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INDUSTRY PROFILE

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

Plastics Products

Canada

INDUSTRY PROFILE

PLASTICS PRODUCTS

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 plastics products industry is composed of establishments transforming synthetic resins and plastics materials into a wide range of finished products, parts for other manufactured goods, and intermediate products consisting of shapes and forms made by a variety of fabricating methods. It is estimated that the industry consumes more than half the output of the domestic synthetic resins sector and depends to a great degree on its technical assistance. Appendix I describes the processing sector and some of the products produced.

The Canadian industry shipped goods valued in excess of $5 billion in 1986, produced in 1180 establishments employing approximately 48 000. These figures do not include "in-house" or captive production by companies such as General Motors of Canada, Northern Telecom, Samsonite Luggage and other large establishments which are classified in other industry sectors. A study by the Society of the Plastics Industry of Canada, a major trade association, suggests that if captive production were included, these figures could be as high as $8 billion in shipments, 2200 establishments and approximately 90 000 employees. Establishments are concentrated in areas of densest population. The major concentration is in south central Ontario followed by the Montréal and the Eastern Township areas and then to a lesser extent, the western provinces.

In 1986, 22 percent of the industry's establishments accounted for 71 percent of the value of shipments. Two-thirds of these firms were Canadian owned. In the remaining 78 percent, most companies employed 50 or less people and tended to concentrate manufacturing efforts on specific processes and products. Some domestically owned companies have become dominant in specialized fields e.g., Canron Inc. and Scepter Manufacturing Co. Ltd., in plastic pipe; Magna International in plastic auto parts; Consumers Packaging Inc. and Twinpak Inc., in packaging systems; and Canadian General Tower in calendered vinyl sheeting used, for example, as swimming pool liners.

Imports of plastics products in 1986 amounted to $1.193 billion, of which 80 percent was from the United States and 10 percent from the European Community (E.C.). The largest import category was plastic film and sheet (37 percent), followed by broad categories of fabricated materials and end products which included a variety of products such as appliance parts, moulded parts to be incorporated into electronic equipment, interplant transfers of parts for further assembly in Canada and many products not manufactured in Canada for reasons of production scale.

During the same period, exports of plastics products were valued at $0.726 billion. Ninety-one percent of Canada's external trade in plastics products was with the United States, three percent with the E.C. and the balance distributed broadly among other world regions. The largest volume was of fabricated materials and end products, e.g., specialized products such as packaging films, large-diameter plastic pipes and items of a proprietary nature or having some unique feature that would facilitate their sale abroad.

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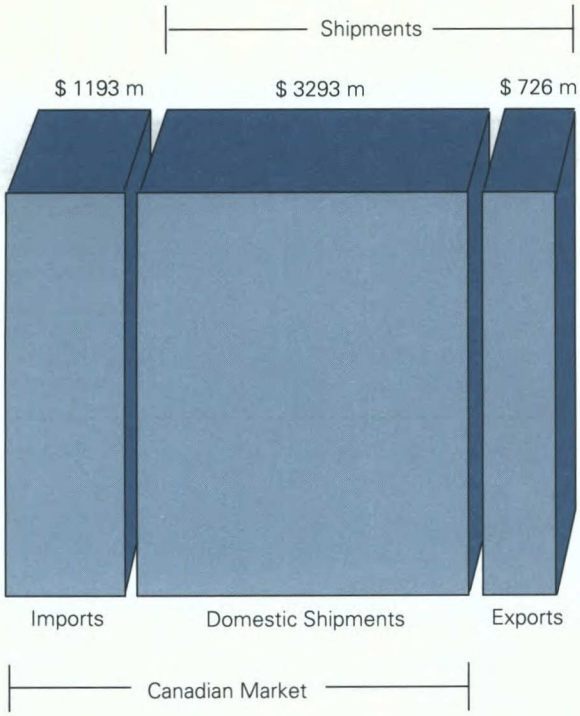


Imports, Exports and Domestic Shipments* 1986

** International trade in Motor Vehicle Plastics Parts with the U.S.A. is not included in these figures as trade statistics are published by broad product-type (e.g., "Motor Vehicle Parts") and not by material (e.g., "Motor Vehicle Plastics Parts").*

There is some cross-border trade in products similar in design or end use. In many instances this is due to short-term pricing considerations but, in general, the cost of transportation limits the distance that high-volume, low-value products can be economically shipped.

Performance

During the 1973-82 period, the sector experienced steady growth, with investment, employment and the number of establishments increasing by approximately 40, 30 and 50 percent, respectively. The continuing expansion can in part be attributed to increasing sophistication in manufacturing skills, and to the growing acceptance of plastics products as replacements for those made of traditional materials such as wood, paper, glass and metal.

