PACKAGING PAPER AND PAPERBOARDS

DEPARTMENT OF REGIONAL ECONOMIC EXPANSION

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PACKAGING PAPER AND PAPERBOARDS



FOREWORD

This paper has been prepared by the staff of the Project Assessment and Evaluation Branch, Department of Regional Economic Expansion. Any views or opinion expressed in this paper do not necessarily represent those of the Department of Regional Economic Expansion nor of the Government of Canada. The material contained herein is based on both primary and secondary research, and while all reasonable care has been taken to corroborate the information we cannot guarantee the accuracy of facts obtained through interviews. This is one of a series of reports which provides background information on the prospects facing the Canadian forest products industry and is being made available so that the Department may have the advantage of informed comments from knowledgeable sources.

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PACKAGING PAPER AND PAPERBOARDS

A) THE IMPORTANCE OF THE PACKAGING PAPER AND PAPERBOARD CATEGORY IN THE CANADIAN FOREST PRODUCT INDUSTRY

In 1976, packaging paper and paperboards represented approximately 12% of total pulp and paper shipments made by Canadian mills. Generally this percentage has remained stable during the last twenty years, although, since the early 1970's this product category has slightly increased its importance at the expense of other product groups. Shipments in 1974 increased to 13.5% but declined slightly afterwards to the present level of 12.5%. (see Table 1).

Table 1

	Packaging Paper and Board as a % of Total Industry Shipments	Percentage of Exports in the Packaging Paper and Board Category
1956	10.2%	N.A.
1960	10.5%	N.A.
1965	11.7%	11.2%
1970	11.8%	18.3%
1973	13.5%	24.1%
1975	12.1%	19.4%
1976	12.5%	23.1%

Source: C.P.P.A.

In market terms, the Canadian packaging paper and paperboard industry is essentially domestically oriented with total exports representing less than 25% of total shipments. In the late sixties and early seventies some noticeable increase in exports took place (the percentage of exports in relation to total production increased from 11.2% in 1965 to 24.1% in 1973), largely as a result of the international expansion of a single product group - linerboard. More recent trends, however, seem to indicate a certain reversal in this tendency, largely because of the closure of one large scale export oriented mill.

Since the packaging paper and paperboard category includes a number of different products (see Table 2) in terms of technology, market orientation and competitive posture, we will review its three main elements: containerboards, boxboards and wrapping papers separately, in the remaining part of this paper.

Table 2

Packaging Paper and Paperboards
Annual Production Capacities (1977)
('000 short tons/year)

CONTAINERBOARD	2,371	$\frac{\$}{61}$
Kraft Linerboard Recyled Linerboard Semi-chemical Corrugating Medium Recycled Corrugating Medium	1,419 309 512 131	·
BOXBOARD	882	22
Solid Bleached Folding (excl. Solid Bleached) Other Boxboard (incl. Mill Wrappers)	148 323 411	
KRAFT PAPERS	674	17
Multiwall Sack Other Kraft Papers	297 377	100%

Source: CPPA, Canadian Pulp and Paper Capacity 1976-1979

B) CONTAINERBOARDS

The containerboard category includes two main products, linerboard and medium, which are used in the manufacture of corrugated containers. Linerboard (used to make the inner and outer linings of a corrugated sheet) can be produced from virgin fibres, (kraft linerboard, in which up to 15% of recyled fibres can be included), or from recycled fibres (also called testliner). Corrugating medium, (the inner, undulated part of the corrugated sheet) can also be produced from virgin fibres (a semi-chemical medium, which usually includes a large portion of hardwoods), or from recycled fibres (a bogus medium). In 1976 kraft linerboard represented about 86% of total Canadian linerboard capacity, whereas the semi-chemical medium represented about 80% of total Canadian medium capacity. As a general rule, paperboards using recycled fibres tend to be both produced and consumed in or near major population centers and, as a result, are not traded on an international basis. Consequently, analyses dealing with export markets are mostly restricted to the virgin fibre grades.

1.0 Historical Development

Up to the sixties, the corrugating paperboard industry was essentially domestically oriented, with the exception of limited trade with the United Kingdom. This situation was largely the result of the international tariff structure, which both protected the Canadian market from imports, (15% duty), and limited attempts by Canadian producers to sell to the U.S. market. This state of affairs was criticised by MacMillan Bloedel, when it considered entering the linerboard market in the early fifties:

"The U.S. tariff allows us to sell pulp to the U.S.A. but they impose an almost prohibitive penalty on sales of the paper and board that our machine (Port Alberni) makes from pulp."

(Company annual report 1956)

The tariff structure forced Canadian linerboard manufacturers to produce either for the domestic or for the overseas markets, without much opportunity of penetrating the large United States market (even though in the 1960's one of the leading Eastern Canadian producers briefly considered selling linerboard in the U.S. Midwest). Given the limited size of the Canadian market, however, the industry found itself in a fairly uncomfortable position. The economies of scale that characterize the production of linerboard, as well as the regional distribution of consumption, impeded the achievement of a proper balance between supply and demand of this product on a regional basis. To solve this problem, the industry apparently evolved two kinds of mechanisms. First a number of producing mills diverted part of their unbleached kraft output (which is the key controlling factor as far as economies of scale are concerned) into products other than kraft linerboard (i.e. pulp, boxboard, sack paper, or even newsprint). Second, the industry entered into various tacit or explicit agreements regarding ways of limiting competition among the various producers; (the industry was twice subject to governmental inquiries: one by the Department of Labour in 1939 and two by the Restrictive Trade Practice Commission in 1962).

As these mechanisms became inoperative and as new competitors entered the industry, the industry turned

progressively toward forward integration as the main "stabilizing device", and from the mid-fifties onward acquisitions of shipping container firms progressed rapidly:

- Bathurst Paper, for example, acquired five container plants between 1954 and 1960 in addition to the two it had already purchased at the end of World War II.
- Canadian International Paper, after its purchase of the Brown Corporation's La Tuque mill in 1954, quickly acquired a multiple plant container firm in 1955.
- Domtar, after its merger with St. Lawrence Paper, which was one of the major producers of linerboard, acquired Hinde and Dauch and six shipping container plants in the process.
- MacMillan Bloedel, through Powell River, directly acquired control over four container plants in Western Canada at about the same time it entered the linerboard industry. The Company's Annual Report commented:

"Effective January 1, 1958 a 50% interest in Martin Paper Products was sold to MacMillan Bloedel Ltd. of Vancouver, who together with other forest products manufactures containerboard. This more than gives Martin Paper Products an assured source of supply of their basic material requirement."

(Company 1957 Annual Report)

As a result of these acquisitions, by the early sixties a fairly significant integration level between liner-board producers and to a lesser extent corrugating medium

producers and converters had been achieved in Canada. This development, although not specific to Canada (80% of the U.S. converting capacity is integrated in such a way), had a major consequence in that it stabilized the domestic market shares of the various producers and tended to restrict new entrants to overseas markets.

Because of the location of its linerboard mill and the difficulties of expanding eastward, MacMillan Bloedel was probably one of the first Canadian producers to attempt to penetrate overseas markets. In fact, as early as the mid-fifties, MacMillan Bloedel took advantage of their established position and of the absence of tariffs in the United Kingdom to acquire a sizeable share of the U.K. linerboard market. However, when the U.K. joined the EFTA, which included Sweden and Finland, MacMillan Bloedel was prompted to acquire two container plants in the United Kingdom and in 1964 rapidly developed plans for two other plants. As a result of these moves, the company was able to announce in its 1965 annual report:

"A substantial portion of our kraft linerboard production is purchased at market price by our subsidiaries in England."

