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Canada

OVERVIEW OF CHANGES IN THE PERFORMANCE AND STRUCTURE OF CANADA'S FOOD AND BEVERAGE PROCESSING INDUSTRY

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Patricia Barkman

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HIGHLIGHTS

PERFORMANCE TRENDS

The industry's share of Gross Domestic Product fell between 1960 and 1990 from 3.9% to 2.4%. Much the same decline occurred in the U.S.

The real value of shipments maintained a slow but steady rate of growth during the 1970's and 1980's, but declined slightly over the 1989-91 period. In contrast to Canada, U.S. output has continued to grow in the last few years.

The average rate of return on investment continues to be above that for all manufacturing and relatively more stable.

Employment increased somewhat in the last half of the 1970's and declined in the early 1980's. Between 1988 and 1991 it fell 12%. Employment in the U.S. sector also declined somewhat over the long run but has more recently increased slightly.

Labour productivity has been about average for Canadian manufacturing but has lagged behind the U.S. sector. There has been little growth in multifactor productivity since the mid-1970's, less than for all manufacturing.

Rates of new investment in buildings and equipment increased steadily throughout the 1980's but declined somewhat in the early 1990's.

Processed food exports and imports (excluding fish) both increased in the 1970's and 1980's, imports somewhat more. Limited data through 1991 indicate little overall change.

STRUCTURAL TRENDS

There is a wide range of firm sizes and, on average, U.S. firms are larger than Canadian firms.

The long term trend in both countries has been to fewer and larger plants. However, from 1982-87 this trend slowed considerably in Canada whereas it continued in the U.S.

Overall, output per plant is higher in the U.S. than in Canada. Also, output per plant appears to be increasing at a faster rate in the U.S. than in Canada.

There is wide range of plant sizes in both countries. In most industries the larger plants account for a relatively large part of industry output.

IMPLICATIONS

Performance indicators suggest that the Canadian food and beverage processing sector has been doing well relative to other Canadian manufacturing segments. However, productivity improvements will be needed if the sector is to maintain and improve its international competitiveness.

Structural adjustments are not unique to Canada; change is on-going in Canada, the U.S. and other countries. However, adjustments in the Canadian sector will likely be more intense due in part to the apparent slow rate of adjustment in the 1980's. Indeed, major restructuring has been more evident in the last few years; production has been shifting from older less efficient and poorly located plants into more modern facilities in areas with better access to raw product supplies and product markets.

This study is an overview of the entire food and beverage processing sector and, therefore, may mask important adjustments in individual industries. Additional work is being initiated at the level of individual industries and commodity sectors and on the determinants of structural change and economic performance.

OVERVIEW OF CHANGES IN THE PERFORMANCE AND STRUCTURE OF CANADA'S FOOD AND BEVERAGE PROCESSING INDUSTRY

I. INTRODUCTION

The Canadian food and beverage processing sector[1], like all of Canadian manufacturing, is currently facing the pressures and opportunities of liberalized trade. As such, it is being forced to rationalize its operations and explore new and differentiated markets for its products.

The current pace of structural change in Canada's food and beverage sector appears to be faster than in the past, although there is little doubt that change in the sector has been on-going for some time. Also, the adjustment process has been, and will continue to be, more significant in some industries than in others; the greatest impact will likely continue to be on those industries which have been the most protected. Other countries are also restructuring their operations in response to the increasingly global trading environment.

This paper provides measures of the performance and structure of Canadian food and beverage processing and how they have changed over time. Also some comparisons are drawn with the U.S. industry. The goal is to provide a descriptive overview of developments in the sector.

II. ECONOMIC PERFORMANCE

Introduction

This section presents an overview of the economic significance and trends in economic performance of the Canadian food and beverage processing sector and, where possible, its component sub-industries. It includes measures of contribution to Gross Domestic Product, recent growth in the sector, international trade patterns and profitability. Also, regional characteristics of the sector are considered.

Economic Contribution

(a) National

The food and beverage processing sector contributed 2.4% to Canada's total Gross Domestic Product (GDP) in 1990, or approximately $15.4 billion.[2] In 1961 the sector's contribution to total GDP was 3.9%.

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1 Unless otherwise specified food and beverages includes fish.

2 Statistics Canada, GDP by Industrial Sector, Catalogue #15-001

The decline in share is largely attributable to relative growth in other sectors rather than a decline in food processing. In fact, in real terms, the sector has grown over the past 20 years at an annual average rate of approximately 2%. The contributions of various manufacturing industries to GDP in 1961 and 1990 are illustrated in Figure 1.

The agri-food sector as a whole, including primary agriculture, food and beverage processing and other related industries such as food services, food wholesaling, food retailing, etc. contributed approximately $51 billion, 8% of Canada's total GDP. The U.S agri-food sector, on the other hand, is considerably larger than the Canadian sector although it is somewhat less important to the total economy. The agri-food sector contributed roughly $410 billion or 6.8% to total U.S. GDP; of this total approximately 1.9% or $122 billion was from food and beverage processing alone.[3]

In 1991 the value of manufacturing shipments was approximately $37 billion for food industries and $6 billion for beverages. The real value of shipments maintained a slow but steady rate of growth during the 1980's, but declined slightly in the 1989-91 period. Shipments for all manufacturing in Canada have also declined in real terms from 1989 (Appendix Table 1).

Compared with the U.S., Canada's output grew much faster through the 1970's but levelled out over the 1982-87 period. Also U.S. output has continued to grow over the last few years where Canadian output has not (Table 1). Growth of shipments for all manufacturing in both Canada and the U.S. has followed a similar pattern although the U.S. sector experienced greater declines over the 1977-82 period.

The food and beverage processing sector is comprised of 20 food industries and 4 beverage industries and is among the largest manufacturing sectors in Canada. The red meat products industry contributes the largest share of food industry value added in Canada followed by brewery products, "other food products" (including tea and coffee, snack foods and dry pasta) and industrial milk products. The largest number of people are employed in the red meats, bakery products, "other food", and dairy products industries (Appendix Table 2).

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[3] U.S. GDP data are for 1987, sourced from the Food Marketing Review, ERS, USDA, 1988.

TABLE 1

FOOD AND BEVERAGE PROCESSING AND TOTAL MANUFACTURING SHIPMENTS, CANADA AND THE U.S., 1972, 1977, 1982, 1987				
	Billions of Current Dollars			
	Food and Beverages		All Manufacturing	
	Canada	U.S.	Canada	U.S.
1972	11.4	115.1	64.4	756.5
1977	21.6	192.9	126.3	1,358.5
1982	38.2	280.5	214.2	1,960.2
1987	48.7	329.7	314.1	2,480.1
	Billions of Constant (1982) Dollars			
	Food and Beverages		All Manufacturing	
	Canada	U.S.	Canada	U.S
1972	31.0	245.3	175.1	1,877.3
1977	34.2	264.2	199.8	2,093.2
1982	38.2	280.5	214.2	1,960.2
1987	41.1	301.5	265.3	2,375.7
	Percent Change in Real Output, 1972-1987 *			
	Food and Beverages		All Manufacturing	
	Canada	U.S.	Canada	U.S.
1972-1977	10%	4%	14%	11%
1977-1982	12%	6%	7%	-6%
1982-1987	8%	8%	24%	21%

* Canadian data are deflated by the IPPI; U.S. data are deflated by the Producer Price (Canadian data are in Can dollars - U.S. data are in U.S. dollars)

Source: Statistics Canada, "Census of Manufactures, 1987" and U.S. Department of Commerce, Bureau of the Census, "Census of Manufactures, 1987".

(b) Regional

The Canadian food processing industry (excluding fish processing) is centred largely in Ontario and Quebec. In 1989, 47% of the industry's value added originated from Ontario, 27% from Quebec, 5% from the Atlantic region, 14% from the Prairies and 7% from B.C. (Figure 1). However, food and beverage processing was less important to total manufacturing in Ontario and Quebec than it was to the Prairies and the Atlantic Region (Figure 2). (Also see Appendix Table 3 and Table 4 for details.)

The fruit and vegetable processing industry accounted for a large proportion of value added in the Atlantic region, while meat processing was important in the Prairies. Quebec and Ontario were the most diversified in terms of value added, with each of the major industry groups contributing. From 1970 through 1989 the distribution of food processing value added among regions did not change significantly and, as such, remains concentrated in Ontario and Quebec.

The regional characteristics of individual industries varies depending upon the nature of the industry. For example, the red meat industry tends to be located near sources of raw materials while fluid milk and bakery products industries tend to be clustered near urban markets. With the latter industries product perishability makes access to markets as important as having a reliable source of raw materials. For further processed, less homogeneous products such as biscuits ready access to markets is important, but also important is access to inputs such as major ingredients and labour. They thus tend to be concentrated in central Canada.

