INDUSTRY PROFILE

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

Corrugated Containers

Canada

INDUSTRY PROFILE

CORRUPTED CONTAINERS

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 corrugated shipping container industry is the biggest converter of paperboard mill products in Canada and also the largest segment of Canada's packaging industry. The container provides low-cost containment and protection for goods moving through national and international distribution systems and is the principal packaging for this movement worldwide.

The corrugated container is made from two paperboard grades — linerboard and corrugating medium. Corrugated sheet is produced on a corrugator that simultaneously flutes the corrugating medium and bonds the linerboard to the top and bottom surfaces of the medium. The combined board or sheet is then printed, cut and creased, glued or stitched to make the container, and then folded flat for shipment. This box-making activity can be performed in either the corrugator plant or at a facility known as a sheet plant.

The food and beverage industry accounts for approximately 47 percent of the Canadian market, with the paper, electrical and chemical industry groups each accounting for three to five percent. These are followed by a large number of groups, none of which accounts for more than about two percent of domestic demand. In 1986, total shipments were valued at over $1.4 billion, with an estimated volume of just over 1.2 million tonnes.

Trade is not significant because of high transportation costs relative to the value of the product. However, the threat of domestic market penetration by producers from nearby U.S. states has a significant influence on Canadian pricing, particularly in the Ontario and Quebec markets. Exports are negligible — one to two percent of shipments — and imports account for only one to two percent of the Canadian market.

Ownership in the industry is almost wholly Canadian. In 1986, there were an estimated 116 establishments — 61 corrugator plants and 55 sheet plants — employing a total of some 7900 workers. Production takes place in all provinces, but is heavily concentrated in Ontario (69 plants) and Quebec (22 plants).

A high level of integration exists with more than 90 percent of corrugator capacity integrated backwards to mill production of linerboard and corrugating medium. These two grades are the primary raw materials and account for approximately 70 percent of the direct variable manufacturing cost. Other materials, inks and adhesives, represent an additional 10 to 12 percent of the variable cost, with direct production labour accounting for the remaining 18 to 20 percent.

Performance

Demand for corrugated containers grew rapidly in the 1950s and 1960s, when annual real growth rates of eight percent and 10 percent were not unusual. At that time, the container penetrated new markets and replaced other products. Expectations of continued high growth resulted in a steady expansion of production capacity. The market, however, is now more mature and future annual real growth is expected to average about three percent.

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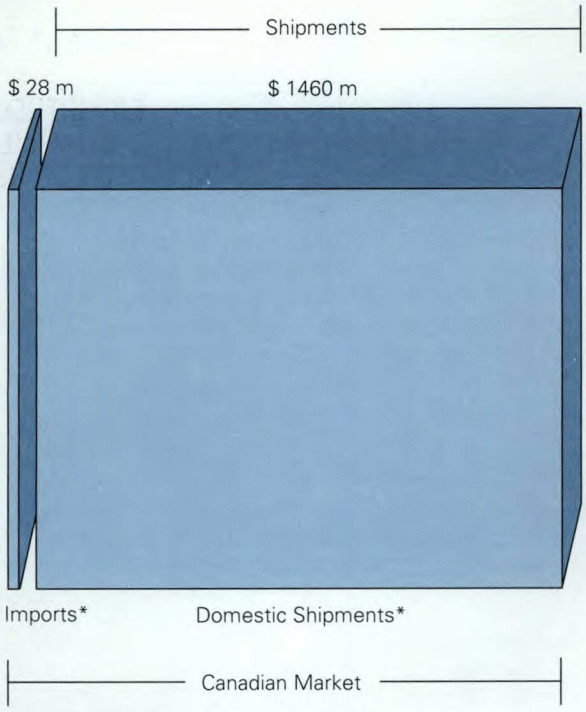


Imports, Exports** and Domestic Shipments 1986

** ISTC estimate*
*** Estimated $2 million only*

Between 1973 and 1986, new establishments consisted almost entirely of sheet plants (approximately 36), mainly in Ontario. In that same period, two new corrugators were put into service. As a result, chronic overcapacity in both corrugator and sheet operations now exists and is expected to persist or even increase unless specific action is taken to close some plants and scrap surplus equipment or dispose of it to foreign buyers.

The combined effect of overcapacity, modest real growth and the threat of U.S. imports, particularly into the major market of Ontario and, to some extent, Quebec, has created and sustained a highly competitive climate. Consequently, price levels have not been able to keep pace with increased production costs and profit margins have been low.

No specific financial data are available, but it is estimated that earnings before taxes are low, particularly among the larger companies. As a consequence, the rate of capital formation may not be sufficient to bring about the required efficiency improvements on an industry-wide basis.

2. Strengths and Weaknesses

Structural Factors

Transportation costs have effectively fragmented the Canadian market into relatively small geographic areas. However, the need to offer a full range of products means that Canadian container producers are not able to achieve full economies of scale through specialization.

