive of Canadian equipment. It is this select group that is developing new mining methods and creating the need for new equipment designs and concepts.

Although the mining equipment industry tailors its research and development (R&D) efforts to users' requirements, very few manufacturing companies use computer-aided design (CAD) and computer-aided manufacturing (CAM) to shorten their delivery time. There is, however, increasing use of computer-controlled cutting and machining equipment.

The future prospects of the mining equipment industry in Canada depend primarily on improving export opportunities. Efforts must therefore be made towards securing a larger share of the market in those countries where Canada can compete on an equal basis — the United States, Peru, Chile, Mexico, Colombia, Zambia, Zaire, Ghana, Indonesia and the People's Republic of China.



3. Evolving Environment

The future of the mining equipment industry is linked closely to the health of the world mining industry as well as to commodity prices. Worldwide, the industry is forecast to grow one to three percent per year in real terms.

A major issue that Canadian mining equipment manufacturers will have to face is growing protectionism in Europe and Brazil. In addition, the preferential tariff status in Australia for drilling equipment and heavy fabricated mining equipment has been changed — increasing tariff rates from nine to 15 percent. Competition from countries with emerging mining equipment industries (Brazil, the Republic of Korea, Australia and South Africa) could lead to increased competition, necessitating incorporation of advanced technologies into manufacturing methods and equipment. These improvements will be needed to compete with newly industrialized countries that have lower labour costs and attractive exchange rates.

Significant changes in mining practices are creating new equipment requirements, which include the increased use of underground bulk-mining methods. Other technologies, such as remote-controlled equipment and computer-controlled processes, are being developed. These new processes and the needed equipment are being developed in Canada and are available from Canadian sources. In the export market, there is an opportunity to procure designs to manufacture equipment such as large power shovels (over 15 cubic yards or 12 m^3). Domestic opportunities include acquiring manufacturing licences for hydraulic components and machine components such as hydraulic drifter drills and hydraulic breakers, or for the development of new designs.

The removal of import tariffs as a result of the FTA will not have a significant impact on the industry because most U.S.-manufactured mining equipment already enters Canada duty-free. There will, however, be a small advantage in the removal of duty on Canadian mining equipment sold in the United States. The elimination of the current 2.9 percent duty over the next five years will make Canadian goods slightly more competitive in the United States.

4. Competitiveness Assessment

The Canadian mining equipment industry competes successfully in the international marketplace, with the exception of certain markets such as Europe and Brazil, which are inaccessible because of tariff and NTBs.

Canadian manufacturers are not competitive domestically, because of limited effective tariff protection and no access to competitive financing. It is reasonable, therefore, to assume that imports will continue to capture a large share of the Canadian market. This makes the export market — in which innovation and technological advancement have a significant effect — even more important.

Canada is currently a leader in the high-tech areas of exploration, in less labour-intensive mining methods and in high-efficiency smelting techniques. New equipment and process development, coupled with aggressive marketing — building on existing links with mining and engineering companies — should allow Canadian manufacturers to be competitive and expand their share of world markets as well as capture a greater share of the domestic market.

The competitiveness of the industry should not be significantly affected by the implementation of the FTA.

For further information concerning the subject matter contained in this profile, contact:

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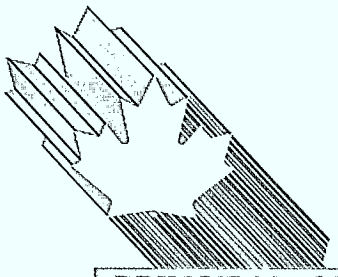

MINING EQUIPMENT

PRINCIPAL STATISTICS

SIC(s) COVERED: 3192 (1980)

	1973	1982	1983	1984	1985e	1986e
Establishments	N/A	N/A	N/A	N/A	170	185
Employment	N/A	N/A	N/A	N/A	7 500	8 200
Shipments ($ millions)	93	249	248	285	317	449

TRADE STATISTICS

	1973	1982	1983	1984	1985e	1986e
Exports ($ millions)	24	188	141	198	232	327
Domestic shipments ($ millions)	69	61	107	87	85	122
Imports ($ millions)	96	314	263	332	404	369
Canadian market ($ millions)	165	375	370	419	489	491
Exports as % of shipments	26	76	57	69	73	73
Imports as % of domestic market	58	84	71	79	82	75

Source of imports (% of total value)		U.S.	E.C.	Asia	Others
	1982	72	13	1	14
	1983	72	13	1	14
	1984	72	14	1	13
	1985	71	15	1	13
	1986	70	15	2	13

Destination of exports* (% of total value)		U.S.	E.C.	Asia	Others**
	1982	51	4	12	33
	1983	29	5	27	39
	1984	38	8	15	39
	1985	35	8	17	40
	1986	34	9	17	40

(continued)

REGIONAL DISTRIBUTION — Average over the last 3 years

	Atlantic	Quebec	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

MAJOR FIRMS

Name	Ownership	Location of Major Plants
Eimco Jarvis Clark	American	Burlington, Ontario
JKS Boyles International Inc.	Canadian	Toronto, Ontario
Boart Canada Inc.	South African	Mississauga, Ontario
Longyear Canada Inc.	South African	North Bay, Ontario
Kenroc Tools Corporation Inc.	Swedish	North Bay, Ontaro
J.S. Redpath Ltd.	Canadian	North Bay, Ontario
MacIsaac Mining and Tunnelling Co.	Canadian	Sudbury, Ontario
John T. Hepburn Limited	Canadian	Mississauga, Ontario
Dynatec Mining Ltd.	Canadian	Richmond Hill, Ontario
Dresser Canada Inc., Haulpak Division	American	Paris, Ontario

e ISTC estimate
N/A Not available
* The value of exports to "other" countries is understated. This is believed to be because most of those shipments are via the United States.
** Principally Latin America and Australia.

Note: Statistics Canada data have been used in the preparation of this profile.

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