Also, in Canada, provincial boundaries and regional objectives have played a role in defining industry characteristics. This is particularly true for commodities/industries such as brewing and dairy where provincial trade barriers exist.

(c) Trends in Major Food Industries[4]

Red meat sales have declined somewhat in recent years due primarily to a decline in per capita consumption of beef, veal and lamb. Reductions in

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[4] Data for this section are from the Handbook of Food Expenditures, Prices and Consumption, Agriculture Canada Publication, 1990 and from Statistics Canada, Monthly Shipments, Inventories and Orders in Manufacturing.

VALUE ADDED, FOOD AND BEVERAGE PROCESSING, 1989
BY PROVINCE (EXCLUDING FISH)

FIGURE 1

Percentage of Canadian Total

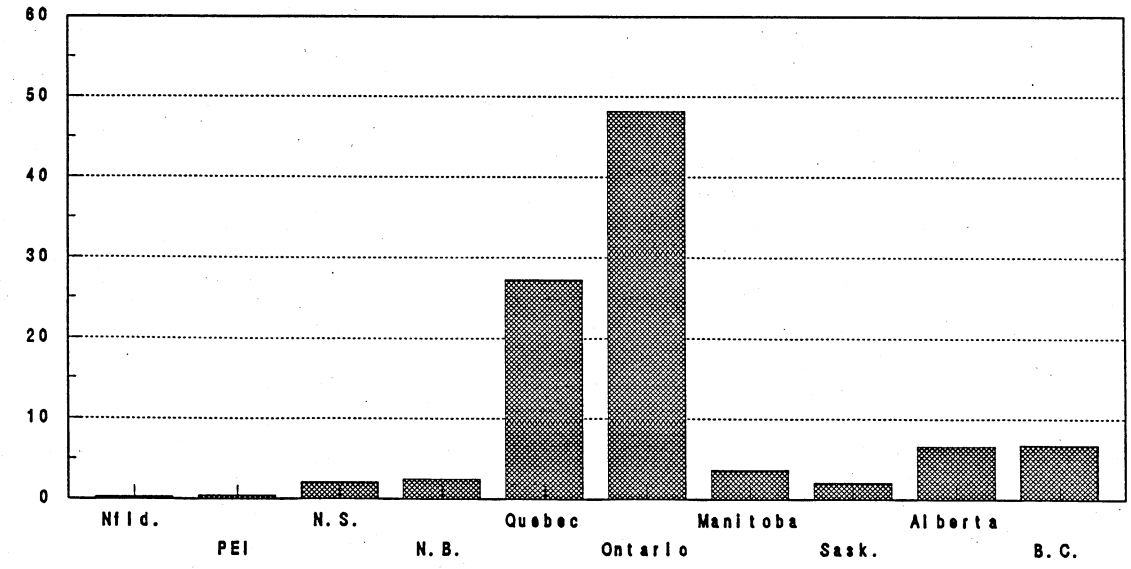
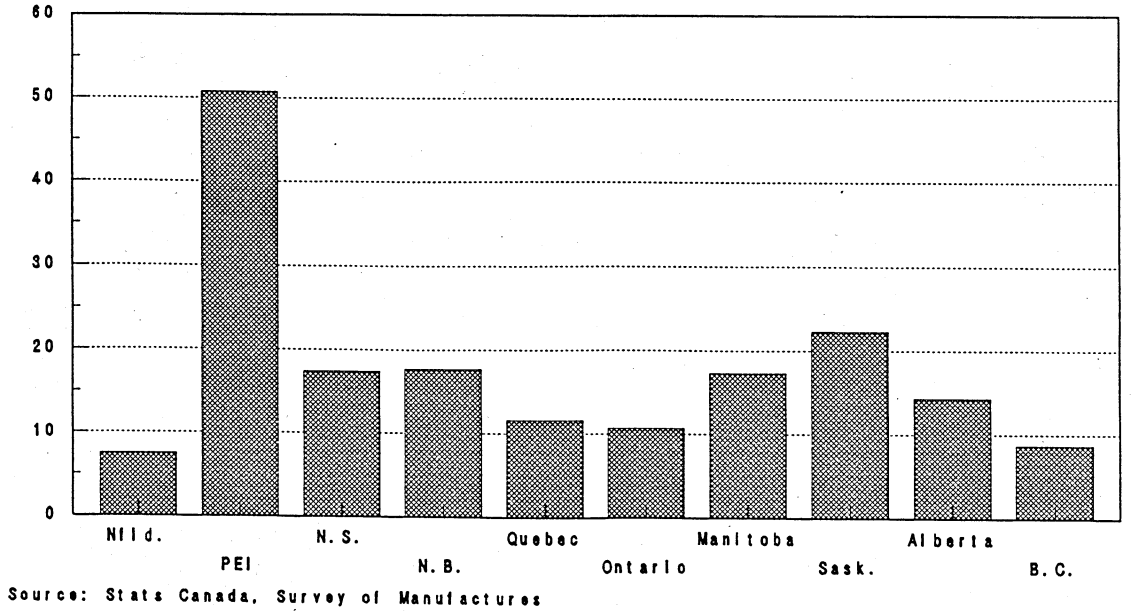


FIGURE 2

Percent of Total Provincial Manufacturing



Source: Stats Canada, Survey of Manufactures

domestic demand for beef have been offset somewhat by increases in exports; however, overall beef production is down slightly. Veal exports have also increased while lamb exports have remained relatively constant.

Domestic demand for pork on the other hand has not changed significantly from the mid 70s although there has been a sharp increase in exports. This has resulted in overall growth in pork production.

Sales in the poultry industry have increased in real terms over the past twenty years. As exports in the sector are limited, most of this increase is due to an increase in per capita demand.

Sales in the vegetable oil industry decreased in 1989 after slow growth over the decade. Decreasing sales in this industry are largely the result of increasing supplies of lower priced product in the international market. Canada maintains a trade deficit in oilseed products although this deficit has been decreasing.

Canadian flour sales have had slow but steady growth throughout the 80's, however, the industry is facing the pressures of the recent removal of trade barriers between Canada and the U.S. The biscuit industry, on the other hand, has had relatively flat growth in sales since 1984. Also, like many food processors exporters in this industry are concerned about the costs of adapting their labels to comply with new legislation in the U.S. This legislation makes it mandatory for all food products entering the U.S. to have the nutritional contents specified on the label.[5]

In general, sales have increased steadily in dairy products, frozen fruit and vegetable products, prepared flour mixes, bread, snack foods and confectionary. Concerns for the dairy industry revolve, at least partially, around the GATT negotiations and the future status of supply management. The frozen fruit and vegetable industry is increasing its share of the total processed fruit and vegetable industry. Canadian snack food and confectionary products industries are reportedly concerned with factors such as trade liberalization and the Goods and Services Tax.[6]

Real sales in the beverages sector declined slightly in 1989 after a decade of growth. Sales in the wine industry have declined steadily from 1988 due to rationalization after the CUSTA but recently have improved somewhat. Growth of distilled product sales has been steady with the

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5 "Hangin Tough", Food in Canada, McClean Hunter, July/Aug/1991, vol. 51, No. 7, p.28.

6 Ibid., p. 46

exception of a slight downturn in 1990 after a large increase in 1988. Sales of soft drinks were down slightly in 1989 after steady growth throughout the decade.

Brewery sales have been fluctuating. Canada's brewing industry will experience significant adjustment now that inter-provincial trade barriers on brewery products are being removed and international trade barriers reduced.

Profitability

Return on invested capital (ROC) shows how profitably a company has employed its capital and other inputs over the long term. In the food processing sector ROC has been more stable and generally higher than in both the beverage processing sector and all manufacturing (Figure 3). Over the past 10 years ROC in the food sector fluctuated from 11% to 14% while the beverages sector and all manufacturing had highly variable rates of return. Unlike the food processing sector, the manufacturing sector was significantly and negatively impacted by the 1982 recession.

Profits per unit of sales reflect turnover rates and value added per dollar of sales (i.e. degree of processing) as well as market conditions. In the food sector pre-tax per unit profit margins have been low relative to the manufacturing sector (Figure 4); they averaged 3% to 5% between 1977 and 1989. However, these low margins are associated with relatively high turnover rates thus making it a viable sector. The beverages sector shows above average profit margins when compared with all manufacturing, ranging from 7.5% to 15%. As with ROC, profit margins were less variable in the food sector than in beverages or all manufacturing.

Demand for food is fairly stable whether or not there is a recession thus explaining the sectors stability and resiliency both in terms of ROC and profit margins.