In a similar fashion, Consolidated-Bathurst, which by the mid-sixties had made a significant investment in a liner-board mill in New Richmond, Quebec, found itself in the position of having to supply, in addition to its own converting affiliates, both the Canadian open market and the overseas market, in order to balance the mill's capacity. This policy apparently did not present too many difficulties, since the Western European market was growing rapidly (Table 3) and the Eastern Canadian linerboard industry was in a reasonably cost-competitive position at that time (Table 4) (even if already slightly disadvantaged in comparison to the industries in B.C. and the U.S. South).

Table 3

Percentage of Annual Growth Changes in
Corrugated Manufacture 1966-1974

	1966-1970	1970-1974	1966-1974
United Kingdom	8.2%	3.8%	6.0%
Germany	12.9%	3.4%	7.9%
France	8.0%	7.9%	8.0%
Italy	8.7%	0 %	8.0%
Holland	9.0%	4.0%	6.6%
Belgium	13.8%	11.0%	12.5%
Denmark	12.0%	6.4%	9.0%
Average Change	12.0%	3.5%	7.7%

Table 4

Comparative Mill Costs
(for a 150,000 ton/year mill)
Can\$/ton

Estimated Average Manufacturing Costs

•	1965	1968
Western Canada	84	91
Eastern Canada	97	108
Southern U.S.	89	102
Sweden	115	121
Finland	116	98*

Source: Daly Report

^{*} after devaluation of the mark

The positive outcome of these early developments (since apparently both Consolidated Bathurst and perhaps CIP were able to sell some linerboard on the European market principally in the United Kingdom), apparently triggered some interest in favour of purely export oriented linerboard mills. Once again, the timing looked right - the European market was booming and estimated costs in Canada (particularly in the interior of B.C.) appeared to be reasonably in line with producers in the U.S. South. Additionally, after 1971, some added incentives were provided when U.S. producers started reducing their shipments to the European market in order to supply their growing domestic needs (U.S. kraft linerboard exports to Western Europe declined from 1,045,000 tons in 1971 to 772,000 tons in 1973). As a result, some new projects emerged.

In 1967, Consolidated Bathurst announced it was considering investing in an integrated forestry complex in British Columbia (the Bulkey Valley Project), in association with Bowater, with the object of producing linerboard for the export market. Simultaneously, Consolidated Bathurst acquired the Container Corporation's German affiliate, (Europa Karton), after CCA had decided to reorient its strategy. The agreement was concluded in 1967 resulting in Consolidated Bathurst gaining control over approximately 10% of the German industry's converting capacity. Since, at that time, Bowater already controlled approximately 20% of the United Kingdom's converting capacity as well as a few other plants in Western Europe, the two partners seem to have been in a favourable position to carry the project through. The project did not materialize, however, Consolidated Bathurst decided to maintain its control over Europa Karton.

The reasons why the Bulkey Valley Project did not materialize are unclear at this point, but it should be noted that at the same time, one of the two established B.C. manufacturers decided not to expand its linerboard capacity in British Columbia. In fact, in 1966 MacMillan Bloedel announced its decision to set up a kraft linerboard mill in Alabama, and started acquiring some container plants in the U.S. Later in 1972, MacMillan Bloedel acquired ten additional plants from the Flintkote Corporation. These acquisitions enabled MacMillan Bloedel to achieve a good balance between its linerboard and converting capacities (270,000 tons and 273,000 tons respectively).

In the sixties and early seventies, some new projects and were implemented (see Table 5 for the growth in both production and exports). First Labrador Linerboard was initiated as a development project in Newfoundland, primarily oriented towards the European market, with a rated capacity of 350,000 tons/year which made it the largest linerboard mill in Canada. When it came on line in 1973, the mill took advantage of the extremely tight European market to ship as much as it could at the premium prices which prevailed at the time (up to \$350 per metric ton). When the recession hit the European market in the Fall of 1974, Labrador Linerboard found itself in a difficult situation because of its comparatively high wood costs and lack of market openings. In the beginning of 1977, Labrador Linerboard's manufacturing costs, with interest and working capital costs included, were reported* to be approximately \$280/ton, (excluding debt financing costs which are constant whether the mill stays open or not), while at the same time the going price for linerboard in Europe was somewhere

^{*} Financial Post

around \$230-\$270 per delivered metric ton. As this situation persisted during the entire year, and as the mill could not even cover its variable costs, Labrador Linerboard was finally closed down in the last months of 1977.

Second, Eurocan was created in British Columbia by a group of Finnish companies, looking for a source of "low cost fibres" to supply their traditional markets, which they felt were being jeopardized by the rising costs of their domestic Eurocan was not the first move by these companies, a few years earlier they had entered into a joint venture with local partners to set up a linerboard mill in the U.S. South (Pineville Kraft). The southern mill came into production, but conflicts emerged among the various partners, and the Finnish producers rapidly withdrew. As a result, this new venture was initiated during the late sixties in British Columbia, with production balanced between pulp, linerboard and sack kraft. After many start up problems, the mill commenced production, but once the 1974 boom passed it apparently found itself in a difficult position. The present situation of the mill is uncertain.

The same difficulties which affected both Labrador
Linerboard and Eurocan were also experienced by Consolidated
Bathurst, which recently made public the fact that its New
Richmond mill was incurring losses. The depressed prices
prevailing upon the European market, as well as the general
slump of the North American market as a whole, appear largely
responsible. The situation is further compounded by the high
operating costs of the Eastern Canadian producers and of the New
Richmond mill in particular. These difficulties are exemplified
by the fact that Consolidated Bathurst has been reported (by

industry sources) as unable to supply its own affiliate in Germany, during the last few months, because of the low prices prevailing on the German market.

Other producers also appear to have been affected by these difficulties. Canadian International Paper, for example, joined Consolidated Bathurst last summer in announcing a \$20. price increase to cover increased costs, but as prices fell in the U.S., the Canadian linerboard price stayed at its previous level.

As a whole, this brief historical review illustrates the growing difficulties experienced by the Canadian pulp and paper industry in competing on the international linerboard market, as well as protecting its position in its domestic market. To a large extent these difficulties were predictable. If the Eastern Canadian industry needed the protection of a tariff, it is difficult to see how it could seriously expect to compete on the international market, where it would have to meet the same competitors from whom the tariff was supposed to protect it. When some firms accepted this challenge, they placed themselves in a vulnerable position, which rapidly became an extremely difficult or even untenable one, when the first downturn in the market occurred.

2.0 The Present Supply/Demand Pattern

The basic data concerning the present supply/demand pattern has been assembled in Table 6.

Table 6

Present Supply/Demand Pattern
('000 tons)

NT ~ L

		Shipments From Canadian Producers	Imports	Apparent Consumption	Exports From Canada
Linerboard	1974	789	64	853	414
	1975	596	83	679	198
	1976	887	72	959	318
Corrugating					
Medium	1974	367	28	395	96
	1975	283	22	305	53
	1976	318	22	340	90

Source: C.P.P.A.

On the basis of 1976 data, Canadian producers controlled about 92% of the Canadian linerboard market and 94% of the Canadian corrugating medium market. As far as kraft linerboard is concerned, 1976 was characterized by a decline in imports, which returned to their 1974 share of the market. In 1975, largely because of the strikes in Canada, imports had amounted to 13% of apparent Canadian consumption.

With regard to overseas markets, (see Table 7), Canadian producers are hardly a significant factor anywhere in the world, with the possible exception of the United Kingdom and the Netherlands, where they represented 17% and 12% respectively of the total kraft linerboard imports, (1975 OECD data). Corrugating medium exports on the other hand, are mostly to Central and South America, where Canadian producers accounted for approximately 57% of all imports. The dominant role of the United Kingdom, which during 1976 absorbed 34% of all Canadian linerboard exports, is explained by the fact that MacMillan Bloedel with seven container plants in the U.K., controls about 11% of the local converting capacity and also until 1973, (when the United Kingdom joined the EEC), Canadian producers appear to have enjoyed some tariff advantage over their U.S. competitors.