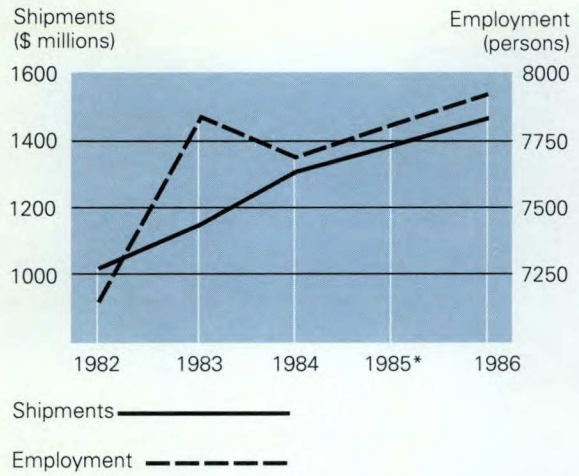
Materials and labour are the principal costs in the production of corrugated containers. Material costs are higher in Canada than in the United States by about 15 to 20 percent. This is due to more cost-efficient containerboard production of U.S. mills, many of which are world-scale. Canadian labour productivity, on average, is roughly 60 percent of that achieved by U.S. box-makers, at least partly because machines are operated by a larger number of workers, on average, than in the United States. Together, these Canadian material and labour cost disadvantages result in a price about 12 to 14 percent above that in the U.S. market on a landed-price basis (at an exchange rate of US$0.75), based on average price data for each country (published respectively by Statistics Canada and a U.S. forest products consultant group).

In Canada, the small, widely dispersed sheet plants depend on local corrugator plants for sheetstock supply. In turn, these plants cater to special container needs in their regional markets. Among the sheet plants, competition is as severe as that between the corrugator plants. However, service rather than price is frequently the critical factor. Indeed, the sheet plant can generally exact a premium price (in contrast to the corrugator plant) for the custom nature of the service provided. Typically, this service involves short-run orders produced and shipped at short intervals, and also may involve special box construction or printing.

Trade-related Factors

As with most converted paper and paperboard manufacturing, the corrugated container industry is domestically oriented and its markets have developed behind the protection of a relatively high tariff. Exports have been negligible and are likely to remain so. The Canadian tariff on corrugated shipping containers is 9.2 percent; the U.S. tariff is 2.8 percent. On the raw materials of container production, Canadian tariffs are 6.5 percent on linerboard and four percent on corrugating medium. The U.S. tariff on corrugating medium is four percent and linerboard has duty-free entry.

The Canada-U.S. Free Trade Agreement (FTA) will eliminate Canadian and U.S. tariffs on corrugated containers, together with the tariff on the raw materials. These reductions will be made in five equal stages, commencing January 1, 1989.



Total Shipments and Employment

** Estimate*

Technological Factors

The United States, Japan and Europe are the principal suppliers of corrugated container production equipment. None is produced in Canada. The most recent technology is readily available for use by container producers the world over. The new generation of corrugators make corrugated sheet in the traditional way, but at much higher speeds which are brought about largely through the application of computer technology.

To justify the relatively high capital cost of this equipment, substantial returns on investment are necessary. Despite this, a small number of Canadian companies are investing in new generation, computer-controlled corrugators. Highly efficient, these new machines will likely make the overcapacity problem worse in the short term and almost certainly reduce employment. Some of this equipment has also been installed in the United States.

Other Factors

In addition to the Canadian tariff and transportation costs, the lower value of the Canadian dollar has provided an important advantage to the Canadian producer regarding actual U.S. penetration of the Canadian market. However, as noted earlier, the threat of penetration remains and, as such, strongly influences domestic container pricing — particularly in Ontario and, to some extent, Quebec.

3. Evolving Environment

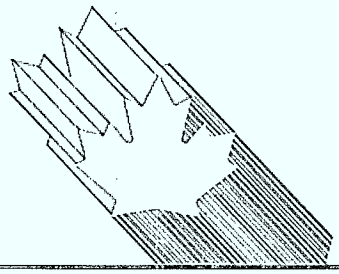
In the foreseeable future, average real annual growth in demand for corrugated containers is expected to be about three percent in both Canada and the United States. The container is expected to retain its leading position as an efficient, low-cost packaging for the distribution of consumer goods and industrial products. Plastics and other alternatives may make some inroads, but these are not likely to penetrate the container market significantly, largely due to the continuing cost advantages associated with the use of the corrugated container.

A sustained improvement in the competitive position of Canadian producers against their U.S. counterparts is unlikely if old equipment and high operator ratios remain and relatively high material costs continue. The low profit margins in the Canadian corrugated container industry make it difficult for the industry to pursue cost reductions by the substitution of capital for labour, and the degree of competitive catch-up possible by this method remains questionable.

Under the FTA, the removal of the relatively high (9.2 percent) Canadian tariff will improve the competitive position of the U.S.-based container producer in the Canadian market — particularly in Ontario and Quebec. On the other hand, the removal of the modest U.S. tariff (2.8 percent) will provide little or no competitive benefit to the Canadian producer seeking to sell to the United States at current exchange rates (in the US$0.80 to US$0.85 range).