Net profit margins differ considerably among industries in the food and beverages sectors for 1972 to 1987. In general, profit margins were highest in the fruit and vegetable and bakery products industries, lowest in meat products (including poultry) and variable in fish products. The beverages sector and particularly distilling had relatively high margins throughout the period although the rate decreased in recent years (Appendix Table 5).

FIGURE 3

RETURN ON CAPITAL

FOOD, BEVERAGES AND ALL MANUFACTURING

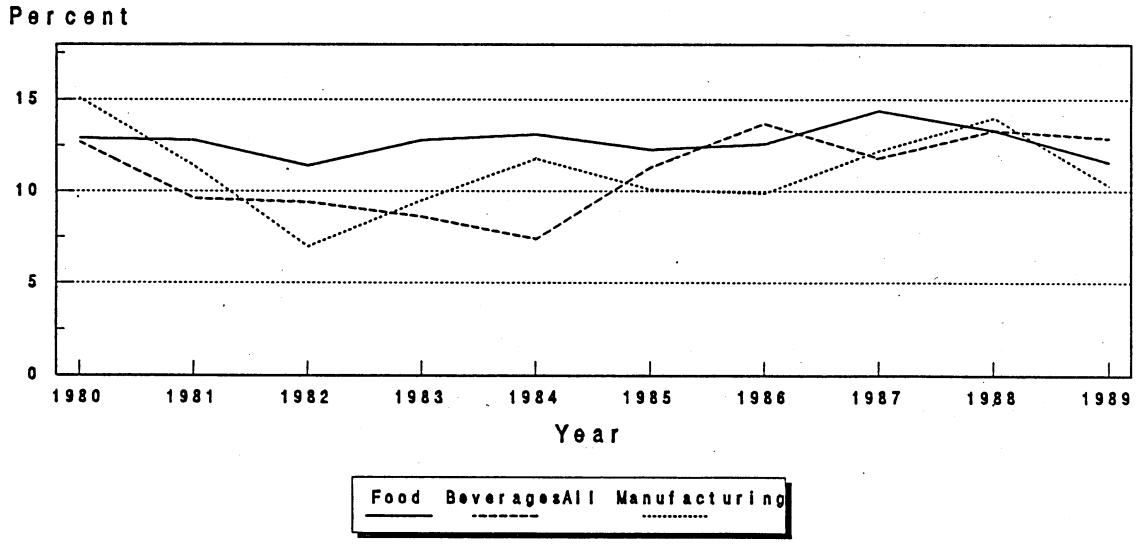
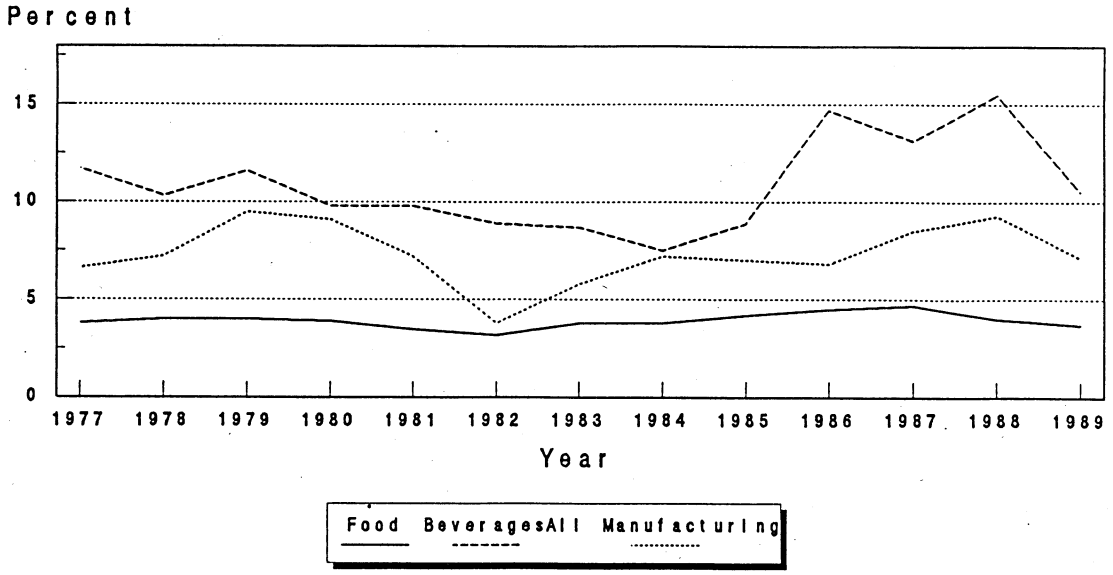


FIGURE 4

PROFIT MARGINS

FOOD, BEVERAGES AND ALL MANUFACTURING



Source: Statistics Canada, Corporation Financial Stats, 1980-89. Includes corps. with assets of $10 mil. or more and 50% sales in this activity

Recent financial measures (1988-1991) for the food sector (not including beverages) show little change in overall performance (Table 2).[7] Profitability in the food sector appears to be holding its own through the current recession particularly when compared with "all manufacturing" which declined significantly through 1990-91.

TABLE 2

FINANCIAL RATIOS FOR FOOD PROCESSING INDUSTRIES, 1988-91				
	1988	1989	1990	1991
FOOD				
Return on Capital	9.71	9.4	10.03	9.49
Return on Equity*	13.24	12.42	13.3	12.80
Before Tax Profit Margin	5.2	4.9	5.64	6.81
ALL MANUFACTURING				
Return on Capital	10.45	8.60	5.30	2.72
Return on Equity*	15.14	11.65	7.00	2.09
Before Tax Profit Margin	8.30	7.10	5.00	2.50

* 1991 return on equity data are averaged from only the first three quarters of the year and are therefore subject to change. Also, data are for firms with 50% or more of their activity in food processing and therefore could include returns from other sectors to the economy.

Source: Statistics Canada, Corporations Financial Survey, cat. #61-008, 1989-91. This survey includes all firms in the sector.

Although these data suggest a fairly healthy food industry they reflect only aggregate profitability. The industry is also experiencing a series of mergers, acquisitions, plant closures and job losses which are reflective of an industry in transition.

[7] Note that these data are not comparable with the data used in Figures 4 and 5 due to a change in the survey. Historical data for the new survey (cat. #61-008) will be available at a later date.

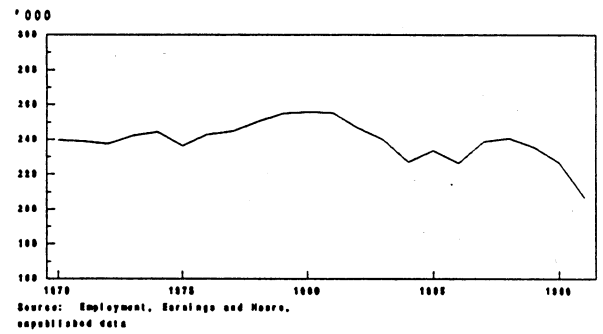
Employment[8]

In 1991, employment in the food and beverage processing sector was approximately 207,000, down from 239,500 in 1970.[9] Sector employment was concentrated in Ontario and Quebec although it was significant in other provinces. Also, although employment was concentrated in Ontario and Québec, it was less important to the total economy of these provinces than it was to provinces such as Newfoundland and P.E.I. (Appendix Table 6).

Overall, employment in the processing sector has declined slightly from 1970. Trends indicate that it increased somewhat in the last half of the 1970's then declined in the early 1980's. After some growth in the mid to late 1980's it has declined steadily. Between 1989 and 1991 employment fell 12% (28,000 jobs) (Figure 5).

Figure 5

EMPLOYMENT IN CANADIAN FOOD AND BEVERAGE PROCESSING, 1970-1991



Source: Employment, Earnings and Hours, unpublished data

Fluctuating trends in employment appear to correspond with business cycles in the economy. Dips in the early 1980's and 1990's are evidence of this. Also, although many of the jobs lost during the recession of the early 1980's were recovered some believe this will not be the case for the recession of the 1990's. Other factors such as liberalized trade and globalization also influence employment as firms adjust to changing markets and the need to improve their competitiveness.[10]

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[8] There are basically 3 surveys of manufacturing employment; the Labour Force Survey, Employment Earnings and Hours and the Survey of Manufactures. The Labour Force Survey interviews a sample of households and includes regular full time workers, the self employed, family workers, part time employees and seasonal workers. Employment Earnings and Hours surveys a sample of firms on a monthly basis and includes both part-time and full-time workers. The Survey of Manufactures calculates employment based on an average number of employees per processing establishment for the reporting year and is only available with a three year lag. When these surveys are compared for the same year the household survey usually has a higher number of employees.

[9] Statistics Canada, Employment Earnings and Hours, unpublished data, 1970-1991.