2.1 Key Markets

2.11 The Canadian Domestic Market

Containerboard has few applications other than conversion into shipping containers, hence a market bottleneck exists at the level of the converting plants. Control of converting plants is generally a key success factor inasmuch as:

- a) they tend to market on a purely local basis (200 mile radius)
- b) there are significant economies of scale in the operations to exploit a modern corrugator economically, a plant has to process more than 15,000-20,000 tons a year.

Table 7

Exports of Kraft Linerboard (short tons)

	<u>1975</u>	<u>1976</u>
United Kingdom	76,002	109,617
Belgium	5,403	27,773
France	6,817	27,372
Germany	33,678	57 , 072
Greece	4,960	6,671
Italy	1,216	18
Netherlands	1,501	26,143
Spain	288	4,851
Total Western Europe	129,865	259,517
Latin & Central America	24,950	47,627
Other Countries	43,250	10,851
Total Exports	198,065	317,995

Exports of Corrugating Medium

	1975	<u>1976</u>
Western Europe	6,109	6,411
Latin & Central America	37,685	60,319
Other Countries	9,277	22,957
Total Exports	53,071	89,687

Source: C.P.P.A. Exports-Imports 1975-1976

In a mature market, most growth tends to be absorbed by existing plants, and as a consequence, drastic shifts in market shares at the converting level are unlikely. As indicated previously, converting plants in Canada are largely controlled by containerboard producers, as shown in the following table:

Table 8
Ownership of Container Plants

Number of Plants

Consolidated Bathurst	9
International Paper	7
Domtar	9
MacMillan Bloedel	5
Crown Zellerbach	2
Reed Paper	3
Abitibi Paper	3
Kruger	2
Others	11
Total Number of Plants	51

Source: Paperboard Packaging, January 1976, Company Annual Reports.

Since imports of finished containers are restricted by both tariffs and transportation costs, the major sources of uncertainty facing the various producers lie in the natural growth rate of the market, the possible market shifts which can take place in areas of dense population such as Montreal or Toronto, and finally, the price variations that influence the market.

2.12 Overseas Markets

It is difficult to give a brief description of the overseas markets, without reducing many of the specific differences that characterize them. There are approximately 1900 corrugators worldwide: 750 in North America, 500 in Europe, 400 in Japan and approximately 250 in the rest of the world. If, for the sake of analysis, one admits that the U.S. and Japan are "closed" markets from a Canadian producer's point of view, the three major markets remaining are the United Kingdom, Germany and France:

- The United Kingdom: Five companies control about 70% of the U.K. converting capacity (Reed and Bowater together control about 40%). In comparison to Germany and France, the U.K. is an extremely "rationalized" market. It is interesting to note that although both Bowater and Reed have operations in Canada, neither of them appear to ship any linerboard to the U.K., in fact, Bowater has no linerboard mill (even though it was tempted to build one about 1967) and, although Reed operates a recycled containerboard mill in Canada, its output is predominantly consumed by its Canadian converting operations.
- Germany: Five leading converting companies control 40% of the converting facilities in Germany. In contrast to the U.K., Germany is predominantly a "fragmented" market with essentially family owned firms, with the exception of a few integrated companies, like SCA or Consolidated Bathurst. The size and attractiveness of the market, however, are

such that Germany has managed to attract about 10 different supplying countries, including the USSR. This, together with the fragmented ownership structure, makes Germany an extremely "price depressed" country.

- France: The five leading companies in France control about 42% of the converting capacity. Since France has a local kraft linerboard producer, Cellulose de Pin, which is also the leading converter, the open market tends to be both restricted, (less than 50% of Germany or Britain), and controlled (because of non-tariff barriers to entry and the sheer weight of the dominant producer).

2.2 Main Competitors

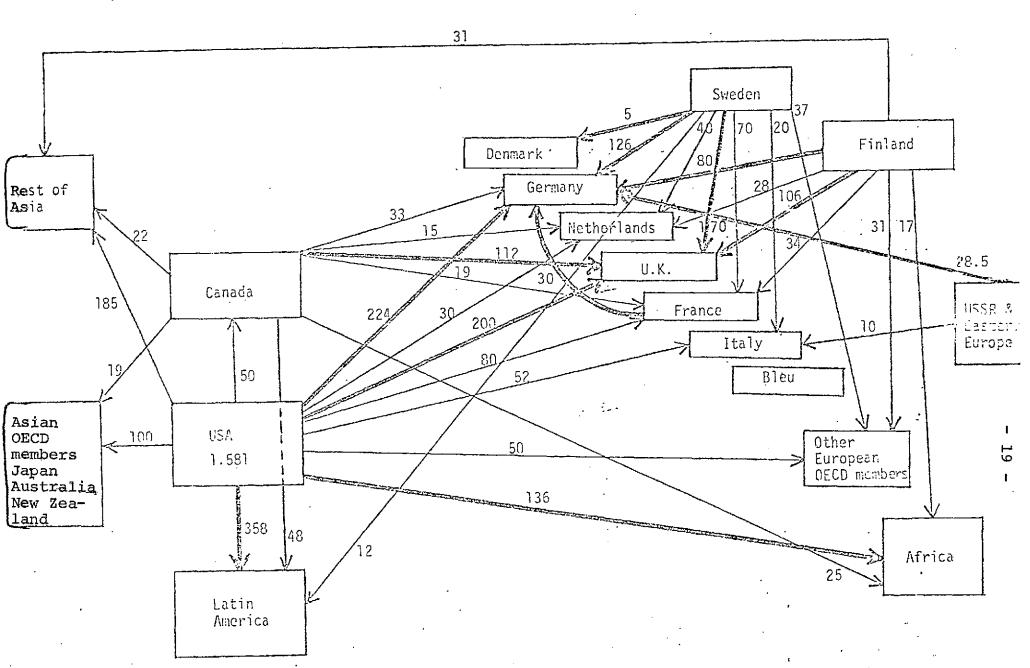
2.21 Kraft Linerboard

The structure of the competition in major kraft linerboard markets has been summarized in Table 9. Along with Canada, three other countries are major competitors:

- U.S., (total capacity: 10 M tons) has progressively, over the last twenty years, assumed a worldwide leader-ship role in the market. In 1974 the U.S. exported about 10% of its linerboard production and accounted for about 10% of the worldwide kraft linerboard trade. As a group, U.S. companies tend to be both much larger, (International Paper's capacity alone was larger than all of Canada's in 1974) and more integrated, (either in the U.S. or abroad - i.e. International Paper, Weyerhaeuser, Owens Illinois, etc.) than their Canadian counterparts. Additionally, U.S. companies enjoy the

Table 9

MAJOR FLOWS (>10.000t) OF KRAFT LINERBOARD



advantage of exploiting both an optimal (packaging papers really experienced their development in the U.S. South) and a relatively cheap fibre source (again the U.S. South).

- <u>Sweden</u>, (total capacity .7 M Tons), is the second largest exporter of linerboard worldwide. In spite of its cost disadvantage, Sweden enjoys the benefits of both proximity, (except for shipments to Southern Europe), and of long established relationships with the various countries in which it operates.

 Compared to other countries, Swedish producers are probably the most forward integrated into continental Europe (SCA, Billerud...)
- Finland, (total capacity .46 M tons), is the third largest exporter of linerboard, (400,000 tons). Compared to Sweden, with whom it shares comparatively high costs, Finland has remained a persistently "open market" player and is gradually losing its importance in worldwide markets. In spite of its poor performance, it is unlikely that Finland will give up this market segment because of a lack of other opportunities combined with internal pressures.

In addition to these three major countries, others such as the U.S.S.R., Portugal and France play some role in various local markets.

2.22 Corrugating Medium

The competitive situation with regard to corrugating medium is quite different:

- a) the production technology, (semi-chemical process), allows the utilization of hardwoods which are readily available in many countries
- b) the economies of scale are less pronounced than in the case of kraft linerboard, (probably around 100-150,000 tons a year compared to 300-350,000 tons a year).

