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A STUDY OF

THE CANADIAN LABEL PRINTING INDUSTRY

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THE CANADIAN LABEL PRINTING INDUSTRY

Leisure Products Division  
Service Industries and Consumer Goods Branch  
Department of Regional Industrial Expansion

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A STUDY OF  
THE CANADIAN LABEL PRINTING INDUSTRY

1. Product Definition and Uses

Printed labels are generally small, individual pieces of substrate cut to shape or contained in larger, perforated sheets, and imprinted on the face with an identifying legend, or with a border of guidelines for writing in a legend. Some printed labels are made in stock designs, such as price and size-marking labels, shipping labels, and warning labels; others are printed to order (commonly called custom labels) primarily for the identification of prepackaged merchandise. For the purpose of this study, labels made of cloth or textiles have been excluded.

Plain paper is the most common substrate for printed labels. Other substrates include metal foil laminated paper, metallized paper and plastic films. Plain paper labels are usually least expensive and they are easy to print, to color match and to apply. Paper can be overlaminated with a plastic film to impart extra durability or gloss. If the labels are decorative and must be durable, relatively high-quality paper stock is used, such as cast coated paper with mirror-like gloss. Less expensive stock, such as uncoated paper, is used for short life labels.

Foil laminated paper labels and metallized paper labels are more expensive. They are generally more difficult to print and apply. They give a bright, eye-catching appearances. They give a look of quality and durability to the product. They are used extensively for products that depend on an upscale image for their sale.

Several types of plastics are used for labels. Vinyl plastics are the most pliant and are used when labels have to be applied to irregular or flexible surfaces. Polyester is tougher, but it does not stretch as readily; it is most often used for labels applied on flat or cylindrical surfaces. Plastic materials are impervious to water and can be printed and applied with relative ease. Plastic films can be metalized on the surface to impart a shiny, high-quality image.

Labels are further classified by the method of adhesion to the product, as outlined below:

<u>Category</u>	<u>Method of Adhesion</u>
glue-applied labels	glue and pressure
pressure-sensitive labels	pressure
heat-seal labels	heat and pressure
water-soluble adhesive labels	moistening and pressure

Glue-applied labels are used mainly for very long-run applications on wet containers or in an environment that has a high rate of condensation. For example, they are used extensively in breweries, canning factories and

distilleries. This category is further divided into hot melt glue and wet glue labels. To get maximum adhesion, both label stock and glue must be matched carefully to the material on which the label will be affixed.

Pressure-sensitive labels (also called self-adhesive labels) have a wide range of applications. For example, they are solidly established in the pharmaceutical, cosmetics and food industries. They are being used on car licence plates and are replacing the metal identification plates on electrical appliances.

Heat-seal labels are used primarily for application on textiles and on small glass and plastic bottles. Heat-seal labels are used notably on bottles that are subject to constant squeezing and flexing or when only portions of the label must adhere to the container.

Water-soluble adhesive labels are no longer widely used.

## 2. Industry in Perspective

### 2.1 Current State of Industry

It is estimated that total commercial production of printed labels in Canada reached \$250 million (1) in 1986, a gain of 11.1 percent over 1985. Approximately 48 percent of this total, or about \$120 million, originated from 25 establishments which are primarily engaged (2) in printing labels. Roughly \$130 million worth of labels, or 52 percent of total production in 1986, originated from 135 plants that produce labels as a secondary activity.

Of the 160 establishments supplying labels, 135, or 84.4 percent of the total, were classified under SIC 2819 (other commercial printing), and another 9 plants (5.6 percent) under SIC 2811 (business forms printing). The remaining establishments were found under SIC 2731 (folding carton and set-up box), SIC 2792 (stationery paper products), and SIC 2799 (other converted paper products).

It is generally believed that glue-applied labels accounted for between 60 to 70 percent of total commercial production of labels in 1986. Pressure-sensitive labels accounted for an additional 25 percent. Heat-seal labels and water-soluble adhesive labels accounted for the balance. It is further believed that custom labels, as opposed to stock labels, accounted for the bulk of total output of all categories of labels.

NOTES: (1) Integrated label printing facilities in such organizations as bottling companies (commonly referred to as in-house printing plants) are excluded.

(2) Establishments for which printed labels accounted for at least 50 percent of their annual sales. For the purpose of this study, these plants will be identified as "specialized label printers".

It would appear that 1987 was another good year for label printing, with an increase in shipments estimated at between 6 and 8 percent. While official statistics are not available to confirm it, it is understood that capital expenditures by specialized label printers picked up substantially in the last two to three years, in response to anticipated favourable market conditions. The bulk of investments were directed to the multi-colour high quality pressure-sensitive label market niche. However, there is growing concern among printers that these expansion-modernization projects could result in overcapacity and price-cutting practices if the de-acceleration of the North American economy over the next few years is stronger than currently projected.

## 2.2 Historical Background

As indicated in Table 1, production of printed labels in Canada grew from \$150 million in 1980 to an estimated \$250 million in 1986, an average annual growth rate of 9.0 percent. Growth in real terms (i.e. constant dollars) cannot be provided because of the lack of adequate price indices for labels. Growth by year varied from a high of 17.9 percent in 1981 to a low of 1.1 percent in 1983, when the industry felt the full impact of the recession. The relatively weak production performance in label printing during the recession was accompanied by layoffs and profit erosion. On a more positive note, the recession has forced printers to improve efficiency.

TABLE 1  
SHIPMENTS OF PRINTED LABELS IN CANADA (\$ million)

1980	150.0
1981	176.8
1982	182.0
1983	184.1
1984	208.3
1985	225.0
1986	250.0

SOURCE: Statistics Canada Catalogue No. 31-211 and Divisional estimates

There is no established seasonal business patterns for the label printing industry, generally reflecting the fact that the industry's output ultimately ends up on an extremely wide range of products. It is understood that pressure-sensitive labels have shown the highest rate of growth during the 1980-86 period, while water-soluble adhesive labels have registered a decline in shipments.