[10] "Future Facts", Food in Canada, Sept 1991, Vol.51, No.8, p.4

Job losses in the sector are most likely from more outdated, less efficient plants whereas new jobs are in more modern or updated plants requiring relatively fewer workers with greater skills.

Employment in the U.S. food and beverage processing sector has also declined over the last two decades although estimates suggest a 1% increase between 1989 and 1991. Employment in the U.S. sector currently stands at approximately 1.7 million.[11]

Productivity

Labour productivity in the Canadian food and beverage processing sector relative to all manufacturing grew somewhat between 1973 and 1987 (Appendix Figure 2). This compares with electricity and electronics and wood manufacturing which experienced relatively fast growth, and furniture and transportation equipment with relatively slow growth.

Labour productivity growth in the Canadian food sector relative to the U.S. was considerably slower over the same period (Appendix Figure 3). Also, this was the case for the majority of industries evaluated with the exception of primary metals, wood, fabricated materials, machinery and printing and publishing.

Although a popular measure, labour productivity is often not the best indicator of improvements in efficiency. Labour productivity measures output per unit of labour instead of output per unit of all inputs combined. If the capital/labour ratio increases labour productivity will likely increase, whether or not overall productivity increases. Multifactor productivity is thus a better indicator of efficiency gains.

Multifactor productivity growth in food and beverage processing has been slower than the average for all manufacturing. Also, when compared with a similar index for the U.S. it is somewhat slower (Table 3).

Improving the sector's productivity is a major goal of the on-going restructuring process. The need for more rapid productivity growth is evident in most of the historical measures. Also, these data compare growth in Canada with the U.S. only. By world standards U.S. productivity in all sectors of the economy, although high, is growing at a much slower rate than in other countries such as Germany and Japan. Improvements in productivity may be achieved through actions such as plant rationalization, investment, research and development, and training.

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[11] Bureau of Labour Statistics, Division of Monthly Statistics, 1991; data received over the phone.

TABLE 3

MULTIFACTOR PRODUCTIVITY INDICES, 1987: 1961 = 100			
Canada		**U.S**	
Food Industries	111.4	Food and Kindred Prods	116.1
Total Manufacturing	131.9	Total Manufacturing	132.8

Source: Aggregate Productivity Measures, System of National Accounts, 1991

Investment

One way that Canadian processors are preparing for a more competitive environment both domestically and internationally is through extensive rationalization. The number of mergers and acquisitions in the food sector was unusually high throughout much of the 1980's although such activity slowed in the last few years.

Similarly, expenditures on capital and equipment, in real terms, increased steadily throughout the 1980's although they have been hindered by the recession in 1990 and 1991. Intentions for 1992 indicate only a slight increase from 1991 (Table 4).

A recent study from Investment Canada suggests that overall Canadians are under-saving and under-investing and that "higher levels of investment and savings are necessary for productivity increases and sustained economic growth". The study also states that achieving this goal should be given high priority by both industry and government.[12]

International Trade

Export markets are important for Canadian processed food and beverage products and have been increasing. In 1988 the value of Canadian exports was $6.1 billion, approximately 14% of the value of shipments for the industry. If fish products are excluded, total exports were $3.6 billion or 10% of the value of shipments. Between 1981 and 1988, the value of all exports increased by 11% in constant dollar terms. Exports are most important for the

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[12] Slater, David, "The Contribution of Investment and Savings to Productivity and Economic Growth in Canada", Investment Canada, 1992.

TABLE 4

INVESTMENT IN FOOD AND BEVERAGE PROCESSING, CURRENT AND CONSTANT DOLLARS AND PERCENTAGE CHANGE, 1981-1992			
Year	Current	Constant	% Change(c)
1981	704	896	
1982	822	884	10
1983	857	912	3
1984	931	940	3
1985	958	965	3
1986	944	944	2
1987	1034	1023	8
1988	1195	1183	16
1989	1387	1334	13
1990	1319	1179	-12
1991(a)	1171	1084	-8
1992(b)	1218	n/a	n/a

(a) preliminary
(b) intentions
(c) % change of constant $ values

Source: Statistics Canada, Capital and Repair Expenditures, cat. #61-214, 1981-92

Note: Investment data are deflated using a weighted average of two separate indices; construction expenditures for manufacturing (approximately 20% of the total) and expenditures on machinery and equipment in food and beverage processing. Cat. 62-007

distillery, vegetable oil, breakfast cereal, frozen fruit and vegetable and red meat (particularly pork) industries. The largest proportion of Canadian food and beverage exports are to the U.S. followed by Japan and the E.C. (Appendix Table 7).

Imports of processed food and beverages into Canada have also been increasing. The value of imports was $5.3 billion in 1988, about 13% of the domestic market. Imports are most important for the fruit and vegetable, sugar and confection, vegetable oil, distilled beverage and wine industries. Approximately $3 billion of Canada's imports were from the U.S.

Although Canada has maintained a trade surplus in total processed food and beverages, if fish products are excluded Canada's trade balance has been

fluctuating, and has been most recently a deficit (Table 5). However, a large share of our imports are products not produced in Canada, such as exotic fruits, out of seasons vegetables, tea and coffee.

TABLE 5

CANADA'S FOOD AND BEVERAGE IMPORTS, EXPORTS AND NET TRADE- (NUMBERS IN BRACKETS ARE EXCLUDING FISH), BILLIONS OF DOLLARS			
YEAR	EXPORTS	IMPORTS	NET TRADE
1970	.9(.7)	.6(.56)	.3(.14)
1975	1.4(1.1)	1.4(1.3)	0.0(-.2)
1980	3.4(2.3)	2.7(2.3)	1.3(0)
1984	4.6(3.9)	4.5(4.0)	.1(-.1)
1985	4.8(3.2)	4.4(3.9)	.4(.7)
1986	5.6(3.5)	4.9(4.3)	.7(-.8)
1987	6.0(3.6)	5.0(4.3)	1.0(-.7)
1988	6.1(3.6)	5.3(4.6)	.8(-1)
1989			
1990			
1991			

Source: ISTC, "Commodity Trade by Industrial Sector, 1988

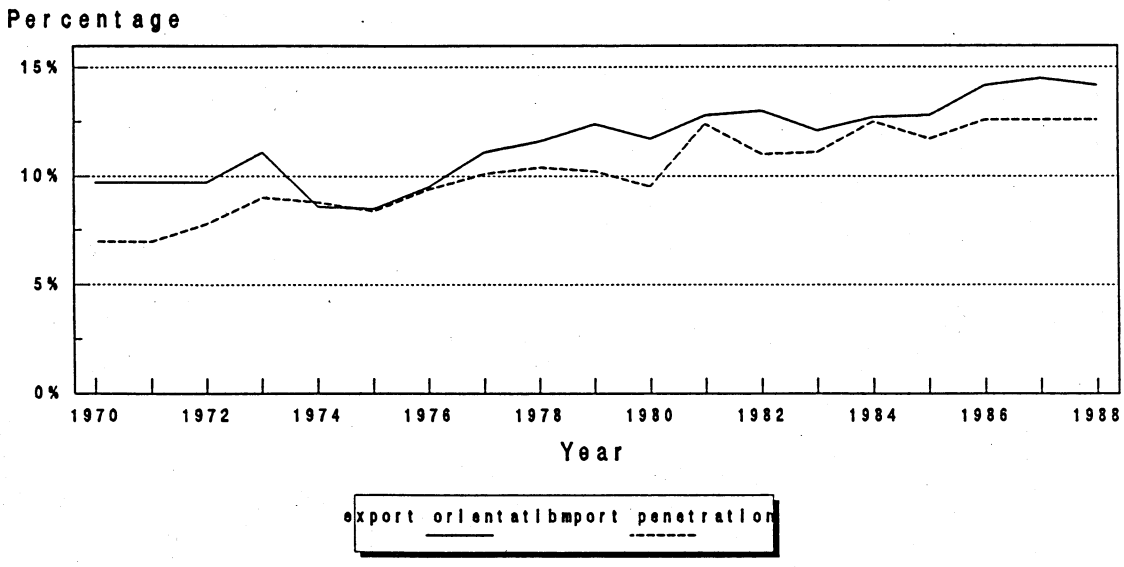
Canada has a trade surplus in processed fish, meat, cereal and grain based products and distillery and brewery products. Products such as tea, coffee, processed sugar, processed tropical fruits, vegetables and wine account for the majority of imports for the sector. Data for selected processed food products through 1991 indicate little change in the trade balance of these products (Appendix Table 8).

In both Canada and the U.S., the importance of international trade in processed food products has increased (Appendix Table 9). However, the Canadian food industry is considerably more trade-oriented than its U.S. counterpart. Also, export orientation and import penetration of Canadian food and beverage products have increased somewhat steadily from 1970 to 1987 implying that international trade is becoming increasingly important to the demand and supply of Canadian food products (Figure 6).