As a result, the production of semi-chemical medium is much more dispersed than that of kraft linerboard, and various countries such as Germany and the U.K., with no kraft linerboard producer, have one or more established medium manufacturers. Consequently the world trade of corrugating medium is much more limited, (about 1 million tons in 1974). The Scandinavian countries enjoy more than 50% of the worldwide trade, essentially in Western Europe, whereas the U.S.S.R. and Japan play a lesser role in specific regions of the world. Interestingly enough, the U.S. is not a factor in this worldwide trade, partly because the differences in the quality of its domestic product make it less acceptable in Europe.

2.3 Canadian Suppliers

Various data regarding Canadian suppliers has been summarized in Tables 10 and 11.

Before separately analyzing linerboard and corrugating medium, it is interesting to note that all the large Eastern Canadian suppliers, (CIP, Domtar, and Consolidated Bathurst), produce both linerboard and corrugating medium. The balances between converting and paperboard capacities may differ, but in all cases one finds the same pattern of integration (be it due

Table 10

Distribution of Canadian Linerboard Capacity (1977)

	Annual Capacity
•	('000 tons)
Kraft Linerboard	
Canadian International Paper, La Tuque	375 (1)
Consolidated Bathurst, New Richmond	216
Crown Zellerbach	60
Domtar, Red Rock	225
Eurocan, Kitimat	175
Labrador Linerboard (closed fall of 1977)	340
MacMillan Bloedel, Port Alberni	140 (2)
Total Canadian Capacity	1,079
Recycled Linerboard	
Atlantic Packaging, Scarborough	85 (3)
Krueger, Montreal	85
Reed, Mississauga	85 (3)
Total Canadian Capacity	309
(1) figure includes some bleached paperboard	1
(2) figure includes some kraft paper and oth	ner paperboards
(3) figure includes some bogus medium	

Sources: Company's Annual Reports,
Pulp and Paper Industry Totals,
CPPA Capacity Report

Table 11

Distribution of Canadian Corrugating Capacities (1977)

	Annual Capacity ('000 tons)
Semi-Chemical Medium	
Abitibi, Sturgeon Falls	77
Canadian International Paper, Matane	83 (1)
Consolidated Bathurst, Bathurst	135
Domtar, Trenton	70 (1)
Irving, Lake Utopia	77
Papiers Cascade, Cabano	84
Total Canadian Capacity	512
Recycled Medium	
Reed, Carlow	25 (2)
Other testliner producers	N.A.
Total Canadian Capacity	131
(1) includes some recycled fibre(2) figure includes some amount of testline	er

Pulp and Paper June 30, 1977; Industry Totals CPPA, Capacity Reports Company Annual Reports Sources:

to a resource push, i.e. the availability of hardwoods, or market pull, i.e. the idea of completely supplying the existing conversion facilities).

2.31 Linerboard Producers

The seven Canadian producers, perhaps with the exception of CIP, Eurocan and Labrador Linerboard, (which a few months before its closure managed to turn out 1200 tons/day), are apparently slightly below the optimal size for modern kraft linerboard mills. The impact of this lower size on overall efficiency, however, is difficult to assess.

If one excludes Eurocan, which appears primarily committed to overseas markets, the Canadian kraft linerboard industry's capacity amounts to approximately 900,000 tons (not including Labrador Linerboard). Given the fact that recycled linerboard capacity is around 300,000 tons and that the total apparent consumption of linerboard in Canada was approximately 950,000 tons in 1976, the problem of the Canadian kraft linerboard producers becomes readily apparent.

As recycled linerboard, (test or jute liner), is not traded internationally, (it is produced and consumed by integrated converters), the domestic "market window" available to the kraft linerboard producers can be estimated to be around 650-700,000 tons a year. This means that to maintain operating rates in the order of 90%, these producers have to annually export between 100 to 150,000 tons of kraft linerboard. This figure does not appear to be enormous for the industry as a whole, but it should be noted that, because of the different levels of integration existing among the various producers, this

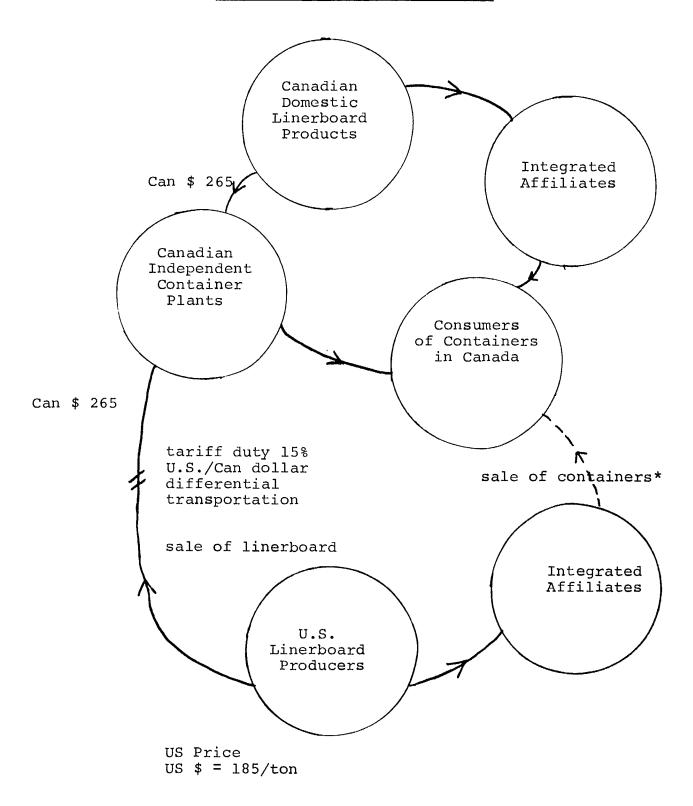
"need to export" falls disproportionately upon some mills and most clearly upon Consolidated Bathurst and MacMillan Bloedel. Because of the internationally depressed markets today, as well as the relatively high cost position of the Canadian producers, the achievement of profitable export sales has been a problematic issue during the last two years, particularly for Consolidated Bathurst. This partly explains the difficulties experienced by this company.

The same worldwide depressed conditions mentioned above also have an indirect negative effect upon the domestic market, on which most Canadian producers primarily depend. In spite of the Canadian market's 15% tariff protection, the prices prevailing in the U.S. market appear to regulate the Canadian domestic prices, (once the transportation, tariff and exchange differentials are taken into account). The mechanisms by which this control is exerted are shown in diagram form in Table 12. As a result of the low prices prevailing in the U.S. market, Canadian producers have been exposed to strong price pressures in the Canadian market, even though the share of the U.S. imports has been marginal. Were it not for the favourable exchange rate, some of the Canadian producers would probably be in an extremely difficult situation.

This structural lack of competitiveness in turn appears to be attributable to three main factors:

- 1. The differences in the density of wood species used to produce linerboard. Various sources mentioned that a ton of linerboard requiring 1.25 cunits of wood in the U.S. South, would require between 1.7 and even 2 cunits, (in the case of Labrador Linerboard), in Eastern Canada.
- 2. The differences in wood costs per cunit between the same two regions (up to 17%).

Table 12
Establishment of the Domestic
Canadian Price Level



^{*} these containers can be imported duty-free into Canada, if the final destination of the goods to be shipped in the container is the United States market.