The expanding use of pressure-sensitive labels in industry, commerce and the home is a direct result of the advantages this form of labelling offers the user. In particular, pressure-sensitive labels are more flexible and less likely to wrinkle than glue-applied labels. In addition, they tend to be easier and cleaner to apply. In addition, high-volume pressure-sensitive label applicators are less expensive, less complex and easier to maintain than glue-applied or heat-transfer systems. Pressure-sensitive labels were first

introduced by Avery International Corp. in the United States in 1935 (in contrast the first heat-seal label system, Therimage, was developed by Dennison Manufacturing in the United States about 30 years ago). However, market demand for pressure-sensitive labels really started to pick up in the last decade with the increasing use of flexible plastic containers. Pressure-sensitive labels are particularly suited for these containers. Over the last few years, plastic containers have gradually taken over a sizeable portion of packaging markets traditionally the domain of glass and metal. Pressure-sensitive labels can be applied easily to containers on or off the fill line. In contrast, heat-seal labels must be applied off the fill line while glued labels are usually applied on the fill line.

During the period under review, label printing performed better than the manufacturing sector (average annual growth rate of 7.3 per cent) and the economy (8.6 percent), but at a slower rate than the overall commercial printing sector (10.5 percent).

### 3. Industry Structures

In 1985, there were 25 establishments in Canada primarily engaged (1) in printing labels. All these plants but one were classified under SIC 2819. Together, these plants employed 1,971 people. Combined sales of these 25 establishments reached \$164.3 million, of which about \$120 million or 73 percent of the total consisted of labels. These plants together accounted for roughly 48 percent of total commercial production of labels in Canada.

Relative to the overall commercial printing sector, the specialized label printing industry accounted for 0.8 percent of all plants, 3.6 percent of total employment and 3.7 percent of shipments in 1985. During that year, the average specialized label printing establishment reported annual sales of \$6.6 million, compared to annual sale averages of \$1.5 million in the commercial printing sector and \$6.7 million in the overall manufacturing sector in Canada.

As outlined in Table 2, plants employing fewer than 20 people represented about one-fifth of all specialized label printing establishments in 1985, but probably accounted for less than 5 percent of total shipments. At the other extreme of the scale, plants with at least 100 employees, 20 percent of the total, shared roughly 60 percent of all shipments. In contrast, only 3.2 percent of all commercial printing establishments in Canada employed at least 100 people in 1985 and together accounted for 47.1 percent of sector's shipments. There have been no indications of major changes in the establishment size pattern of the label printing industry or the commercial printing sector in 1986-87.

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NOTE: (1) Establishments for which printed labels accounted for at least 50 percent of their annual sales. For the purpose of this study, these plants will be identified as "specialized label printers".

TABLE 2  
DISTRIBUTION OF INDUSTRY BY ESTABLISHMENT SIZE, 1985

<u>No. of Employees</u>	<u>Establishment</u>		<u>Shipments</u>	
	<u>(no.)</u>	<u>(%)</u>	<u>(\$million)</u>	<u>(%)</u>
less than 20	4	16	5	3
20 to 99	16	64	67	41
100 or more	5	20	92	56
TOTAL	25	100	164	100

SOURCE: Statistics Canada unpublished data and Divisional estimates.

In 1985, the smallest specialized label printing plant had roughly 10 employees, with sales of about \$0.9 million. There are no major barriers to entry into this industry at the small scale level. The largest plant employed almost 300 people, with sales of roughly \$30 million.

In 1985, the specialized label printing establishments were found predominantly in Central Canada, 16 in Ontario and 6 in Quebec, and together they accounted for 96 percent of all shipments, as demonstrated in Table 3. The remaining plants were in Western Canada (2 in Manitoba and 1 in British Columbia). In contrast, non-specialized label printers are found throughout Canada.

TABLE 3  
REGIONAL DISTRIBUTION OF INDUSTRY, 1985

	<u>Establishment</u>		<u>Shipments</u>	
	<u>(no.)</u>	<u>(%)</u>	<u>(\$million)</u>	<u>(%)</u>
Quebec	6	24	55	34
Ontario	16	64	102	62
Western Canada	3	12	7	4
TOTAL	25	100	164	100

SOURCE: Statistics Canada unpublished data and Divisional estimates

The specialized label printers tend to be located in areas of high population density. Plants located in the Toronto and Montreal metropolitan areas alone account for roughly 75 percent of the total output of all specialized label printers. In contrast, only about half of the total output of all commercial printers in Canada originates from establishments in these two centres, versus 32 percent for the overall manufacturing sector.

Most of the specialized label printers have fully integrated operations, offering both custom and stock labels. In contrast, the non-specialized suppliers usually offer only custom labels. There is some degree of trade

between specialized and non-specialized label printers. Finally, most specialized label printers are engaged in printing other identification products, such as tags and decals. In addition, some of these printers sell small (frequently called desktop) label applicators.

The 25 specialized label printing establishments in Canada are controlled by 23 different companies. Two of these companies are foreign-controlled (USA) and together, they account for about one-fifth of the combined production of all specialized label printers in Canada. In comparison, about 4 percent of all commercial printers in Canada are foreign-controlled and collectively they account for only about 15 percent of sector's output. In terms of foreign-ownership, both the label printing industry and the commercial printing sector compare favourably with the overall Canadian manufacturing sector, where half of all shipments originate from foreign-owned firms. Finally, there are five companies in Canada, controlled by foreign interests, which, although not classified as specialized label printers, produced at least \$1 million worth of printed labels in 1985.