FIGURE 6

EXPORT ORIENTATION AND IMPORT PENETRATION

FOOD AND BEVERAGE PROCESSING



Source: ISTC, Commodity Trade by Industrial Sector

Trade orientation ratios vary widely among industries. In industries where trade barriers are minimal they are at least one indicator of international competitiveness. In general, the fish, distilling, meat processing and breakfast cereal industries are highly export oriented and, on that basis, may be considered relatively competitive.

The biscuit, confectionary, fruit and vegetable and wine industries have a high level of import penetration and might thereby be considered somewhat less competitive. Feed and vegetable oil industries have relatively equal export and import ratios indicating greater competitiveness in some products than others (Appendix Table 10).

Canada is an important exporter of world agri-food products (ie. raw agriculture and processed products) with a share fluctuating between 3.3% and 4.5% over the past 20 years, but most recently approximately 3.9%

(Appendix Table 11).[13] The current dollar value of our agri-food exports increased from $6.6 billion in 1980 to approximately $13 billion in 1988 (they were relatively low in 1985-87). Processed food product exports were approximately half of this total.

The U.S. Department of Agriculture recently published a series of export quantity indices for 1961 through 1986 of agri-food products by degree of processing.[14] According to these data Canada's exports of highly processed and semi-processed products grew at a faster rate than our exports of both high and low value unprocessed products and agricultural byproducts (Appendix Figure 4). At the same time, growth of total Canadian exports occurred at a faster rate than exports from the U.S., but at a slower rate than the world average. There was some variation in growth rates among products (Appendix Table 12).

Export data by degree of processing for 1980 (only date available) indicate that Canada's contribution to world exports was greater for low value unprocessed products (7.4%) than for high and semi-processed products (3.4%). Also, high and semi-processed products were less important to Canada's total value of exports than they were to the exports of selected other countries/regions, including New Zealand, Western Europe and Australia (Appendix Table 13).

Overall these data imply that exports of high-valued processed products have become progressively more important to trade of agri-food products. On a world scale, product classes which enjoyed the greatest export growth were nonalcoholic beverages, chickens, and wheat. Dairy products, pulses, fruits, vegetables, and alcoholic beverages valuable contributed the greatest value to total exports.

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[13] UNCTAD, trade data to 1988

[14] Degrees of processing include: 1) highly processed - further processed or finished products; 2) semi-processed - intermediated goods such as raw cuts of meat and flour; 3) high-value unprocessed - raw products such as fresh fruits, nuts, coffee; 4) low value unprocessed - products used for inputs into further processing such as grains, pulses and some vegetables; 5) by-products - including offals, residues, fodder, husks, etc.

III. STRUCTURAL CHARACTERISTICS AND STRUCTURAL CHANGE

Introduction

This section is an overview of the structure of the Canadian industry and changes over time. Comparisons are made with the U.S. and occasionally with the EC. The primary dimensions of industrial structure include: number, size and scope of firms/companies, number, size and scope of establishments/ plants, location of firms (head office) and plants and ownership of firms/ enterprises.[15]

Firms

(a) Number and size distribution

The number of food and beverage processing companies in Canada decreased from approximately 5,400 in 1972 to 2,800 in 1988; the number of beverage companies decreased from 390 to 280 over the same period.[16] The number of food companies in the U.S. also decreased, from approximately 22,171 in 1972 to 16,600 (estimated) in 1987.[17] Although the number of companies in the Canadian sector declined overall, some industries had an increase in the number of companies; they include red meats, wine and brewing.

The decline in numbers of food processing firms occurred at a time when the number of all manufacturing firms has been increasing. Also, and not surprisingly, the rate of change in the number of companies was the greatest when there was the most merger activity.[18]

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[15] Establishments refer to (manufacturing) operations at a single location. An enterprise can consist of one or more plants. A firm/company can have more than one enterprise in the sense that Labatt's beer operations represent one enterprise in the brewery industry and its dairy operations one enterprise in the dairy processing industry. A multi-product plant or a multi-product enterprise is assigned entirely to the industry accounting for the largest part of its output; this is most important for the interpretation of firm/enterprise data.

[16] These data are estimates based on non-published data from Statistics Canada.

[17] U.S. Bureau of the Census, Census of Manufactures, Industry Series, 1987.

[18] Connor, J.M., Food Processing, Lexington Books, Toronto, 1988, p,36.

In both Canada and the U.S., local-market industries such as dairy processing accounted for a large percentage of the total reduction in company numbers. Other industries experiencing losses were canned fruits and vegetables, flour and poultry, largely due to low market growth rates and/or increases in economies of scale. Those industries with an increased number of companies generally experienced above-average growth in demand or developed new specialty markets (e.g., the wine industry). In most cases, these changes in firms numbers were associated with growth in average firm size.[19]

Canada's 50 largest food and beverage processing companies had combined sales of almost $48 billion in 1990. The largest Canadian food and beverage companies were Seagram, John Labatt, Canada Packers (now Maple Leaf Foods), McCain Foods and George Weston. Of the top 50 firms, 22 were foreign-controlled and were usually wholly owned subsidiaries of larger, publicly-traded parent firms (Appendix Table 14).

Canadian food and beverage processing firms are relatively small by world standards. Only two Canadian based firms ranked among the top 50 food and beverage processors in the world, Seagram (35th largest) and John Labatt (39th). The world's largest firms, Nestle and Kraft General Foods had gross sales of $31 billion U.S. and $29.8 billion respectively in 1989-90 compared with $6.7 billion Cdn. for Canada's largest firm. Also, U.S. food company sales average about $27 million (Cdn), while Canadian sales average $18 million. Larger U.S. firms, no doubt reflect larger U.S. markets and foreign operations.

(b) Scope of Firm Activity

Canadian food processors have tended to be diversified, producing a variety of products for a small domestic market while maintaining a significant export market in some sectors. Diversified firms may have some advantage in terms of serving niche markets in a world of globalized trade. However, an emerging trend, at least for some large multinational companies, appears to be concentration of production on core businesses and value added products (with an increased focus on brand strength) . Businesses without strong brands will have to become low-cost

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[19] Increases in average individual firm size are generally influenced by growth in sales and/or the number of mergers and acquisitions. Motivations behind merger activity include divestiture of non-core businesses, infusion of cash resources, greater productivity/efficiency, entry into new markets, and expanded market share and profits. Firms may also diversify their product lines through acquisitions. In some cases, Canadian mergers have been a consequence of mergers of parent firms.

producers.[20] A growing trend toward greater product differentiation through new product development and advertising has been reported in the U.S.[21]

Recent activity in the Canadian sector indicates that multinationals are beginning to focus their operations on core businesses. Examples include Campbell Soup Co. and Labatts. The primary businesses of the top 50 food and beverage manufacturers appear to be limited to two or three major products (Appendix Table 14). Similarly, although Canadian and U.S. plants are continuously developing new products only a few actually "make it" beyond the introductory stage.

(c) Market Concentration

In 1990 the top 100 companies supplied approximately 80% of annual Canadian food and beverage shipments. Those companies with sales exceeding $1 billion (numbering 13 in Canada) accounted for 58% of sales of the top 100, and the top 50 firms accounted for 89%.[22]

Overall, market concentration in food and beverage processing industries likely is higher in Canada than in the U.S. Based on Statistics Canada data, the 4 firm seller concentration ratio for Canadian food industries in 1985 averaged around 47%, for beverage industries around 70%. In the U.S the 3 firm concentration ratio was around 13.5% in 1989. The top 20 firms' share of sales for the U.S. and the EC was 37% and 27% respectively.[23]

Market concentration in the U.S. sector increased sharply from 1988 to 1989 due to an increased number of mergers and acquisitions, and the limited entry of new firms into the sector. In 1989 the top three firms accounted for 13.5% of industry shipments compared with 9% percent in 1988. Recent acquisition and merger activity seems to suggest that concentration is increasing in the Canadian food sector as well.

Although the data show that Ontario has a larger proportion of total firms than of shipments this is largely due to the fact that sales are grouped with head offices. These offices are generally in Ontario, (Appendix Table 15).

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20 "The Top 100", Food in Canada, p. 10.

21 Food Marketing Review, USDA, ERS, 1989-90, p. 13.

22 From calculations made by Ernst and Young for Food In Canada article on The Top 100, Sept. 1991

23 Charles R. Handy and Dennis R. Henderson, "Implication of a Single EC Market for the U.S. Food Manufacturing Sector, ERS, USDA, p. 123

Concentration differs among Canadian food and beverage industries both in terms of level and trend (Appendix Table 16). In 1985, industrial concentration was high in the frozen fruit and vegetable, flour, cereal, vegetable oil, miscellaneous food products and each of the beverage industries. Concentration was relatively low in the meat, fish, dairy and feed industries.