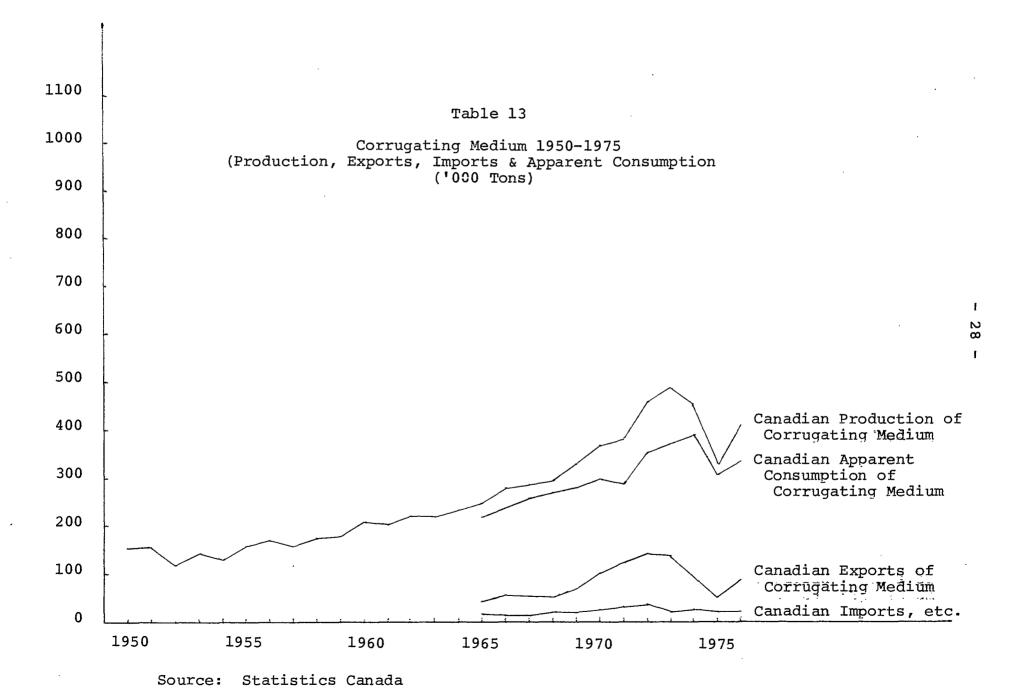
3. The higher labour costs experienced by Canadian mills in general (in one case this difference, on the basis of equivalent dollars, was estimated to be in the order of 20%).

The importance of these factors sheds some light on the recent difficulties of the industry. Given its inherent natural disadvantage in terms of wood density, the viability of the Canadian linerboard industry was largely dependent upon favourable labour rates and low wood costs. As these costs started to grow relatively faster in Canada than in the United States, during the late sixties and early seventies, the industry found itself in an increasingly difficult position. These higher costs were masked by the booming market of the early seventies, but as soon as more "normal" conditions prevailed, the gap became evident.

2.32 Corrugating Medium Producers

A somewhat similar analysis can also be applied to the Canadian corrugating medium industry, (see Table 13).

With an apparent domestic consumption of about 340,000 tons (1976), the Canadian corrugating medium industry appears to be heavily dependent upon exports, once allowance is made for recycled medium. On the basis of the industry's semi-chemical corrugating medium rated capacity of 512,000 tons, it can be estimated that an export volume of nearly 200,000-250,000 tons would be needed to enable the industry to produce at acceptable operating rates. Since the industry has never exported more than 147,000 tons during a single year - 1972 (since that date export volumes appear to have stabilized at a



much lower level), a 200,000-250,000 ton export volume appears largely beyond its immediate capabilities.

Given the structure of the industry, this situation is likely to affect primarily those producers which are least integrated with converting facilities, i.e. Irving, (Lake Utopia), Papiers Cascade and Consolidated Bathurst. In fact, during the last few months, various industry sources have indicated that both Irving and Papiers Cascade were actually losing money in their corrugating medium operations. This excess capacity in turn appears to be related to the arrival of Papiers Cascade on the market, at a time when market prospects were relatively meager. As a consequence, one may wonder whether such a capacity increase was appropriate in light of the industry's overall situation.

3.0 Future Developments

3.1 Key Markets

3.11 The Canadian Domestic Market

The Canadian market will probably keep in line with the U.S. market, and is unlikely to grow at more than 4% or 5% per year. Consumption of corrugating materials is already at a fairly high level in Canada (about 50 kg/head, i.e. in excess of Europe's 25-30 kg/per capita). Depending on the specific growth of Canada's economy, there could be some ups and downs, but in the long term it is quite unlikely that compounded growth will exceed these rates.

Given the fact that corrugated containers are one of the cheapest forms of packaging available, it is doubtful that much product substitution could take place. It is often stated that substitutes like plastic films have gained higher market shares in Europe than in North America, but the differences in the nature of the geography and of the shipments of goods that exist between the two continents, make these developments less interesting in a country like Canada.

Finally, as has already been indicated, the structure of the Canadian industry appears to be fairly mature: few new plants are likely to be created, and most of the existing plants are already affiliated with containerboard producers.

3.12 The Overseas Markets

Assuming that U.S. tariffs remain at their present levels, the main markets of interest to Canada are likely to be, (at least in the short to medium term), Japan and Western Europe.

Western Europe: Most industry analysts in Europe are fairly pessimistic about the possibility of returning to the rates of growth experienced in the early 60's, (see Table 3), and most current predictions seem to agree on a 4% to 5% growth rate for the next five to ten years. Additionally, high kraft linerboard costs have created an incentive to increase the production of locally manufactured test liners, which are often adequate for the needs of a large proportion of the European users. As a consequence, most industry sources expect kraft linerboard markets to progressively "retract" to their "optimal" levels, (i.e. approximately 25% to 30% of all

liners used). In many cases this tendency is actively encouraged by the various national governments which see in it a possibility of controlling their growing foreign exchange deficits from "wood and paper products".

Finally, as evidenced by the recent acquisitions of converting plants by Scandinavian producers, forward integration is likely to proceed further in Europe. This, in turn, will probably result in increasing market difficulties for the various suppliers committed to the open market. As a result, the Western European market is unlikely to offer the same opportunities it did in the early seventies. A progressive improvement of the U.S. market situation, however, should lead to some lessened price pressures during the near future.

In the case of corrugating medium, as already noted, there is a substantial amount of capacity in place in Western Europe and it is unlikely that it will disappear overnight. Also, in many cases, users have learned to substitute bogus medium for semi-chemical medium, particularly those using kraft liners extensively. As a consequence, Europe is likely to be a relatively limited market for overseas producers, (also, medium being a lower priced product, offers fewer possibilities for absorbing high shipment costs).

<u>Japan</u>: During the last few years, some signs have indicated that Japan was progressively changing its strategy and opening its market to imports of some low value-added product grades. It is, therefore, likely that some market opportunities will emerge in Japan during the next five to

ten years, (Japan by itself is a larger market than Western Europe). These opportunities, however, are likely to be limited to the West Coast producers only.

Central and South America: The situation concerning these markets and their potential for increased Canadian medium exports, are unknown at this point. It should be noted, however, that these shipments have traditionally been much less profitable than domestic shipments.

3.2 Key Competitors

Some developments are likely to affect the position of Canada's major competitors. On a country by country basis, they appear to be the following:

In spite of relatively high production costs, Swedish producers have enjoyed some advantages such as a fairly high level of integration, and favourable transportation costs. As a whole, they have been affected less than other Scandinavian producers by the present downturn, and they seem currently involved in what could be called "a second wave of forward integration", particularly in the U.K. In the long-term, there is the opportunity of lowered EEC duties, whereas the tariffs imposed upon North American producers will remain at a reduced but somewhat high level, (8%). As a consequence, even if the Swedish do not appear in a position to increase their market share, their situation can be considered relatively secure over the long-term. Some problems could persist for those producers, like Assi, which have not forward integrated, or which are overly dependent on semi-chemical medium.