The plastics products sector has been growing more rapidly than manufacturing as a whole. Following the recession of 1982 and during the subsequent period to 1986, the average annual growth in gross domestic product (GDP) of this processing sector was about 10 percent while that of all manufacturing was about 7.7 percent. During the same period, employment in the plastics products industry increased at an annual rate of 3.25 percent and the number of establishments increased at an average annual rate of 5.7 percent.

Historically, this sector has been subject to many external pressures on its rate of expansion. It has been necessary to meet building codes which were written for competitive materials and, in many cases, establish new ones for construction products made of plastics materials. In some cases, provincial government regulations, such as those restricting the use of plastic bottles for carbonated beverages, have inhibited or slowed the introduction of new or innovative plastics products. However, the high growth rate still attracted many new entrants and as the domestic products increased, it became more intensely competitive.

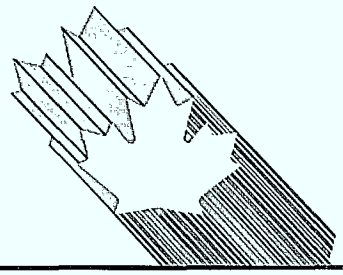
During the 1982-86 period, prices for the basic resins used by the sector remained relatively stable, but prices for other raw materials, such as pigments and plasticizers, and manufacturing, marketing and equipment costs continued to increase. To counter the shrinking spread between costs and selling prices, the sector continued to make manufacturing adjustments. It was a period in which more sophisticated manufacturing technologies were acquired, the installation of computer-control systems was accelerated, production was rationalized, unprofitable product lines discontinued and the labour component was used more efficiently. The result has been that the sector has absorbed much of these increasing costs and has been successful in continuing its expansion.

The sector has also been successful in increasing exports, the ratio of exports to shipments rising from 12 percent in 1982 to 18 percent in 1986. Imports, however, still continue to gain an increasing share of the domestic market, rising from 22 to 27 percent over the same period.

2. Strengths and Weaknesses

Structural Factors

The major elements which determine the competitiveness of the plastics products sector are the costs of raw materials, labour, transportation and distribution, scale efficiencies and the possession of proprietary processes or designs.



With respect to raw materials, Canadian suppliers tend to maintain their domestic resin prices at U.S. prices, plus some portion of the Canadian duty. This puts plastic products companies at a cost disadvantage, particularly when they try to export to the United States. Larger producers are sometimes able to negotiate with raw material suppliers to get them to meet U.S. prices,net-of-duty, in order to compete for export business.

Shorter runs for the small Canadian market, generally smaller plants, and higher labour rates (including fringe benefits) combine to raise the costs of most Canadian products relative to those in the United States. Maintaining a distribution network to serve the more widely dispersed Canadian market results in further inefficiencies. The impact of scale inefficiencies and higher marketing costs are more heavily felt by small producers outside central Canada.

For some high-volume, low-cost products, transportation provides an effective barrier to entry. Examples are plastic drainage pipe and beverage containers. Conversely, film products widely used in the packaging industry can be shipped greater distances, more economically.

Some firms have a competitive advantage as the result of possessing proprietary designs or process knowledge. However, the majority of plastics products do not have this technological edge.

Overall, Canadian producers are at a cost disadvantage relative to their U.S. competitors. Larger firms in central Canada have been able to overcome some of the constraints. However, rapid growth in the domestic market has encouraged a large number of new, smaller entrants, many of which must operate on lower margins in order to compete.

Trade-related Factors

The Canadian rates of duty on plastics products range from 8.5 percent to as high as 13.6 percent in 1988. Volume imports of fabricated products are at the higher end of the scale. The U.S. tariffs range from free to 8.0 percent — some commodity-type products such as plastic pipe being 3.1 percent. In Japan, duty charged on plastics products imported from Canada ranges from 5.8 percent to 7.2 percent; this covers all products, fabricated and semi-fabricated. The E.C. has an average rate of 8.4 percent but they are as high as 12.5 percent for some semi-fabricated products.

For the domestic industry generally, no major non-tariff barriers are evident on products exported to the United States. There have been instances when buying resistance has been experienced as a result of Buy America sentiments. While there are no formal procurement barriers inhibiting trade in plastic products with the United States, American contracts in the past have tended to be placed with domestic suppliers. Recent efforts by the industry to harmonize approval standards between the two countries have tended to decrease this resistance to Canadian products. In its domestic market, the Canadian sector faces barriers that are more in evidence — many provincial governments insist that products be manufactured within their jurisdiction in order to qualify for funding from provincial or municipal sources.