Over the 1970 to 1985 period concentration in the meat, frozen fruit and vegetables, feed and wine industries declined while concentration in dairy, bakeries, cane and beet sugar and soft drinks increased. Poultry, other food industries, distilleries, flour and breweries were relatively unchanged. Concentration data were not available for the grain mills sector.

Recent restructuring in the food and beverage processing sector points to the possibility of increased concentration in many industries, including meat, dairy, poultry, flour milling and brewing. Also, the retailing sector is becoming more and more concentrated thus forcing a relatively large number of processors to compete for a smaller number of buyers.

(d) Foreign Ownership

Foreign ownership by large firms (assets of $25 million and over) is fairly significant in the sector. In 1988 sales by foreign controlled firms were 28% of the total for food industries and 36% for beverage industries (Appendix Table 17). Recent estimates are that sales of foreign controlled firms were 36% of the total in 1990, more than for 1987.[24] Foreign control has generally been lower in the food sector than in all manufacturing.

Between 1975 and 1987 foreign control decreased in the food industries and increased in beverage industries. Recent acquisitions in the sector, such as Hillsdown Holding's purchase of Canada Packers and the Merrill Lynch purchase of Beatrice may or may not imply a trend toward increased foreign ownership in the sector.

The extent to which foreign ownership influences the competitiveness of Canadian food processors is difficult to measure. Foreign owned companies set up as branch plants in a protected economy have not been inclined to develop export markets. With freer trade, however, many foreign and Canadian MNE's may be expected to focus operations on fewer major product lines for both domestic and export markets.

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[24] Food in Canada, Top 100, September 1991.

(e) Cooperatives

There are currently 5 cooperatives in the top 50 food and beverage processing firms in Canada. They are Saskatchewan Wheat Pool, Alberta Wheat Pool, and Manitoba Pool Elevators (which produce flour and grains) and Agropur Cooperative and the Central Alberta Dairy Pool (which produce dairy products and juice). Cooperatives are most important in the dairy and poultry industries (although none of the poultry co-ops ranked in the top 50 companies) where respectively they contribute 50% and 35% of total sales.

A recent study in the U.S. suggests that there is no clear difference in the profitability of co-ops and investor owned firms in that country. The authors concluded that the two types of operations follow similar business strategies.[25]

Establishments

(a) Number and trends

There was a decrease in the number of establishments in the food and beverage processing sector between 1970 and 1988. The decline was fairly steady throughout the 1970s but appears to have levelled off somewhat in the early 1980's. From 1982-88, the trend in Canada was almost flat. The number of plants in all manufacturing increased from 31,928 in 1970 to 40,262 in 1988 (Appendix Figure 5).

The trend in the food processing sector as a whole is not necessarily indicative of individual industries. Over this period there was an increase in the number of establishments in meat, poultry, fish, frozen fruit and vegetable, beer and wine industries over the period and a decrease in canned fruit and vegetable, dairy, feed, biscuit, bread, sugar and sugar confectionary, misc food and soft drink industries. Cereal, flour and distilling were relatively unchanged between 1982 (no earlier data) and 1988. The most dramatic change was in the dairy industry where the number of establishments declined from about 880 to 360 between 1970 and 1988. In the red meat industry the number of plants increased to 536 from 453.

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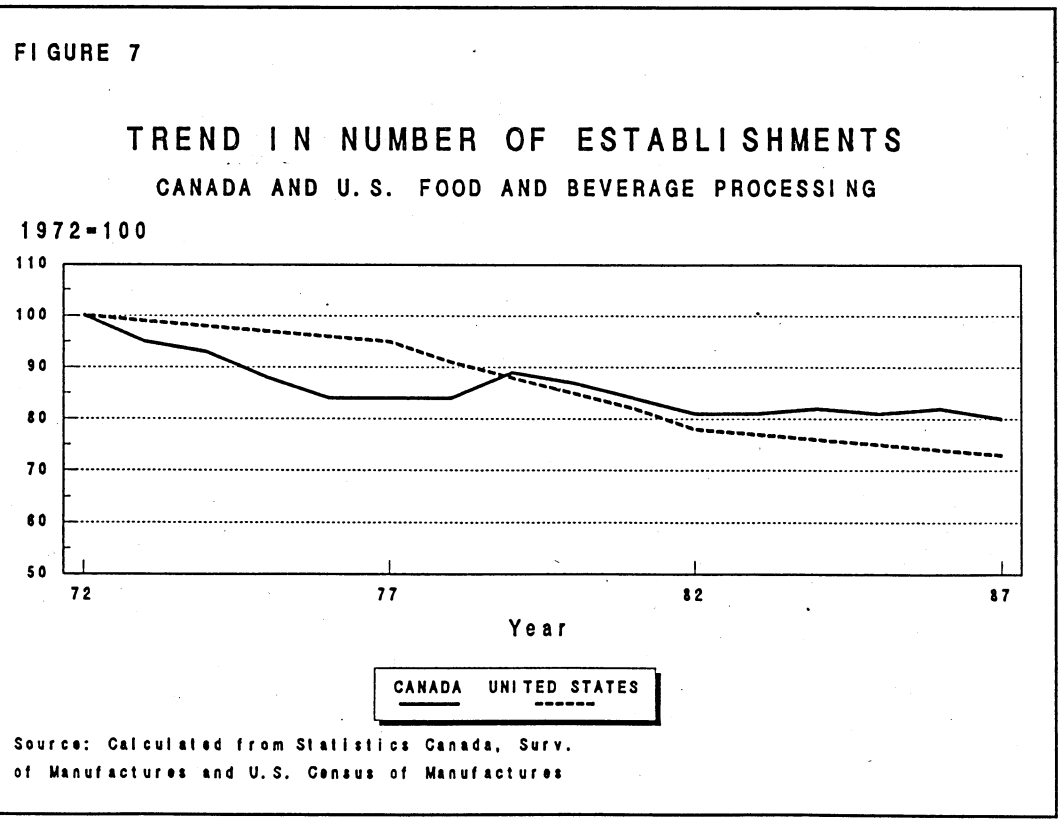
[25] Zvi Lerman and Claudia Parliament, Comparative Performance of Cooperatives and Investor-Owned Firms in US Food Industries, "Agribusiness: An International Journal, vol.6, no.6, Nov. 1990

The number of food processing establishments in the U.S. also declined; from 28,100 to 20,700 between 1972 and 1987 (Appendix figure 6). Total manufacturing establishments increased from 312,671 to 358,945. U.S. industries experiencing the sharpest declines were meat packing, poultry, dairy, most fats and oils, distilled spirits, seafood and coffee. Prepared meat, breakfast cereal, bakery, wine and malt beverage industries had increased numbers of establishments.

The important difference between plant number trends in Canada and the U.S. is that although both have been declining the trend in Canada slowed significantly throughout the 1980's. This compares with a continual decline in the number of establishments in the U.S. over the same period (Figure 7).[26] This suggests that the U.S. food sector was rationalizing its operations at a more rapid rate than Canada's sector. This corresponds with the "productivity slowdown" of the 1980's in Canada, although productivity is also a function of many other factors.

FIGURE 7



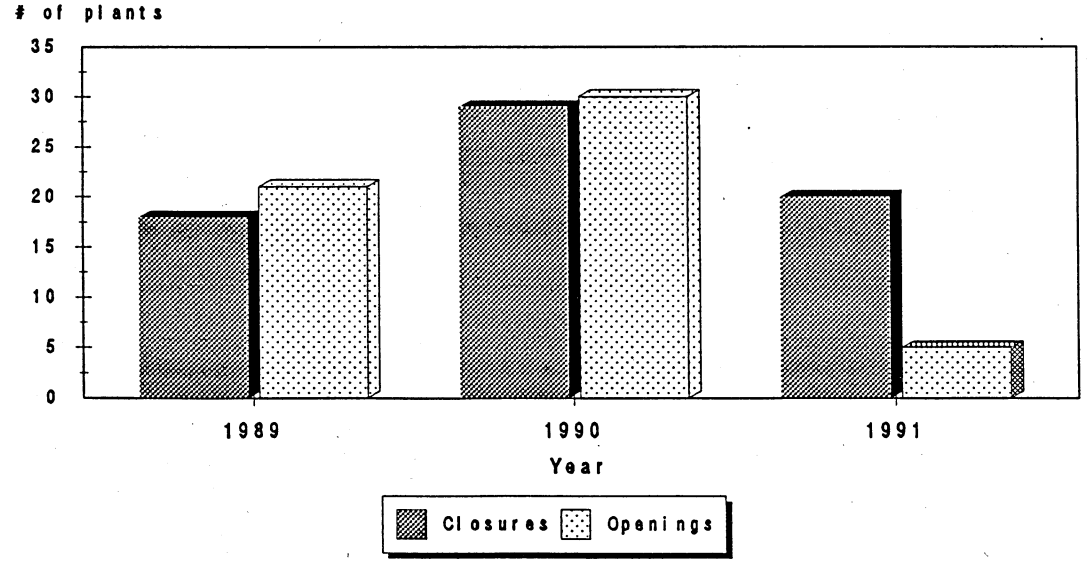
Source: Calculated from Statistics Canada, Surv. of Manufactures and U.S. Census of Manufactures

[26] The data for the U.S. is interpolated between Census years. Also, an adjustment was made in the Canadian data to reflect the change in the scope of the bakery industry in 1982.