Finland: Largely because of the nature of their corporate ownership, Finnish firms have been extremely reluctant to integrate forward into converting operations in Continental Europe. As a result, they have probably suffered more from the depressed market conditions than some of their Swedish competitors. In fact, the situation of some mills, like the Kemi mill in Northern Finland, appears to be problematic, largely because of the high wood costs influencing the mill. Because of social pressures, mill closures are very unlikely to take place. Some attempts to specialize, (bleached or other special liners), are likely to be emphasized, (apparently this was already the policy pursued by Enso-Gutzeit in its Finnish mill, when it invested in Eurocan).

The U.S.A.: Because of the softness of the international market, (and to some extent, the U.S. domestic market), U.S. producers find themselves in a rather uncomfortable situation. To maintain their operating rates (91.8% in 1976) they have been obliged to:

- refrain from increasing their prices on their domestic markets, (their last attempt to raise prices did not succeed and even resulted in some price roll-back), and
- sell at a discount in Europe, as evidenced by discrepancies that prevailed some time in the early summer of 1977 between the U.S. domestic price and the prices prevailing in Germany, (\$215 per delivered short ton against \$230 per delivered metric ton). These practices have come under sharp criticism from at least one Continental linerboard producer, who threatened to press anti-dumping charges with the EEC.

As a result, the future strategy of U.S. producers is likely to consist of a certain moderation of capacity increases. This is expected to continue until the total supply/demand balance becomes such that progressive price increases can be enforced, profitability restored, and further capacity increases made possible. This aspect of the problem was underlined by a recent study conducted by the Executive Office of the President of the U.S., which concluded:

"For linerboard, the necessary price increase, (to justify capacity expansions) depends on what assumptions are made regarding the cost of a new mill, since no actual data are available. The confidential data suggests that linerboard prices would have to rise by perhaps as much as 3% per year more than the general inflation rate if new investment is to be profitable. However, the ADL estimates indicate that the price is currently not far below the long term supply price."

Council on Wage and Price Stability Staff Report, December 1976

Consequently, a certain price improvement can be expected in the world market over the next few years. This process is likely to be rather slow, as the most recent estimates of capacity utilization rates in the U.S. unbleached paperboard industry appear to be around 93% for 1978. It is therefore unlikely that Canadian producers will experience any market price relief before 1979 or 1980, at the earliest.

3.3 Canadian Suppliers

The main issues which are likely to affect the position of the various Canadian suppliers over the next decade appear to be:

- The growth of recycled containerboards: At the present price levels, the development of recycled containerboard mills has become an attractive proposition, particularly since the effect of the principal component costs, i.e. wood, energy and labour, are less marked in the case of recycled mills. In fact, the Canadian Pulp and Paper Association reported in its August 1977 Capacity Report that between 1976 and 1978:
 - Canadian recycled linerboard capacity would grow from 221,000 tons to 375,000 tons, (i.e. an expected annual growth rate of 30.2% compared to 6.4% for the whole containerboard category).
 - Recycled corrugating medium capacity would grow from 103,000 tons to 134,000 tons, (i.e. a 14.7% annual growth rate).

Since these grades are both produced and consumed close to major urban centres, increases in recycled containerboard capacity are likely to reduce the share of the Canadian domestic market traditionally controlled by domestic kraft linerboard producers. This development results essentially from the fact that previously non-integrated producers such as Reed, have found an opportunity to leverage their control over converting operations. This, coupled with the comparatively slow growth of the domestic market, is likely to affect those producers who rely on the Canadian market as their main operating base.

- The progressive deterioration of Canada's competitive position: Since the mid-sixties, the Canadian producers' competitive position has progressively deteriorated in comparison to that of its main competitors, i.e. the U.S.

South producers. In addition to its inherent natural disadvantage, (due to the low density of eastern softwoods), the Canadian industry has suffered from increasing labour and wood costs. These, in turn, have undermined the industry's ability to compete significantly on the international market and to achieve adequate profitability on its domestic market. Given the fact that the overall Canadian inflation rate is still higher than that of the United States, this trend appears likely to continue in the near future. Unless the firms involved take additional measures to contain their costs, their situation is bound to deteriorate. Some relief was obtained when the Canadian dollar declined in value relative to the U.S. dollar, but a reversal of this trend would be harmful to the industry.

4.0 Likely Scenario

Beyond the present relief brought by the devaluation of the Canadian dollar, there appears to be little hope for the situation of the Canadian containerboard industry to improve significantly over the next two or three years. It is doubtful that Canadian producers, because of their higher costs, will be able to play any significant role in the moderately increasing European market. Since overcapacity is still likely to prevail in 1978 and 1979, price increases will be relatively moderate. First, the present "discount" now in effect in Europe would disappear, and that would probably ease the competitive situation of the European producers, and lead to a first level of stabilization. Then, and only if U.S. producers have moderated their capacity increases, a fairly steep increase in

the price of containerboard could take place in the world-wide market. Viewed from the present situation, however, that state of affairs does not seem likely to develop before 1980.

It is expected that Canadian producers will continue to be affected by the relatively weak market conditions prevailing in the United States, while progressively losing some of the domestic market to that portion of the industry which is based on recycled fibres. As a result, prospects up to the early 1980's appear rather bleak, with at least one Eastern Canadian producer operating at the margin, and the possible closure of one corrugating medium mill in Eastern Canada. Finally this situation could further deteriorate, if the present tariff protecting the industry enjoys was removed or reduced in the immediate future.

5.0 First Implications

The overall development of the Canadian containerboard industry appears to illustrate the relatively poor overall planning and coordination, which affected some segments of the Canadian pulp and paper industry in the mid sixties and early seventies. This conclusion is substantiated by at least two inconsistencies which have characterized the development of the industry.

First, the soundness of trying to build an export capability out of what was essentially a protected industry, appears to be highly questionable. There was something fundamentally unsound in a logic which, on one hand, required a tariff to protect the industry against its U.S. competitors, and

on the other, encouraged the development of export oriented mills. If the mills could not compete directly with the U.S. producers on the Canadian market, how could they ever do so on any overseas market? The responsibility for this shortsightedness appears to fall upon both the companies sponsoring these ventures and the various levels of government accepting such a suboptimal use of fibres and financially supporting the development of these projects.

Second, supporting capacity increases in a partly integrated, domestically oriented industry with little export potential, also appears questionable. Nevertheless, that is exactly what happened when public funds were used to support the Papiers Cascade project, (whose capacity represents about 25% of the total Canadian consumption of corrugating medium). From a national point of view, this policy amounts to a "forced" redistribution of markets, with virtually no benefits for the collectivity as a whole, (particularly if this leads to the collapse of another firm in the industry).

To a large extent, these inconsistencies could have been avoided if a better coordination among the various actors involved had prevailed, particularly between the industry and the various levels of government. Further benefits could probably have been derived, if the real strategic situation of the industry had been properly understood by the unions, the firms and the various levels of government, particularly in matters regarding trade policies and salary negotiations.

C. BOXBOARDS

With an overall capacity of 882,000 tons (1977), boxboards represent the second largest segment of the Canadian packaging paper and paperboard industry. This overall capacity is divided into three main product categories: solid bleached board (148,000 tons), other folding board (324,000 tons), other boxboards (411,000 tons) with differing technological and end-use patterns.

The boxboard segment is sharply distinguished from the other two segments of the Canadian packaging paper and paperboard industry because of:

- A lower degree of concentration. At least a dozen producers compose the industry and the largest producer represents only 16% of the total industry capacity, (see Table 14).
- A lower degree of integration. Even if some producers control one or two converters, (folding carton or composite can plants), most of the converting industry appears to be controlled by non-integrated producers.
- A near exclusive domestic orientation. Historically, exports have never exceeded 3% of the industry's total production, (see Table 15).