One of the specialized Canadian-owned label printers, CCL Industries Inc., has manufacturing branch plants abroad (USA). In addition, Maclean Hunter, a general Canadian-owned commercial printer, owns a major specialized label printing company in the United States.

#### 4. Employment

As indicated previously, the 25 specialized label printers in Canada employed 1,971 people in 1985. Production and related workers accounted for 75.5 percent of total employment of these specialized printers, compared to averages of 79.6 percent for the commercial printing sector and 73.9 percent for the overall manufacturing sector. During the period 1983-85, the proportion of production and related workers to total employment has increased at a faster pace in label printing than in the other two manufacturing groups, as shown in Table 4.

TABLE 4  
PRODUCTION AND RELATED WORKERS  
AS A % OF TOTAL EMPLOYMENT

	<u>1983</u>	<u>1984</u>	<u>1985</u>
Label printing	67.9	68.7	75.5
Commercial printing	74.6	74.2	79.6
All manufacturing	71.4	72.1	73.9

Source: Statistics Canada Catalogue No. 31-203 and 36-203 and unpublished data.

Label printing is somewhat less labour intensive than general commercial printing, but both industrial groupings are significantly more labour intensive than the average for all manufacturing industries. Wages represented 21.4 percent of the value of shipments of specialized label printers in 1985,

versus 23.2 percent for the commercial printing sector and 12.5 percent for the overall manufacturing sector. As demonstrated in Table 5, labour intensity rates have followed similar patterns in those three manufacturing groups during the period 1983-85.

TABLE 5  
WAGES AS A % OF SHIPMENTS

	<u>1983</u>	<u>1984</u>	<u>1985</u>
Label printing	18.5	18.1	21.4
Commercial printing	23.7	21.5	23.2
All manufacturing	12.7	12.3	12.5

Source: Statistics Canada Catalogue No. 31-203 and 36-203 and unpublished data.

In 1985, the label printing industry has provided a higher wage structure than general commercial printing and all manufacturing. Hourly earnings averaged \$13.10 for the specialized label printers in 1985 versus \$12.21 for the commercial printing sector and \$11.36 for the overall manufacturing sector in Canada. During the period 1983-85, hourly earnings have increased at a faster rate in label printing than in commercial printing or all manufacturing, as depicted in Table 6.

TABLE 6  
ANNUAL AVERAGE HOURLY EARNINGS

	<u>Label Printing</u> ( <u>\$</u> )	<u>Commercial Printing</u> ( <u>\$</u> )	<u>All Manufacturing</u> ( <u>\$</u> )	<u>LP/CP</u> ( <u>%</u> )	<u>LP/AM</u> ( <u>%</u> )
1983	10.64	10.92	10.49	97.4	101.4
1984	11.81	11.50	10.95	102.7	107.9
1985	13.10	12.21	11.36	107.3	115.3

Source: Statistics Canada Catalogue No. 31-203 and 36-203 and unpublished data, and Divisional estimates.

Labour productivity, expressed as manufacturing value added per person-hour paid, is relatively high in the label printing industry. It stood at \$38.45 for the specialized label printers in 1985, compared to only \$29.19 for the commercial printing sector and \$35.06 for the manufacturing sector. As shown in Table 7, label printing has performed better than commercial printing and all manufacturing in improving its labour productivity during the 1983-85 period.

TABLE 7  
MANUFACTURING VALUE ADDED FOR PERSON-HOUR PAID

	<u>Label Printing</u> (\$)	<u>Commercial Printing</u> (\$)	<u>All Manufacturing</u> (\$)	<u>LP/CP</u> (%)	<u>LP/AM</u> (%)
1983	30.52	25.84	31.35	118.1	97.4
1984	36.15	29.69	34.34	121.8	105.3
1985	38.45	29.19	35.06	131.7	109.7

SOURCE: Statistics Canada Catalogue No. 31-203 and 36-203 and unpublished data, and Divisional estimates.

Most of the specialized label printers in Canada are open shops. In the last few years, labour supply has not been a major problem for the industry. The major vehicle for acquiring trade skills in this industry, like in other commercial printing sub-sectors, is still on-the-job training provided by management, unions and suppliers of machinery and equipment. In addition, a number of Canadian technical schools and community colleges provide courses in various aspects of printing.

As a general rule, the level of management sophistication in the label printing industry, like most industries, increases with the size of the firm. In most instances, larger label printing firms are managed by professionals who employ effective management systems. In small firms, virtually all decisions are taken by one or two persons, in most cases the owners who are often entrepreneurs with printing or direct selling backgrounds but little experience in other functions. Consequently, managerial decisions are frequently made by instinct. The size of these firms restricts the extent by which a specialized management group can be efficiently maintained or financially justified.

#### 5. Raw Materials and Energy

In 1985, the 25 specialized label printers spent \$71.7 million for raw materials and supplies, representing 43.7 percent of the value of shipments, compared to averages of 44.3 percent for the commercial printing sector and 58.7 percent for the overall manufacturing sector. During the period 1983-85, the proportion of the value of shipments accounted for by raw materials and services declined in label printing and all manufacturing, but increased in commercial printing, as demonstrated in Table 8.

TABLE 8  
RAW MATERIALS AND SERVICES  
AS A % OF SHIPMENTS

	<u>1983</u>	<u>1984</u>	<u>1985</u>
Label printing	46.2	44.9	43.7
Commercial printing	43.0	44.0	44.3
All manufacturing	58.9	59.2	58.7

SOURCE: Statistics Canada Catalogue No. 31-203 and 36-203 and unpublished data.

The major materials used by label printers in 1985 were paper, plastics, adhesives and inks. Most of the materials consumed by label printers are Canadian produced. Some grades of base stock paper used by label printers are imported, primarily from the United States and Finland. It is understood that the tonnage required is too small to justify economic production in Canada. No critical sourcing difficulties or delays in obtaining raw materials and supplies have been experienced by the Canadian label printing industry over the past few years.