The Canada-U.S. Free Trade Agreement (FTA) will phase out, over a ten-year period, Canadian and American tariffs on these products.

Technology Factors

In the plastics products industry there are constant changes and improvements in machinery, equipment and processes. Generally, plastics processors in Canada have ready access to, and commonly employ, up-to-date machinery and tooling, equipment and raw materials. In addition, extensive technical information is available from a broad range of trade magazines, journals, technical papers and corporate reports. A number of companies avail themselves of transferred technology by licensing products and processes from others.

The sector operates in an increasingly sophisticated world of manufacturing technology and the many kinds of polymers used. There is a trend toward the installation and use of advanced electronic control systems in order to improve product quality and productivity. The skilled labour pool capable of operating this sophisticated equipment, while developing, is inadequate and is hindering the adoption of technology by the sector. The result of technology has been to upgrade the quality of plastics products produced, especially automotive parts. At the same time it has lessened the requirements for manual labour.

Areas in which Canadian manufacturing technology may lag are those which require concentrated and extensive product research and development (R&D) costs, and for which there may be a limited market potential. These often include manufacturing technologies and products in which advanced industrial materials are to be used. Currently in Canada there is some production of composite parts for civilian and military aircraft and possibly for other military applications; however, the use of these sophisticated raw materials is not widespread in the domestic plastics products industry.

Other Factors

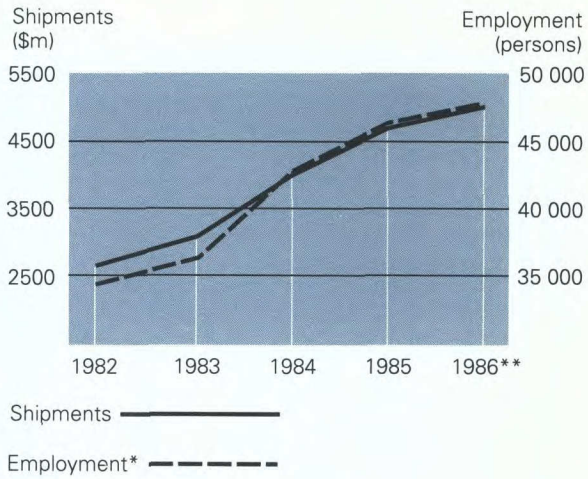
The rate of exchange in recent years has favoured domestic manufacturers of these products in their efforts to sell into the United States. However, as the value of the Canadian dollar increases relative to the U.S. dollar, this ability to compete based on cost is gradually being eroded.

3. Evolving Environment

The plastics products manufacturing sector in Canada is expected to maintain a continuing rate of growth in excess of the GDP growth rate. As well, the total North American use of fabricated plastics products will continue to increase in the foreseeable future. International, and some Canadian, research will continue in the development of polymer materials, with close attention on expanding their physical and chemical properties. There will also be parallel developments in the design and manufacture of machinery to process these polymers, especially in computer-control systems and robotics to decrease much of the manual labour required for production. As this evolution proceeds, the knowledge generated will be accessed by the plastics processing sector which will continue to replace products made of traditional materials. More importantly, new products will be introduced that cannot be made of the traditional materials.

Under the FTA, the predominantly domestic-oriented Canadian plastics products sector is expected to lose an additional share of the domestic market. Initially the markets for "commodity grades" of products are likely to be affected. An important secondary effect of the FTA may be its impact on the major domestic customers for plastics products. Where rationalization within such sectors as packaging favours a U.S. location, or where Canadian branch plants of foreign firms consolidate purchasing decisions on a North American basis, Canadian domestic industry may be adversely affected.

Successful exporting companies on both sides of the border can be expected to give thorough consideration to rationalizing their manufacturing facilities in geographical locations where raw material supplies, labour and major markets are concentrated. The net result could favour large production units in the United States rather than in Canada.



Total Shipments and Employment

** Commencing with 1982, statistics related to "Motor Vehicle Plastics Parts Industry", SIC 3256, identified in Statistics Canada Catalogue 42-210 are included.*

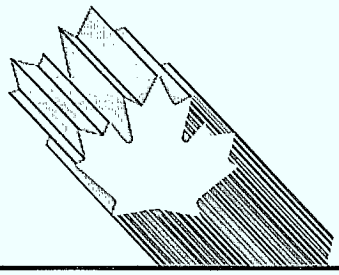
*** Estimate.*

Smaller companies in Canada will face a less secure future. Many have been able to survive because of tariff protection and, in recent years, because of favourable rates of exchange. These smaller companies will need to make significant adjustments in order to remain competitive.