Canadian corrugated container producers are barely competitive in the domestic market against U.S. producers, especially in Ontario and Quebec. With higher labour and material costs, together with constrained prices for the finished product, Canadian producers suffer from low profit margins. As a result, in the absence of significant changes in external factors, domestic producers, particularly in Ontario, have virtually no room to move on price to defend their market position. Neither can the container producers, corporate linkages notwithstanding, look to the eastern domestic mills for help in raw material pricing. The competitive position of these mills duplicates that of the container producers — low profit margins which limit severely the ability of the mills to respond to the import threat and preserve their tonnage throughput.

Currency exchange rates exert an important influence on the competitive position of Canadian containerboard mills and container producers against their U.S. counterparts — particularly in terms of U.S. penetration of the Canadian market. Marginally competitive at best in their major domestic market regions, both mill and container groups are vulnerable to loss of domestic market share if there is any marked shift towards par between Canadian and U.S. currencies.



4. Competitiveness Assessment

Under the FTA, the Canadian integrated container producers likely will suffer some loss of domestic market share to lower-cost imports from producers in border states. If the import threat is to be minimized, the domestic container producers will need the freedom to source their raw material requirements from lower-cost U.S. mills, despite corporate linkages to domestic mills. By contrast, the Canadian producers will gain little competitive benefit from the elimination of the U.S. tariffs.

Canadian sheet plants will be sheltered to some extent from import penetration because of the localized nature of their domestic markets and their service requirements. These plants are not restricted in sourcing their requirements for corrugated sheet and will be able to purchase lower-cost sheet from U.S. suppliers.

The net effect of the FTA on the eastern Canadian containerboard mills will be a negative one, characterized by a loss of tonnage throughput. As a result, operating rates may not be sufficient to maintain the long-term viability of mills, particularly those producing the principal grade of kraft linerboard.

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

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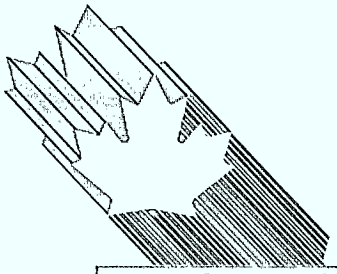

CORRUGATED CONTAINERS

PRINCIPAL STATISTICS

SIC(s) COVERED: 2732 (1980)

	1981	1982	1983	1984	1985	1986
Establishments	77	108	109	114	115	116
Employment	8 243	7 174	7 822	7 700	7 800[e]	7 900
Shipments ($ millions)	417	1 001	1 146	1 305	1 394[e]	1 462
Shipments ('000 tonnes)	N/A	974	1 055	1 137	1 207	1 247

TRADE STATISTICS

	1981	1982	1983	1984	1985	1986
Exports ($ millions)[e]	1.0	2.4	0.7	1.0	1.0	2.0
Domestic shipments ($ millions)[e]	416.0	999.0	1 145.0	1 304.0	1 393.0	1 460.0
Imports ($ millions)[e]	5.0	59.0*	28.0	25.0	26.0	28.0
Canadian market ($ millions)[e]	421.0	1 058.0	1 173.0	1 329.0	1 419.0	1 488.0
Exports as % of shipments[e]	0.2	0.2	0.1	0.1	0.1	0.1
Imports as % of domestic market[e]	1.0	6.0*	2.0	2.0	2.0	2.0

Source of imports (% of total value)		U.S.	E.C.	Asia	Others
	1982	98	—	—	2
	1983	98	—	—	2
	1984	98	—	—	2
	1985	98	—	—	2
	1986	97	1	—	2

Destination of exports (% of total value)		U.S.	E.C.	Asia	Others
	1982	84	—	—	16
	1983	88	—	—	12
	1984	92	—	—	8
	1985	95	—	—	5
	1986	96	—	1	3

(continued)

REGIONAL DISTRIBUTION — Average over the last 3 years

	Atlantic	Quebec	Ontario	Prairies	B.C.
Establishments – % of total	4	19	59	12	7
Employment – % of total	3.2[e]	27.3	53.2	8.6[e]	7.7
Shipments – % of total	4.5[e]	25.0	51.5	8.9[e]	10.1

MAJOR FIRMS

Name	Ownership	Location of Major Plants
Atlantic Packaging Products Ltd.	Canadian	Ontario and Quebec
Canadian Pacific Forest Products Limited	Canadian	Ontario, Quebec and Newfoundland
Domtar Inc. — Packaging Group	Canadian	All provinces except Newfoundland, Nova Scotia, Prince Edward Island and Saskatchewan
MacMillan Bathurst Inc.	Canadian	All provinces except Atlantic provinces

e ISTC estimate
* Extended strike in Canadian industry is reflected in imports bulge.
N/A Not available

Note: Statistics Canada data have been used in preparing this profile.

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