Table 9 gives the American producer price index for the grade of paper most used by label printers. Regrettably, a similar index is not available for Canada. However, it is likely that similar price patterns have prevailed in Canada. It is understood that prices for all the major raw materials utilized by Canadian label printers have not risen unduly in the last few years.

TABLE 9  
AMERICAN PRODUCER PRICE INDEX FOR PRINTING PAPER  
COATED ONE SIDE FOR THE MONTH OF DECEMBER

1982	100.0
1983	101.4
1984	108.2
1985	106.3
1986	111.3
1987	116.4

SOURCE: U.S. Department of Labor - Producer Price Indexes Report

While some of the larger printers of labels formulate their own adhesives, the vast majority of printers as well as industrial users of labels rely on chemical producers to meet their requirements. Preparation of adhesives involves the use of resins, solvents and stabilizing agents. Adhesives are generally categorized as removable or permanent. A wide variety of adhesives, including dextrans, caseins and jelly gums, are available on the market and new ones appear regularly. For example, there are adhesives that enable labels to stick to frozen products at  $-30^{\circ}\text{C}$  or that can be used in temperatures exceeding  $200^{\circ}\text{C}$ . In the case of pressure-sensitive labels, the adhesive is usually covered with a sheet of silicone backing paper; this paper protects and supports the label and is removed for application.

The label printing industry is a small energy consumer. As a percentage of value of shipments, the industry's fuel and electricity costs stood at 0.8 percent in 1985, compared to 1.1 percent for the overall commercial printing sector and 3.0 percent for all manufacturing industries.

#### 6. Manufacturing Processes

In the United States, lithography (also called offset) is the primary method for printing labels, accounting for 34 percent of shipments, followed by flexography (28 percent), gravure (19 percent), letterpress (12 percent) and silk screen printing (7 percent). Similar detailed statistics are not available for the Canadian industry, however, it is understood that somewhat similar utilization rates would prevail.

In addition, non-impact printing techniques such as ink-jet, laser and thermal, are sometime used to add small amounts of variable information to labels. But because of lower print quality, these techniques do not lend themselves to decorating a label or printing large amounts of fixed information. In some instances, printing is followed by special applications such as overcoating (notably with silicone or varnish as a protective topcoat), bronzing (applying bronze powder for decorative purposes) and embossing (producing letters or designs in relief by stamping or tooling). Finishing operations include die-cutting, kiss-cutting, perforating and slitting.

#### 7. Research and Development

In terms of printing and labelling processes, the label printing industry like the commercial printing sector, worldwide, generally relies on suppliers of machinery and equipment to originate technological developments. Because of the existence of several competing printing and labelling methods, extensive research and development programs have been conducted by suppliers in order to capture a larger share of the market. This has resulted in a rapid and continuing introduction of new or more sophisticated technologies. These technologies are made available on a worldwide basis. Annex A provides Canadian import statistics for labelling machinery. Similar import statistics for label printing presses are not available. Statistics Canada does not publish separate production statistics for labelling machinery or label printing presses.

Three Canadian-owned firms, namely, Arpeco Engineering Limited, and Rotoflex International Inc., both located in Mississauga, Ontario, and Mecanabec Systems Inc., located in Longueuil, Quebec, are internationally recognized leaders in the manufacture of high quality printing and converting equipment for the narrow roll label and tag industries.

Arpeco's newest available product is the impressionist rotary label press with letterpress and flexographic printing with a complete range of converting options. Rotoflex has developed a new line of high tech inspector/slitter/rewinders aimed towards total production control through electronic sensors and security systems. Mecanabec has developed a new, narrow web flexographic press for paper, film, and foil printing. The press offers features such as

eight inch web, five colours modular in-line, three station rotary die cutting section and many others. All of the foregoing equipment is engineered for excellence in terms of quality, dependability, versatility, and ease of operation, and is designed for the producers of pharmaceutical, food, beverage and other high quality labels.

Given the nature of the industry, the need for R&D to improve existing labels or develop new ones is relatively important, but here again, the Canadian label printing industry is generally dependent on outside sources for ideas. A recent industry trend, which started initially in the United States, is the combination of pressure-sensitive labels with business forms such as warehouse packing slips and shipping orders. The advantages to the user are numerous. It is more economical and faster, since the labels and business forms are printed with the name and address and other information during one pass through the printing press. It also cuts down on errors, since there is no need to manually match labels and forms with the risk of the wrong label being applied to a package.

At the company level, CCL Industries, one of the largest suppliers of labels in Canada, introduced in 1987 a label, named Fix-a-Form, that carries up to 50 times more information than the traditional label. Fix-a-Form is essentially a pressure-sensitive booklet, with self-enclosed pages, which adheres to the packaged product. It is used for contests, coupons and cross-promotions. Fix-a-Form was developed by a British inventor, John Waddington. CCL has the exclusive manufacturing and distribution rights for Canada. In 1986, the company had become the first North American licensee for Mono-Web technology, a system used to manufacture pressure-sensitive labels without silicone-release paper. This technology was also developed by John Waddington.

#### 8. Profitability

The national association of commercial printers in the United States, the Printing Industries of America (PIA), conducts an annual survey of the financial performance of its members. These surveys tend to indicate that specialized label printers perform better than general commercial printers. For example, before-tax profit on sales in 1984 stood at 6.0 percent for specialized label printers, compared to 3.8 percent for all commercial printers. For that year, return on investment reached 9.3 percent for label printers, versus 7.0 percent for all commercial printers. However, the level of participation in these surveys tend to be relatively small and, therefore, the results may not be representative of the situation at the industry level.