4. Competitiveness Assessment

The present level of tariff protection and the existing favourable rate of exchange are major factors which have allowed the plastics products industry in Canada to retain a sizable share of domestic market and to grow at a rate above that of other domestic manufacturing sectors.

In general, however, the sector is not competitive in costs with its U.S. counterpart. It is to be expected that prices of many basic raw materials should move towards parity with those in the United States as freer trade is realized. Other costs, such as manufacturing, marketing and distribution will move to parity more slowly, causing the sector to face a difficult period of adjustment.



The sector, however, fuelled by an increasing demand for polymer plastics products by the packaging, construction, transportation and electronic equipment industries, should continue to grow at a rate higher than most other manufacturing sectors.

Increased competitiveness will be achieved by the rationalization of product lines and the introduction of advanced technologies which will result in a more efficient plastics processing sector, able to access export market opportunities.

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

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PRINCIPAL STATISTICS SIC(s) COVERED: 1980 Basis — 1611, 1621, 1631, 1691, 1699, 3256*

	1973	1982	1983	1984	1985	1986
Establishments[1]	634	943	1 086	1 143	1 172	1 180[e]
Employment[1]	26 360	34 650	37 027	43 058	47 712	48 000[e]
Shipments ($ millions)[2]	741	2 298	2 682	3 362	3 678	4 019
($ millions)(SIC 3256)	—	319	443	653	1 003	1 006[e]
TOTAL	741	2 617	3 125	4 015	4 681	5 025[e]
Gross domestic product (constant 1981 $ millions)	315.8	886.9	1 013.7	1 180.6	1 242.7	1 303.5
Investment ($ millions)	49.9	70.1	84.3	123.0	161.5	213.9
Profits after tax ($ millions)	—	60.3	88.4	114.6	141.2	—
(% of income)	—	2.3	2.8	2.9	3.0	—

TRADE STATISTICS[3]

	1973	1982	1983	1984	1985	1986
Exports ($ millions)	48	282	328	430	551	726
Domestic shipments ($ millions)	693	2 016	2 354	2 932	3 127	3 293
Imports ($ millions)	181	581	733	931	1 075	1 193
Canadian market ($ millions)	874	2 597	3 087	3 863	4 202	4 486
Exports as % of shipments	6	12	12	13	15	18
Imports as % of domestic market	21	22	24	24	26	27
Source of imports (% of total value)			U.S.	E.C.	Asia	Others
		1983	86	6	4	4
		1984	85	7	2	6
		1985	83	8	2	7
		1986	80	10	2	8
Destination of exports (% of total value)			U.S.	E.C.	Asia	Others
		1983	84	3	3	10
		1984	85	3	2	10
		1985	90	2	2	6
		1986	91	3	2	4

(continued)

REGIONAL DISTRIBUTION — Average over the last 3 years

	Atlantic	Quebec	Ontario	Prairies	B.C.
Establishments – % of total	2	23	54	8	13
Employment – % of total	2	23	65	2	8
Shipments – % of total	2	23	64	3	8

MAJOR FIRMS

Name	Ownership	Location of Major Plants
Canron Inc.	Canadian	Across Canada
Scepter Manufacturing Co. Ltd.	Canadian	Across Canada
North American Plastics Co. Ltd.	American	Wallaceburg, Ontario Windsor, Ontario
Woodbridge Foam Corp.	Canadian	Woodbridge, Ontario Tilbury, Ontario
Waterville Cellular Products Ltd.	Canadian	Waterville, Quebec St-Jérôme, Quebec
ABC Plastic Moulding	Canadian	Toronto, Ontario
C-I-L Inc.	British	Edmonton, Alberta Brampton, Ontario
DuPont Canada Inc.	American	Across Canada
Canadian General Tower Ltd.	Canadian	Cambridge, Ontario Hamilton, Ontario
I.P.L. Inc.	Canadian	St-Damien, Quebec
Reliance Products Ltd.	British	Winnipeg, Manitoba Milton, Ontario
Maple Leaf Plastics Corp.	Canadian	Across Canada