Media reports of plant openings and closings, although no doubt incomplete, indicate little net change in Canada through 1989 and 1990 but a reduction in plants in 1991 (Figure 8).

FIGURE 8

PLANT CLOSURES AND OPENINGS, 1989-91



Source: Agri-Food Development Branch, Food Industry Investment Tracking (from Media Reports)

Broad trends in the number of establishments in each region of Canada roughly followed that for all of Canada. However, decreases in the number of establishments between 1970 and 1977 were greater in Quebec and Ontario than in the Atlantic region and the Prairies (Appendix Figure 7).

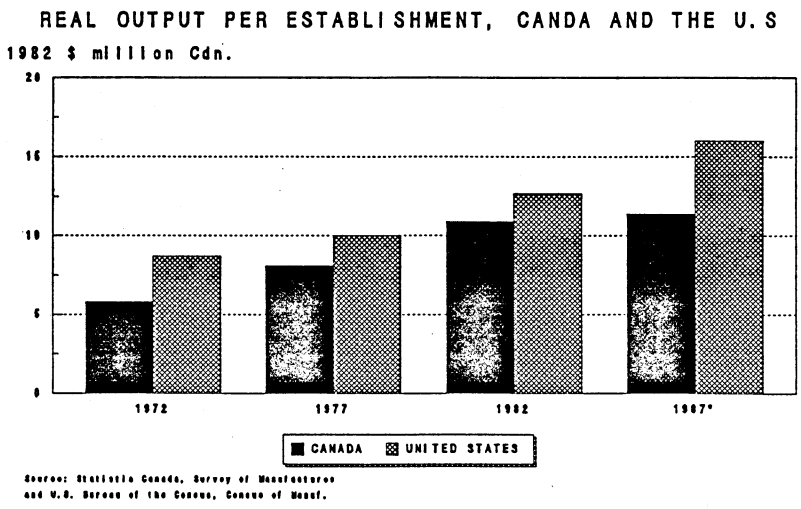
(b) Regional Distribution of Establishments

The distribution of plants by region largely reflects the regional distribution of processing. Thus Ontario accounts for the largest share. However, the regional distribution of plants differs by industry (Appendix Table 18). Also, as discussed below, the average size of plant varies by region. Factors influencing plant location include; the location of agricultural production, location of population (markets) and relative costs of shipping raw production and finished products.

(c) Size Distribution of Establishments

While the number of establishments in Canada declined between 1970 and 1988 the average size, measured by real value of shipments per establishment, increased. U.S. establishments also increased in average size and remained significantly larger than Canadian establishments (Figure 9)[27]. Establishment size differences are particularly evident in poultry, canned fruit and vegetable, flour milling and bakery industries where U.S. plants are significantly larger. However, in most industries, Canada has some efficient and modern plants. Value added and employment per establishment also indicate that the average size of Canadian establishments has increased over time (Appendix Table 19).

FIGURE 9



There is a wide range of plant sizes in both Canada and the U.S. and in most industries the larger plants account for a relatively large share of industry output. In both countries, plants with 9 or fewer employees account for about 35-36% of all food processing industry plants but only 2% of output. In Canada, plants with 500 or more employees represent only 1% of all plants but account for 16% of output, while in the U.S., they represent 3% of all plants and account for 31% of food industry output (Appendix Figure 8A and Appendix Table 20).

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27 The size of U.S. plants is measured in Canadian dollars and thus affected by changes in the exchange rate.

Between 1980 (earliest data available), and 1988 (latest data available), there was a reduction in the share of shipments by small food processing plants and an increased share of shipments from medium to large scale plants (Appendix Table 21).

The size distribution of plants in the beverages sector follows a similar pattern. Almost half of the beverage processing plants in Canada employed less than 50 people while contributing only 11% of total shipments. Similarly, large plants, ie. with over 100 employees, made up 24% of the total number of establishments and contributed 77% of the total shipments (Appendix Figure 8B). Compared with 1980 there is an increased proportion of shipments contributed by large plants.

Average size of establishment (real shipments per establishment) by region indicates that plants are generally larger in Ontario than in the Atlantic region and B.C. (Appendix Table 22). Also, between 1970 and 1988 the differences in average size increased although the average size increased in all regions.

(d) Size Distribution by Industry

In 1987 Canadian plants were, on average, smaller than plants in the U.S. Also, the relative Canada/U.S. size ratio (measured by total shipments per establishment) of selected food industries fell between 1982 and 1987 (Table 6).

Red meat processing plants in Canada were about 70% of the average size of U.S. plants in 1987, down from 78% in 1982. However, recent changes in the meat processing industry, including the opening of a modern, large scale meat processing plant by Cargill and the rationalization of Canada Packers/Maple Leaf Foods may have reversed this trend somewhat. On the other hand, poultry processors were about 30% the average size of their U.S. counterparts in 1987, down from almost 60% in 1982. Factors contributing to this change include the growth of large scale, vertically integrated plants in the U.S. and relatively limited rationalization in the Canadian industry. The latter is partially due to smaller Canadian markets, input supply controls and restrictions on interprovincial trade.

In both the canned and frozen fruit and vegetable processing industries the Canada/U.S. plant size ratio increased slightly from 1982. However, Canadian plants remain, on average, smaller than their U.S. counterparts.

TABLE 6

RATIO OF AVERAGE SIZE OF FOOD PROCESSING ESTABLISHMENTS, 1982 AND 1987		
INDUSTRY	**CANADA/U.S. RATIO**	
Read Meat	0.78	0.70
Poultry	0.58	0.30
Canned F&V	0.55	0.59
Frozen F&V	0.58	0.66
Fluid Milk	0.81	0.57
Industrial Milk	0.96	0.93
Biscuits	1.39	0.89
Bakery Products	0.37	0.45

Source: Statistics Canada, Census of Manufactures, 1982, 1987 and U.S. Department of Commerce, Bureau of the Census, Census of Manufactures, 1982 and 1987.

The Canada/U.S. plant size ratio for fluid milk processing plants declined somewhat between 1982 and 1987, with Canadian plants remaining, on average, smaller than U.S. plants. Relatively small Canadian plants are likely a function, once again, of smaller urban markets, supply controls and interprovincial trade restrictions. The average size of industrial milk processors, on the other hand, was almost the same in both countries, including a large proportion of small-to-medium size plants (ie. less than 250 employees).

Biscuit manufacturing plants were slightly smaller than U.S. plants in 1987; 1982 data showed Canadian plants slightly larger on average. Canadian bakeries, on the other hand, were about 45% the size of U.S. bakeries. Feed, vegetable oil, cane and beet sugar, sugar and chocolate, tea and coffee, chips pretzels and popcorn, and other food, industries had generally smaller plants in Canada than in the U.S.