The Canadian counterpart of PIA, the Canadian Printing Industries Association, also conducts annual financial surveys, however, the number of participants is not sufficiently large to enable a breakdown of results by product specialization. However, it is generally believed that the overall financial picture of the label printing industry in Canada can be described as healthy.

It should also be noted that traditionally, the financial performance of the commercial printing sector in Canada, both in terms of before-tax profit on total income and after-tax profit on equity, has usually been better than the overall manufacturing sector.

## 9. Domestic Market Structures

### 9.1 Market Size

The apparent Canadian market for printed labels grew from \$156.5 million in 1980 to an estimated \$264.1 million in 1986, an annual growth rate of 9.1 percent. Per capita consumption of labels increased from \$6.50 in 1980 to an estimated \$10.31 in 1986.

It is generally believed that the food industries sector is the largest user of printed labels, accounting for about 40 percent of total Canadian consumption, followed by the beverage industries sector (25 percent) and the chemical product industries sector (15 percent). Annex B provides detailed statistics on consumption of labels, tags and wrappers by manufacturing industries in Canada in 1985.

### 9.2 Marketing Practices

Labels are used to convey instructions, identification and warnings. In some instances, they are used also to enhance product appearance. Labels are consumed by all segments of the economy.

Since there is little room for significant product differentiation in the area of stock labels, price tends to be the overriding marketing factor. In contrast, custom labels vary ad infinitum in terms of shape, size, colour and use. Consequently, good service in terms of quality and delivery becomes a prime requirement. Specialized label printers advertise their capabilities mostly through company circulars/brochures and advertisements in specialized business publications. Personal contact with customers is the prime method utilized by printers to sell custom labels and to reach large industrial users of stock labels. Smaller users of stock labels are reached primarily through stationery stores and stationery section of department stores.

## 10. Canada's International Trade

### 10.1 Exports

Statistics Canada does not publish separate export data for labels. Table 10 provides import statistics for paper and paperboard labels, published by selected foreign countries. Based on these partial statistics and industry sources, it is estimated that Canadian exports of labels reached about \$ 3.0 million in 1980 and \$11.5 million in 1986. The increase reflects primarily the impact of a favourable Canadian dollar.

Exports of labels grew at a faster rate than domestic production, as their share of industry's output expanded from an estimated 3.0 percent in 1980 to 4.6 percent in 1986. This compares favourably with the overall commercial printing sector which recorded export orientation ratios of 2.2 percent in 1980 and 3.7 percent in 1986.

It is generally believed that roughly 90 percent of export shipments of labels in 1986 were directed to the United States. It is understood that a handful of printers accounted for the bulk of Canadian exports of labels, with one company alone accounting for roughly 50 percent of all export shipments. In addition, exports tend to be concentrated in the multi-colour high quality pressure-sensitive label market niche.

TABLE 10  
IMPORTS OF PAPER AND PAPERBOARD LABELS FROM CANADA(1)

	<u>1980</u>	<u>1986</u>
	----- U.S. \$000 -----	
Austria	3	6
Australia	15	41
Belgium-Luxembourg	12	94
Denmark	2	7
Finland	0	4
France	41	23
W. Germany	8	31
Greece	0	4
Ireland	6	10
Italy	13	1
Japan	6	35
Netherlands	0	4
New Zealand	2	5
Norway	2	2
Portugal	1	0
Spain	54	2
Sweden	0	19
Switzerland	2	16
United Kingdom	141	156
United States	1,781	7,560
Yugoslavia	1	0

SOURCE: Organisation for Economic Co-Operation and Development

NOTE: (1) Covers printed and unprinted labels. Trade statistics for labels other than paper and paperboard are not available.

### 10.2 Imports

As depicted in Table 11, imports of printed labels into Canada jumped from \$9.5 million in 1980 to \$25.6 million in 1986, an average annual growth rate of 18.1 percent. Imports expanded at a faster rate than domestic production, as their share of the apparent Canadian market increased from 6.1 to 9.7 percent. In comparison, the overall commercial printing sector recorded import penetration ratios of 8.2 percent in 1980 and 7.8 percent in 1986. Overall, Canada's trade imbalance in labels (i.e. the difference between exports and imports) has grown from \$6.5 million in 1980 to \$14.1 million in 1986. It is estimated that Canada's imports of printed labels reached \$28.0 million in 1987.

TABLE 11  
CANADA'S IMPORTS OF PRINTED LABELS (\$ million) (1)

1980	9.5
1981	12.6
1982	14.8
1983	16.9
1984	19.4
1985	22.2
1986	25.6
1987	28.0

SOURCE: Statistics Canada Catalogue No. 65-207 and Divisional estimate  
NOTE: (1) Includes small quantities of printed tags.

Based on partial statistics obtained through a special import analysis prepared by the Department of Regional Industrial Expansion (1), it is estimated that pressure-sensitive labels accounted for about 30 percent of Canada's imports of all categories of labels in 1985.

The United States is by far the largest foreign suppliers of printed labels to Canada, as demonstrated in Table 12. It is believed that a significant portion of the labels entering Canada are imported by American-controlled companies in all segments of the Canadian economy that obtain their requirements from their parent organizations or from the American printers that supply their parent organizations.

TABLE 12  
CANADA'S IMPORTS OF PRINTED LABELS (1)

	<u>1980</u>		<u>1983</u>		<u>1986</u>	
	(\$000)	(%)	(\$000)	(%)	(\$000)	(%)
United States	8,374	88.5	15,232	90.3	21,313	83.3
W. Germany	81	0.9	182	1.1	1,325	5.2
United Kingdom	336	3.5	298	1.8	696	2.7
France	109	1.2	265	1.6	530	2.1
Hong Kong	13	0.1	104	0.6	313	1.2
Italy	82	0.9	65	0.4	251	1.0
Japan	217	2.3	174	1.0	243	1.0
Netherlands	38	0.4	152	0.9	204	0.8
Others	217	2.3	405	2.4	727	2.8
	<u>9,467</u>	<u>100.0</u>	<u>16,877</u>	<u>100.0</u>	<u>25,602</u>	<u>100.0</u>

SOURCE: Statistics Canada Catalogue No. 65-207  
NOTE: (1) Includes small quantities of printed tags.