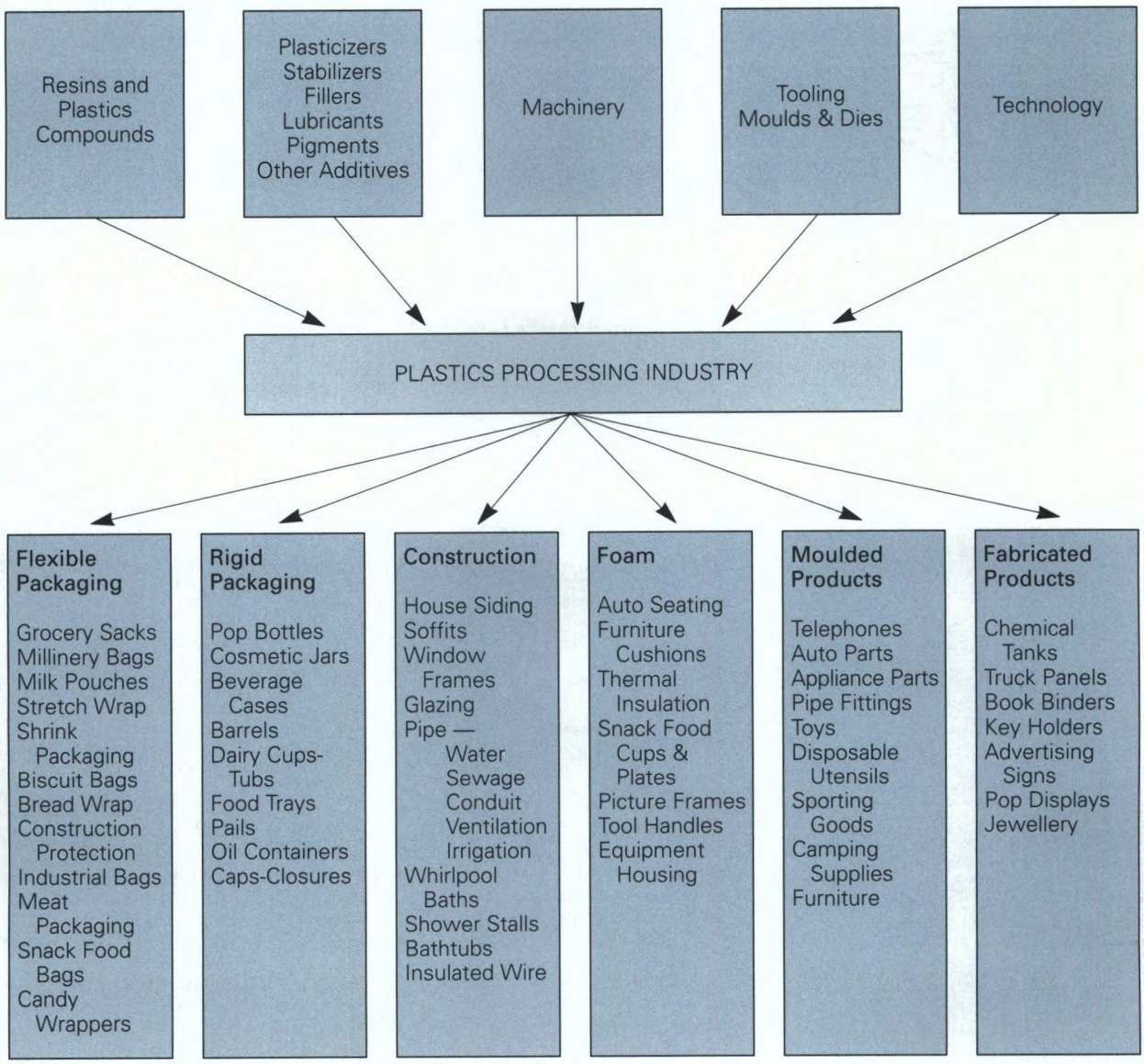
NOTES: 1) Commencing with 1982, statistics related to "Motor Vehicle Plastics Parts Industry", SIC 3256, identified in Statistics Canada Catalogue, 42-210 are included.
2) Includes SICs 1611, 1621, 1631, 1691 and 1699 only.
3) International trade in Motor Vehicle Plastics Parts with the U.S.A. is not included in these figures as trade statistics are published by broad product-type (e.g., "Motor Vehicle Parts") and not by material (e.g., "Motor Vehicle Plastics Parts").

* The sector includes establishments reporting in the Annual Census of Manufacturers by Statistics Canada under SICs 1611 ("Foamed and Expanded Plastics Products Industry"), 1621 ("Plastics Pipe and Pipe Fittings Industry"), 1631 ("Plastic Film and Sheeting Industry"), 1691 ("Plastic Bag Industry"), 1699 ("Other Plastic Products Industries, n.e.c.") and 3256 ("Motor Vehicle Plastics Parts Industry").

e Estimate

Appendix 1

PROCESS AND END-USE FLOW SHEET



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