These three characteristics in turn, appear to be related to some particular constraints that affect the boxboard industry:

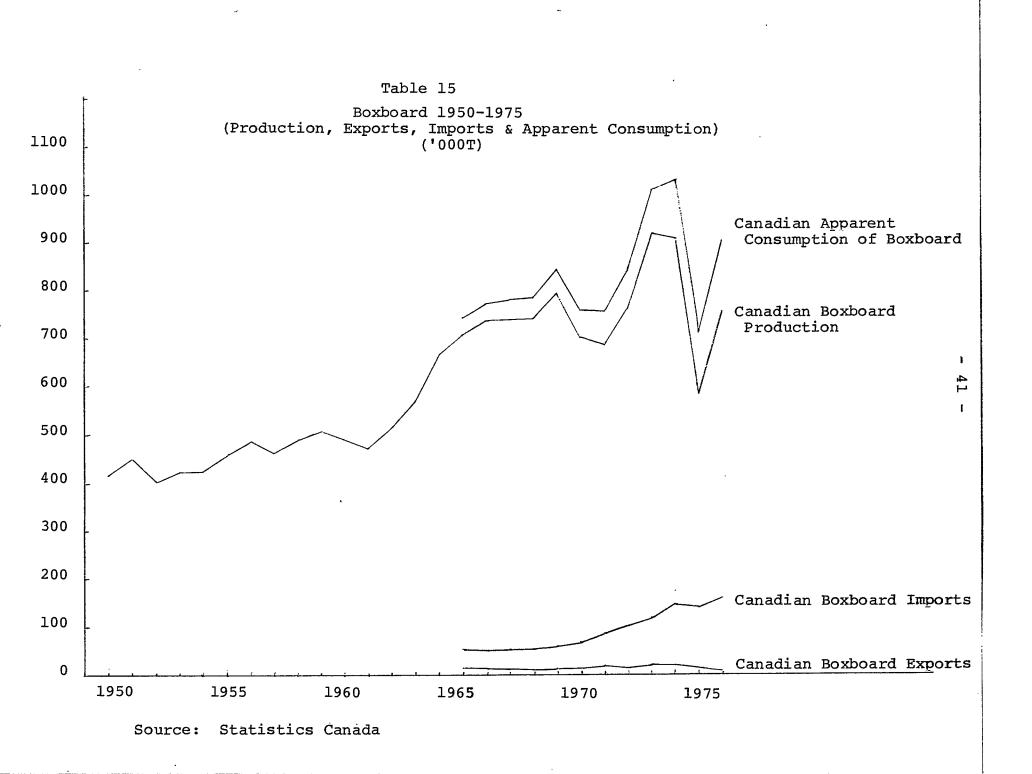
- With a relatively small and geographically dispersed market, Canada does not offer many opportunities for large scale production facilities. This situation applies particularly to the solid bleached board segment, where the total Canadian capacity represents only one third of the capacity of a modern mill, (i.e. Westvaco's Covington mill, whose annual

Table 14

Distribution of Boxboard Production Capacityies

	(000's tons)
Abitibi Price, Kenogami	35
Canadian International Paper, La Tuque	N.A.
Consolidated Bathurst, Grand Mere	37
Continental Can, Toronto Montreal	140 30
Domtar East Angus	35
E.B. Eddy	30
Fraser	34
MacMillan Bloedel, Port Alberni	N.A.
Reed, Quebec City	34
Sonoco, Brandford Terrebonne	70 20
Strathcona Paper Company	45
Trent Valley Paperboard	45
Others	N.A.
Total Industry Capacity (1977)	882

Source: Company data, CPPA Canadian Pulp and Paper Capacity 1976-1979



capacity is 395,000 tons a year). This relatively small market, and the tariff protection enjoyed by the industry, have encouraged the development of a fragmented industry, based on small, relatively suboptimally sized mills, (for example Domtar's East Angus, Price's Kenogami or Consolidated Bathurst's Grande Mere). It should be noted, however, that faced with the same constraints, other producers such as Canadian International Paper, and MacMillan Bloedel, have tried to establish optimally sized pulp mills, (where most economies of scale appear to reside), attempting to spread their output over a greater diversity of products, (linerboard, paperboard and sack paper at Port Alberni; linerboard and paperboard at La Tuque).

- Since a large proportion of the folding boxboard category is composed of waste fibre based boxboards, this segment of the industry has tended to follow the optimal location patterns characterizing this particular source of raw materials, by locating close to major consumption centres. As economies of scale are less pronounced for this type of product, this development has further contributed to the fragmentation of the industry.
- The fragmentation of the industry as well as the importance of recycled fibres have made export markets relatively unattractive to Canadian producers, who, because of their lack of competitive advantage, have concentrated on the protected domestic market.
- Finally the small size of the producers, as well as the diversity of raw materials used at the

converting level, have made forward integration policies less attractive, particularly in comparison with containerboard, (where the number of producers is small and the product relatively homogeneous).

Because of the industry structure mentioned above, the solid bleached paperboard segment appears to be the most vulnerable, particularly in view of:

- the price pressures emanating from the U.S. market
- the threat of increased U.S. imports, which appear to benefit both from lower input costs and from more efficient production facilities, (and which in 1976 represented approximately 20% of the Canadian apparent consumption for these grades).

The position of the other grades composing the box-board segment of the industry appears more secure, although a lack of detailed information makes this appreciation somewhat difficult, (these products being relatively marginal for most of the companies involved).

On the whole, the problems of this segment of the Canadian packaging paper and paperboard industry appear very much related to the existing tariff structure. Because of the small size of the Canadian market, the tariff structure appears to have encouraged Canadian producers to evolve relatively suboptimal production facilities. Given the fact that solid bleached paperboard is entirely made of bleached sulphate pulp, and that most of the producers of solid bleached board are also involved in the sale of bleached kraft pulp, the possibility of these producers being able to compete on the international bleached board market on the basis of competitively sized facilities should not be ruled out,

a priori. Such a change, however, would likely result in a complete restructuring of the industry, with a marked decline in the number of competitors involved. The continuation of the tariff makes this development rather unlikely, inasmuch as it suppresses most of the incentives producers would have, to drastically improve the efficiency of their operations. As a result, the system tends to perpetuate itself and gradually to lose its competitive edge.

The direct impact of the tariff on the other grades is unclear. Indirectly by maintaining relatively high domestic prices, the tariff has probably contributed to speeding up the development of the industry segment based on recycled fibres.

D. WRAPPING PAPERS

With an overall capacity of 674,000 tons, the wrapping paper industry is the smallest segment of the Canadian packaging paper and paperboard industry. To a large extent, its structure is quite similar to that of the containerboard industry, in the sense that it includes both a relatively recent export oriented segment, (centred around multiwall bags), and a more traditional domestically oriented segment, (mostly centred around bag and specialty kraft papers, see Table 16).

The multiwall bag segment which represents 48% of the total industry capacity, is composed of only three firms, all of which are located in Western Canada:

- Prince George: The Prince George mill, which produces both bleached kraft pulp and multiwall sack paper is jointly owned by Reed Paper and Board and by Canadian Forest Products. Reed Paper and Board (U.K.) appears to absorb a substantial part of the mill's kraft paper output in its United Kingdom bag plants, while the rest is sold on the European markets, or on the Canadian market by Reed's Canadian affiliate.
- Manitoba Forestry: This mill is the offspring of the Churchill Forest industry project, which stirred dramatic controversies in the late sixties. The least that can be said is that the production program of this mill underwent some changes. The mill was originally thought of as a newsprint mill, then as a bleached pulp mill and finally as a kraft sack mill. The introduction of this mill in the early seventies was timely, in fact it turned a

Table 16

Distribution of Kraft Paper Production Capacities

(000's tons)		
Manitoba Forestry, The Pas	125	(multi wall sacks)
Reed, Prince George	108	(multi wall sacks)
Eurocan, Kitimat	90 ·	(multi wall sacks)
Domtar, East Angus	101	(wrapping and bag)
Consolidated Bathurst, Three Rivers	75.	(sack, specialty)
Reed, Dryden	7 0	(kraft, specialty and envelopes
Crown Zellerbach, Campbell River	'87	(also includes containerboard)
Canadian Internation Paper, La Tuque	N.A.	(also includes paperboard)
MacMillan Bloedel, Port Alberni	N.A.	(bag and paperboard)
Price, Kenogami	35	
		•

Industry Total 674

Sources: Individual companies, Pulp and Paper Canada Business
Directory Industry totals CPPA

Some individual company capacities include a small portion of products other than kraft paper.