NOTE: (1) Copies of this import analysis are available free of charge from the Leisure Products Division (JSCG), Department of Regional Industrial Expansion, 235 Queen St., Ottawa, Ontario K1A 0H5 (613) 954-3100.

Of the \$25.6 million worth of labels imported into Canada in 1986, \$ 2.1 million or 8.2 percent of the total came in duty free. The remaining imports were subject to tariffs ranging from 2.5 percent to 25.0 percent and were classified under 60 different tariff items. However, the vast majority of dutiable imports (\$22.9 million out of \$23.5 million) were dutiable at 12.4 percent. The principal tariff items are described in Annex C along with the duty rates applicable in 1988.

11. Label Printing in the USA

As well as being the largest existing and potential market, the United States represents the major competition of the Canadian label printing industry. As outlined in Table 13, commercial production of printed labels in the United States increased from U.S. \$2.0 billion in 1980 to U.S. \$2.7 billion in 1985. An estimated 600 establishments were primarily engaged in printing labels in 1985 and they accounted for roughly 70 percent of total production of labels in the United States.

TABLE 13  
LABEL PRINTING IN USA(1)

	<u>Production</u>	<u>Exports</u>	<u>Imports</u>	<u>Apparent Consumption</u>
	U.S. \$ million			
1980	1,971.9	18.0	5.6	1,959.5
1981	2,206.0	20.8	7.9	2,193.1
1982	2,193.8	23.2	9.5	2,180.1
1983	2,412.2	23.0	10.7	2,399.9
1984	2,559.1	24.7	12.2	2,546.6
1985	2,740.7	22.1	10.1	2,728.7
1986	N/A	23.1	18.1	N/A

SOURCE: U.S. Department of Commerce

NOTE: (1) Includes small quantities of wrappers

Between 1980 and 1985, production of labels in the United States expanded at an average annual rate of 6.9 percent, compared to 8.6 percent in Canada. During the period under review, American exports of labels grew at a slower rate than domestic shipments, as their share of the industry's total output declined from 0.9 percent to 0.8 percent. In contrast, imports into the United States increased at a faster rate than domestic production, as their share of the apparent market increased from 0.3 percent to 0.4 percent. The United States label printing industry is less export oriented but supplies a larger share of its domestic market than its Canadian counterpart. Per capita consumption of labels grew from US \$8.60 in 1980 to US \$11.45 in 1985, levels substantially higher than those recorded in Canada.

In 1986, Mexico was the principal export market for American label printers, absorbing 25.2 percent of all American export shipments, followed by Canada (20.1 percent), Hong Kong (6.0 percent), the Dominican Republic (4.3 percent), the Bahamas (4.2 percent), West Germany (4.0 percent), the United Kingdom (3.6 percent) and Japan (3.1 percent).

Canada was the principal foreign supplier of the United States in 1985, accounting for 41.5 percent of all imports of labels into the United States, followed by Japan (20.5 percent), France (8.7 percent), the United Kingdom (7.3 percent) and W. Germany (6.2 percent). Of the US \$18.1 million worth of labels imported into the United States in 1986, US \$1.5 million or 8.5 percent of the total, came in duty free while the balance of imports were subject to tariffs ranging from 4.6 cents per pound (roughly equivalent to an ad valorem rate of 1.0 percent) to 4.4 percent. The principal tariff rates are listed in Annex C.

As in Canada, the American label printing industry comprises a large number of small businesses; however, the larger companies in the United States dominate their Canadian counterparts. For example, the largest supplier in the United States had sales of labels estimated at roughly US \$400 million in 1985, compared to about Cdn \$30 million (roughly US \$22 million) for the largest label printer in Canada. The American label printing industry is predominantly domestically owned.

In 1982, the latest year for which official statistics are available, specialized label printing in the United States was concentrated in Ohio (10.9 percent of industry's shipments), Illinois (10.5 percent), California (8.9 percent), Wisconsin (7.6 percent) and New York (7.5 percent). Over the last few years, there has been a trend towards movement of printing facilities to the sun belt area in response to above-average increases in general business activity and population in the southern and western states.

There are no major differences in manufacturing technologies used by the American and Canadian label printing industries. There is basically no substantive difference in the type of labour force utilized by the two industries. Finally, on an equivalent size basis, management characteristics are similar in both the American and Canadian label printing industries.

## 12. International Trade in Labels by Developed Countries

As shown in Table 14, West Germany was by far the largest exporter of labels among developed countries in 1986, followed by Belgium-Luxembourg, the United States and the Netherlands. In contrast, France was the largest importer, followed by the United Kingdom, Belgium-Luxembourg and the Netherlands. In 1986, France had the largest trade imbalance in absolute terms, followed by Norway, Switzerland and Canada. However, on a per capita basis, Norway had the worst trade balance (US\$3.24 per inhabitant), followed by Switzerland (US\$1.59), Austria (US\$1.08), France (US\$0.61) and Canada (US\$0.39).

TABLE 14  
INTERNATIONAL TRADE IN LABELS (US \$ Million) (1)

	Exports		Imports		Trade Balance	
	1980	1986	1980	1986	1980	1986
Austria	4.3	5.2	10.0	13.4	-5.7	-8.2
Australia	1.1	1.0	2.6	4.5	-1.5	-3.5
Belgium-Luxembourg	29.1	36.3	23.2	28.0	+5.9	+8.3
Canada	2.6	8.3	8.1	18.4	-5.5	-10.1
Denmark	11.4	16.3	5.7	7.1	+5.7	+9.2
Finland	5.7	4.7	2.2	3.9	+3.5	+0.8
France	16.3	24.1	40.9	58.0	-24.6	-33.9
W. Germany	69.4	104.7	22.9	26.2	+46.5	+78.5
Greece	0.1	0.3	2.4	2.5	-2.3	-2.2
Ireland	6.7	12.0	6.7	10.6	0	+1.4
Italy	11.3	5.0	8.9	1.5	+2.4	+3.5
Japan	10.1	20.3	0.9	1.5	+9.2	+18.8
Netherlands	26.6	31.9	17.9	26.3	+8.7	+5.6
New Zealand	1.6	2.5	0.2	1.5	+1.4	+1.0
Norway	0.4	0.4	9.5	13.9	-9.1	-13.5
Portugal	0.1	0.1	0.5	1.7	-0.4	-1.6
Spain	1.5	2.0	1.7	5.1	-0.2	-3.1
Sweden	8.5	13.9	7.4	11.1	+1.1	+2.8
Switzerland	4.9	5.2	9.5	15.6	-4.6	-10.4
United Kingdom	25.0	25.6	12.1	35.6	+12.9	-10.0
United States	28.2	36.1	6.2	19.9	+22.0	+16.2
Yugoslavia	0.1	0.4	0.2	0.7	-0.1	-0.3

SOURCE: Organisation for Economic Co-Operation and Development and Divisional estimates for Canadian exports

NOTE: (1) Covers paper and paperboard labels, printed and unprinted. Trade statistics for labels other than paper and paperboard are not available.

### 13. Role of Governments

Governments in Canada have not developed special assistance programs for their label printing industry. Labelling regulations and horizontal taxations and tariff policies are the government measures that have had the strongest influence on the label printing industry in Canada.

The federal Consumer Packaging and Labelling Act requires that prepackaged products show the net quantity, the dealer identification and applicable instructions for use. In particular, the regulations associated with the Act cover requirements for bilingual labelling, application of the label to the product, and describe the part of the label on which information is to be shown.

The Act does not apply to prepackaged products subject to the Textile Labelling Act and the Food and Drugs Act, which have their own set of regulations. Packaging companies in Canada have complained on numerous occasions that imported products on retail shelves frequently do not meet Canadian labelling requirements, reflecting inadequate inspection at the border. The problem most often raised is the lack of translation on labels.

Governments are minor users of labels. For example, the Department of Supply and Services purchased only \$1.5 million worth of labels during the period April 1986 to March 1987 on behalf of the federal government. The average contract size was roughly \$4,600. The 25 specialized printers in Canada covered in Section 3 of this study accounted for only one-quarter of federal government procurement expenditures on labels in 1986-87.

As in Canada, governments in the United States have not provided special incentive programs for label printers. Again here, government labelling requirements (the U.S. Fair Packaging and Labelling Act and the 1984 Uniform State Packaging and Labelling Regulations) have had a major impact.

#### 14. Medium-Term Outlook

The bulk of the output of the label printing industry ultimately ends up on products in the hands of consumers. Market demand for these products, and in turn for labels, is influenced by a complex and interrelated mix of factors, economic, demographic and sociological. Historically, the overall performance of the label printing industry has tended to parallel the performance of the economy as a whole.

On the one hand, Canada's gross national product in constant 1981 dollars is expected to grow at an average annual rate of about 3.2 percent between 1986 and 1992 (1), versus 4.0 percent during the 1980-86 period (2). It is anticipated that inflation, expressed as the consumer price index, will increase at an average annual rate of 3.8 percent between 1986 and 1992 (1), compared to 6.9 percent during the 1980-86 period (3). On the other hand, the population of Canada is forecasted to grow at an average annual rate of approximately 0.9 percent between 1986 and 1992 (4), two-tenths of a percentage point below the level recorded in the 1980-86 period (5).

It is believed that the apparent Canadian market for labels in non-deflated dollars will grow at an average annual rate of between 7 and 9 percent over the medium term, below the commercial printing sector average of between 8 and 10 percent. Most experts believe that pressure-sensitive labels will eventually dominate the market. This is due in some measure to the inherent advantages offered by this form of labelling over its competitors. Pressure-sensitive labels can now be used for a wide range of applications. In

NOTES: (1) Department of Finance

(2) Statistics Canada Catalogue No. 11-003

(3) Statistics Canada Catalogue No. 62-010

(4) Statistics Canada Catalogue No. 91-520

(5) Statistics Canada Catalogue No. 91-001

contrast, other categories of labels tend to be best adapted for a limited number of applications. The anticipated strong performance of pressure-sensitive labels also reflects the expected increasing use of plastic containers in the packaging market. Pressure-sensitive labels are particularly suited for this type of containers. Use of combined business forms and pressure-sensitive labels is expected to show above average growth. Similarly, electronic data processing labels should experience more widespread use. Labels in general should become increasingly important influences on consumer and industrial buying decisions, as they present both product information and product image. A visually appealing label is considered an effective way to sell a product to its target markets. More colour and diversified label designs are expected over the medium term.

Under the Canada-U.S. Free Trade Agreement, the tariffs on printed matter, including labels, would be eliminated in five equal annual stages starting on January 1, 1989. In the area of packaging and labelling regulations, a working group would be established, with equal representation from each country, to examine the regulations pertaining to agricultural, food, beverage and certain related goods for human consumption with a view to ascertain that they do not constitute an arbitrary, unjustifiable or disguise restriction on bilateral trade.