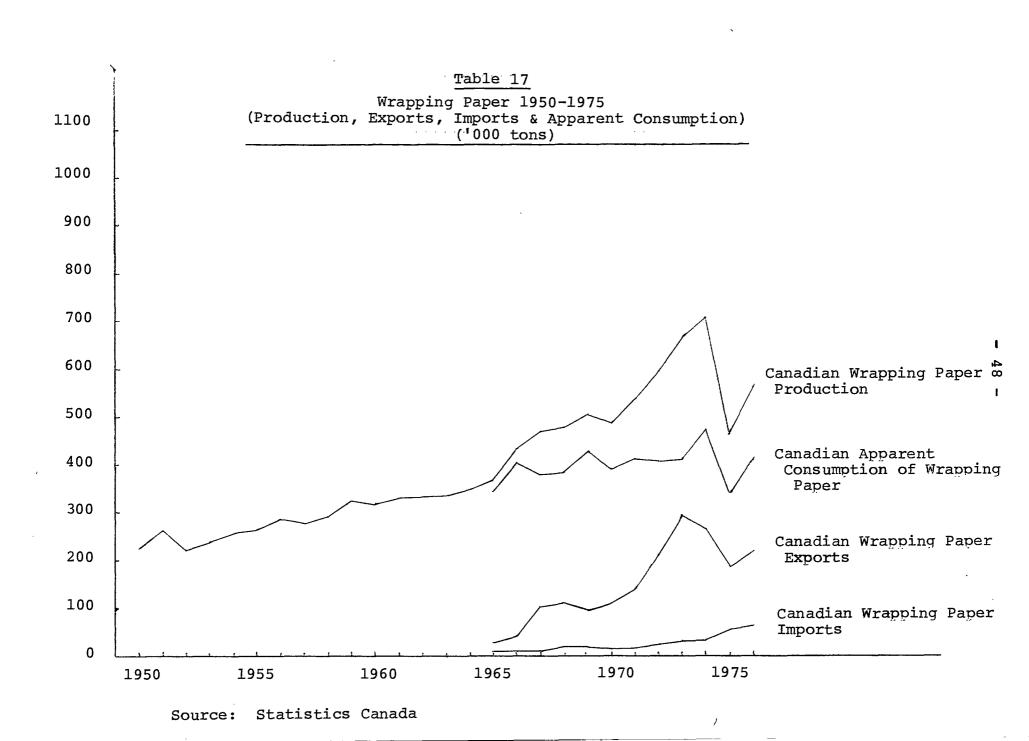
sizeable cash profit during its first year of operations, (1974), largely because of the general boom which characterized the market at that time. Since then, the mill has been affected by both weak world demand, as well as its relatively high cost position.

- Eurocan: As already indicated, Kitimat was the second best location for a group of Finnish companies after originally trying to locate in the U.S. South. The results of the venture do not seem to have lived up to the expectations of its owners, but the specific cost and market situation of the mill is unknown at this point.

As a group, these three mills appear to supply most of the Canadian wrapping paper exports, (which were completely marginal until the mid 1960's, see Table 17). Globally, their shipments are concentrated in the United Kingdom, (partly as a result of the Reed connection), the rest of the European Economic Community, and some developing countries. Their competitive situation, however, appears to be negatively influenced by two sets of factors:

- Relatively stagnant primary markets, as indicated by the following comments:

"Aside from competition from other types of heavy duty bags, paper shipping bags are experiencing some attrition from bulk shipping. In particular, there is a marked trend towards bulk shipments of fertilizers, cement and other products once shipped only in bags. Although heavy duty paper bags have many



traditional end uses, from which they cannot be easily dislodged, most of these end uses, such as agricultural commodities, are themselves growing slowly."

Kline Marketing Guide to the Paper and Pulp Industry, 1976

- The competitive advantages enjoyed by other competitors, i.e. large average size and relatively low costs for producers in the U.S. South, forward integration, favourable tariffs and common market policies for the Scandinavian producers.

The present favourable exchange rate has had a positive effect on the position of the Canadian producers, however, their overall future appears to be relatively limited. If Reed and Eurocan can continue to compete on this market, the future position of Manitoba Forestry appears to be uncertain. In fact, this mill could probably benefit in the long term, either from some upgrading of its product line or from some further integration into the manufacturing of multiwall bags, with the developing countries as a primary market.

Compared to this export oriented segment, the rest of the industry presents some marked differences:

- It is composed of a fairly large number of producers (seven at least, including five in Eastern Canada alone), most of which are integrated with converting facilities, (see Table 18).
- Its production facilities are often obsolete and below optimal size levels, (even if, in several cases, sack papers are produced in conjunction with

other products, which tends to minimize scale diseconomies).

- Its product structure includes lines other than sack papers (specialties, wrapping papers).

Table 18 Control Over Bag Plant Facilities

Canadian International Paper	4
Consolidated Bathurst	4
Reed Paper	3
Domtar	4
(Sold to Atlantic Packaging in 1977)	
MacMillan Bloedel	1
Crown Zellerbach	1

Source: Post, Pulp and Paper Directory, 1977

During the last few years, in spite of the protection granted by a fairly high tariff, this segment of the industry appears to have experienced increasing difficulties as evidenced by:

- The almost continuous increase in imports which has characterized the market since the early twenties, rising to more than 60,000 tons in 1976.
- The stagnation of the apparent consumption of wrapping papers in Canada, which in 1976 was still at the same level as in 1965 (around 400,000 tons: see Table 17).
- The attempts made by Domtar to close its East Angus facilities in the face of declining cash flows, and

the magnitude of the investments required to turn the mill into a potentially profitable operation.

- The projects under study by the Price Company concerning the conversion of the Kenogami mill to groundwood papers, with the complete elimination of their unbleached kraft paper line at this mill.
- The comments made by Consolidated Bathurst in its Annual Report, regarding the situation of its kraft paper business:

"Markets for kraft papers continued to be weak in 1976 and net sales were \$16.7 million compared with \$16.6 million in 1975, but were \$12.7 million less than in 1974, when operations were at near capacity levels. loss resulting from the manufacture and sale of kraft papers was significantly higher than in Again the strike aggravated the situation, with customers being forced to obtain supplies from other sources during the first three months of the year and with the slow recovery of the Canadian economy, demand was generally weak. Shipments of kraft papers to the U.S. were sharply reduced and increasing amounts of kraft paper came into the Canadian market from the U.S."

Consolidated Bathurst
Company, 1976 Annual Report

These elements, taken globally, are rather alarming, in the face of both stagnating markets and increasing costs, they appear to point in the direction of progressive capacity retrenchment or conversion to other products. To some extent the industry seems to be locked into a stagnant situation, as

the absence of growth and the relative fragmentation of the industry make it difficult for any producer to undertake the necessary investments which could restore its profitability.

As a result, it appears the industry is destined for a succession of mill closures or reconversions, accompanied by an increase in imports. On the other hand, attempts to maintain the present industry's production facilities, on a piecemeal basis, do not appear likely to achieve success either, because they would probably lead to the maintenance of the present inefficiencies and their translation into price increases, with increased imports as the ultimate result. Consequently, unless some efforts are devoted to the development of more comprehensive solutions, involving both investments in production facilities as well as some amount of reorganization among the various producers, mainly in Eastern Canada, the future prospects of this segment of the industry appear to be somewhat bleak.