Over the medium term, the United States should continue to offer relatively good potential for efficient Canadian label exporters, on the basis of no significant changes in the value of the Canadian dollar opposite the American currency. It is generally believed that the multi-colour high quality label market niche offers the best potential for Canadian exporters. Conversely, import pressures from the United States are not expected to change drastically under the present tariff structure. It is generally believed that import pressures would increase substantially if the proposed Canada-U.S. Free Trade Agreement is implemented. Many label printers in Canada feel that the tariff phasing-in period is too short. In addition, an increase in the value of the Canadian dollar opposite the American currency could worsen the competitive position of Canadian printers.

Barring government intervention, it is anticipated that there will continue to be an ever increasing concentration of industry's shipments among the larger firms. It is generally believed that no dramatic developments in manufacturing processes utilized by the label printing industry are likely to occur during the next five years, and that the major emphasis will be on refining existing technologies. In particular, electronics and computers will continue to make rapid inroads into label printing plants of all sizes bringing improved speed, efficiency and economy. No critical shortages of paper or other raw materials currently used by the label printing industry are expected in the medium term. Similarly, the industry should have no major problem in attracting adequately trained workers. The industry is a small energy consumer and moderate increases in energy prices would not affect its competitive position.

15. Conclusions

The label printing industry serves all segments of the economy. The bulk of its output involves custom work. It is dominated by a handful of companies. The industry is highly concentrated in Central Canada, notably in the Toronto and Montreal metropolitan areas.

Over the period 1980-86, the performance of the label printing industry compared very favourably with that of the manufacturing sector as a whole. It would appear that 1987 was another good year for label printers, both in terms of capacity utilization and profit levels.

Under the present tariff structure and exchange value of the Canadian dollar, the Canadian label printing industry is capable of supplying most of the requirements of the domestic market and of filling specialized niches in export markets, principally the United States. However, the Canadian industry suffers size-related economic disadvantages vis-à-vis its American counterpart.

It is projected that market demand for labels will continue to grow at a relatively good rate over the medium term, although below the commercial printing sector average.

ANNEX A  
CANADA'S IMPORTS OF LABELLING MACHINERY

	<u>Bottle Labelling Machinery</u>		<u>Can Labelling Machinery</u>		<u>Labelling Machinery N.E.S.</u>	
	<u>Quantity</u> (no.)	<u>Value</u> (\$000)	<u>Quantity</u> (no.)	<u>Value</u> (\$000)	<u>Quantity</u> (no.)	<u>Value</u> (\$000)
1980	47	2,156	63	336	1,919	2,365
1981	56	2,137	12	296	4,190	2,390
1982	32	1,115	12	52	2,610	3,062
1983	48	2,257	25	138	747	3,603
1984	80	4,795	16	163	660	3,961
1985	76	3,180	23	245	630	4,074
1986	47	2,157	28	175	786	3,853
1987	46	2,730	17	83	930	4,186

SOURCE: Statistics Canada Catalogue No. 65-207

ANNEX B  
CONSUMPTION OF LABELS, TAGS AND WRAPPERS IN CANADA, 1985 (\$ Million) (1)

Food industries	90.7
- meat and meat products	9.7
- poultry products	3.6
- fish products	0.2
- canned and frozen fruit and vegetable	17.4
- fluid milk and other dairy products	21.9
- cereal grain flour	0.2
- prepared flour mixes and cereal foods	0.9
- feed	4.1
- biscuit	1.5
- bread and other bakery products	3.2
- cane and beet sugar	2.8
- chewing gum	3.1
- sugar and chocolate confectionery	11.0
- tea and coffee	2.9
- dry pasta	0.4
- other food products	7.8
Beverage industries	55.3
- soft drink	7.6
- distillery products	11.1
- brewery products	32.6
- wine	4.1
Tobacco products	3.3
Rubber products	2.4
Plastic products	0.3
Leather and allied products	1.3
Primary textile industries	2.3
Textile products industries	4.4
Clothing industries	4.7
Wood industries	0.6
Furniture and fixture industries	2.1
Paper and allied products industries	3.1
Printing, publishing and allied industries	2.1
Primary metal industries	0.1
Fabricated metal products industries	0.9
Machinery industries (except electrical machinery)	0.5
Transportation equipment industries	0.3
Electrical and electronic products industries	7.2
Non-metallic mineral products industries	0.8
Refined petroleum and coal products industries	0.2
Chemical and chemical products industries	36.6
- paint and varnish	1.6
- pharmaceutical and medicine	15.7
- soap and cleaning compounds	7.6
- toilet preparations	8.6
- adhesives	0.3
- other chemical products	2.8
Other manufacturing industries	1.9
Total manufacturing	<u>221.0</u>

SOURCE: Statistics Canada Catalogue No. 31-212

NOTE: (1) By the manufacturing industries

ANNEX C  
PRINCIPAL TARIFF ITEMS FOR LABELS

<u>Tariff Item</u>	<u>Description</u>	<u>MFN (1) Rate - 1988</u>
a) <u>Canada</u>		
4821.10.00	Printed paper or paperboard labels of all kinds	11.3%
4821.90.00	Paper or paperboard labels of all kinds, not printed	11.3%
b) <u>United States</u>		
256.30.60	Paper and paperboard labels, unprinted	3.0%
274.29.00	Paper labels, printed in whole or in part by a lithographic process, but not printed in whole or in part in metal leaf	4¢ per lb
274.33.00	Paper labels, printed in whole or in part by a lithographic process and printed in whole or in part in metal leaf	11¢ per lb
274.35.00	Paper labels not printed in whole or in part by a lithographic process	4.2%
c) <u>European Community (2)</u>		
4821	Paper or paperboard labels, whether or not printed or gummed	10.0%

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NOTES: (1) Most Favoured Nation

(2) Belgium, Denmark, France, W. Germany, Greece, Ireland, Luxembourg, The Netherlands, Portugal, Spain and the United Kingdom.