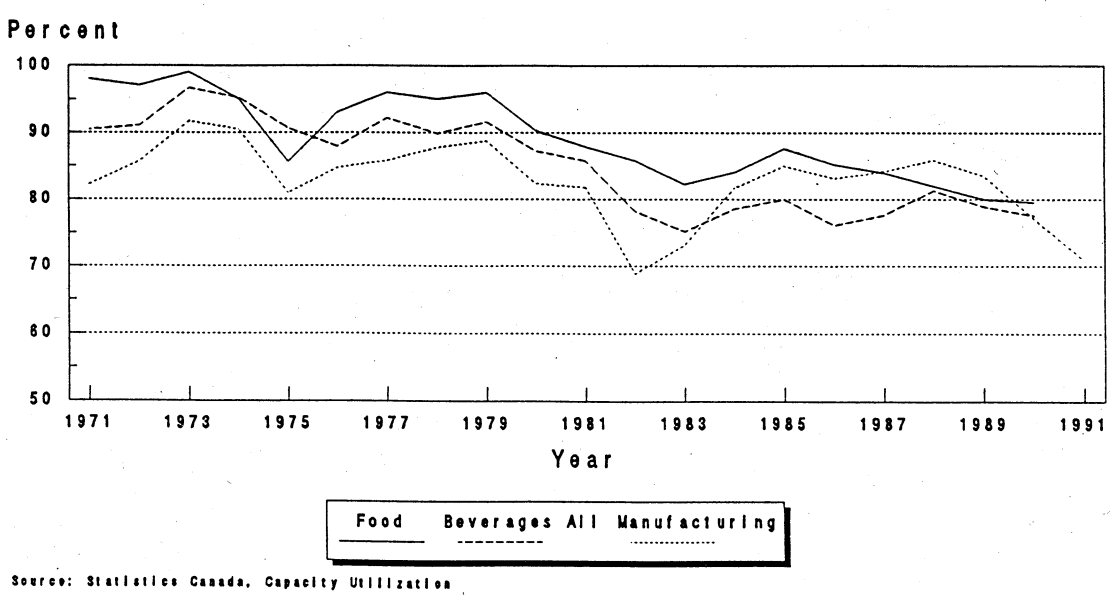
(e) Capacity Utilization of Plants

Capacity utilization in food and beverage manufacturing decreased from near full capacity in 1970 to around 80% in 1990 (Figure 10). In general utilization in the beverages sector has been slightly lower than in the food sector. Compared with all manufacturing, capacity utilization in food and

beverages is similar. In contrast with the Canadian sector, capacity utilization in the U.S. appears to have shown little trend.[28]

Capacity utilization rates can be related to economic cycles, as the significant downturn in the early 1980's illustrates. They can also be associated with longer-term trends in demand, and to management capabilities relating to the efficient utilization of productive capacity. There is no doubt considerable variation in capacity utilization among individual industries in the sector, however, less aggregated data are not immediately available.

FIGURE 10



Source: Statistics Canada, Capacity Utilization Rates, data retrieved from CANSIM

[28] Capacity utilization can be measured in several ways and not necessarily with the same results. The broad changes over time, however, are believed to be representative of the changes in the actual situation. The measures reported here for Canada and the U.S. are roughly similar.

IV. SUMMARY

Performance indicators such as profitability, return on capital, growth in real shipments and GDP, and trade patterns indicate that the Canadian food and beverage processing sector is doing relatively well. Recently, profitability has been down slightly, but much less than for all manufacturing. Similarly, shipments were down in 1990-91 but only slightly from previous years. Although recent trade data are not yet available by industry, merchandise trade figures indicate the continued growth in exports of many food products. However, other measures indicate that significant adjustments are taking place and further adjustments may be needed.

Employment levels in the industry are also an important indicator of performance and in the last 3 years have declined dramatically. This decline appears to be part of a long term trend; unlike job losses in the recession of the early 1980's, a higher percentage of recent job losses may be permanent.

Canadian productivity measures indicate that growth in the sector has been relatively slow when compared with other sectors and with the U.S.

Structural adjustments in the sector have been on-going in Canadian food and beverage processing. Overall the number of firms has declined since 1970 and firm structure has changed significantly as a result of major mergers and acquisitions. The number of establishments has also declined while the average size of plants has increased (although they remain, on average, smaller than U.S. plants). Adjustments also have been on-going in the U.S. and appear to have been more rapid than in Canada, particularly throughout the 1980's. This may partially explain the intensity of current adjustments in the industry.

The distribution of plants by employment size category indicates that in both the food and beverage sectors a majority of shipments are from large scale plants. These large scale plants however make up only a small proportion of total plants. The situation is similar in the U.S.

The pace of change in the food and beverage processing sector has accelerated in recent years in response to factors such as trade liberalization, globalization and the recession. This study provides a broad overview of these changes. Additional work is being initiated at the level of individual food industries and commodity sectors and on the determinants of structural change and economic performance.

REFERENCES

Bristol, Pamela, ed. "Future Facts", Food in Canada, McClean Hunter, September 1991, Volume 51, No. 8.

Bristol, Pamela, ed. "Hangin Tough", Food in Canada, McClean Hunter, July/August 1991, Volume 51, No.7.

Connor, John M., Food Processing, Lexington Books, Toronto, 1988.

Ernst & Young, "Top 100", Food in Canada, McClean Hunter, September 1991, Volume 15, No.8.

Handy, Charles and Dennis R. Henderson, "Implications of a Single EC Market for the U.S. Food Manufacturing Sector, ERS, USDA.

Industry Science and Technology, Commodity Trade by Industrial Sector, 1988.

Statistics Canada, Survey of Manufactures and other sources.

Traub, Larry, Value-Weighted Quantity Indices of Exports for High-Value Processed Agricultural Products, USDA, ERS, Bulletin No. 827.

United States Department of Commerce, Bureau of the Census, Census of Manufactures

United States Department of Agriculture, Economic Research Service, Food Marketing Review, 1991, Agricultural Economic Report Number 657.

List of Appendix Tables

APPENDIX TABLE 1

VALUE OF MANUFACTURING SHIPMENTS IN CURRENT AND CONSTANT (1986) DOLLARS, CANADA, 1982-1991

	All Manufacturing			Food and Beverage Processing		
Year	Current Dollars	Constant Dollars	Percent Change	Current Dollars	Constant Dollars	Percent Change
	- millions (1986) -					
1982	187,409	210,080		32,749	37,663	
1983	203,019	219,916	4.6	33,882	37,751	.2
1984	229,848	238,205	8.3	36,175	38,208	1.2
1985	248,673	250,805	5.3	37,657	39,249	1.0
1986	253,343	253,343	1.0	39,182	39,164	-.2
1987	268,536	261,265	3.1	40,668	40,137	2.5
1988	288,548	269,105	3.0	42,468	40,463	.8
1989	296,999	271,438	1.0	42,446	39,148	-3.2
1990	294,061	267,998	-1.3	43,627	39,170	.06
1991	276,342	254,557	-5.0	43,336	38,615	-1.4

Source: Monthly Survey Manufacturing, 1982-1991. (These data may not correspond exactly with data from the Survey of Manufactures.)

APPENDIX TABLE 2

NUMBER OF ESTABLISHMENTS, TOTAL SHIPMENTS, TOTAL VALUE ADDED AND INDUSTRIES' SHARE OF VALUE ADDED, CANADA, 1989

Industry Name	No. of Est.	Total shipments ($000,000)	Total Value Added ($000,000)	Total Employed	Industries' Share of Value Added	Rank by Share of Value Added
Meat & Meat Prod. Ind. (exc. Poul.)	524	9,442	1,734	33,057	10.0	2
Poultry Products Ind.	105	2,280	596	12,568	3.5	11
Fish Products Ind.	472	3,959	1,036	30,498	6.0	6
Canned & Pres. Fruit & Veg. Ind.	185	2,798	1,159	12,951	6.7	5
Frozen Fruit & Vegetable Ind.	42	921	401	5,218	2.3	17
Fluid Milk Ind.	158	3,952	1,003	12,992	5.8	8
Other Dairy Products Ind.	214	4,748	1,361	12,928	7.9	4
Cereal Grain Flour Ind.	49	970	226	2,878	1.3	19
Prep. Flour Mixes & Prep. Cereal	23	846	473	3,239	2.7	14
Feed Ind.	528	3,435	677	10,043	3.9	10
Veg. Oil Mills (except Corn Oil)	11	1,017	127	1,112	0.7	24
Biscuit Ind.	38	1,078	542	6,249	3.1	13
Bread & Other Bakery Prod. Ind.	491	2,240	1,099	22,793	6.4	7
Cane & Beet Sugar Ind.	7	599	172	1,829	1.0	21
Chewing Gum Ind.	6	276	192	2,173	1.1	20
Sugar & Chocolate Conf. Ind.	105	1,122	445	6,914	2.6	15
Tea & Coffee Ind.	37	1,021	446	2,936	2.6	16
Dry Pasta Products Ind.	46	378	159	1,901	0.9	22
Pot. Chip, Pretz. & Popcorn Ind.	35	634	362	4,893	2.1	18
Other Food, NEC	309	3,440	1,438	14,934	8.3	3
Food Ind.	**3,385**	**45,158**	**13,648**	**202,106**	**79.0**	
Soft Drink Ind.	150	2,351	872	8,457	5.0	9
Distillery Products Ind.	25	912	554	3,997	3.2	12
Brewery Products Ind.	56	2,919	2,052	13,895	11.9	1
Wine Ind.	43	291	145	1,379	0.8	23
Beverage Ind.	**274**	**6,473**	**3,623**	**27,728**	**21.0**	
Food and Beverage Ind.	**3,659**	**51,8631**	**17,271**	**229,834**	100.0	
All Manufacturing Ind.	**39,150**	**356,636**	**135,636**	**1,970,259**		

Source: Statistics Canada, "Survey of Manufactures, 1989".

APPENDIX TABLE 3

PROVINCIAL PERCENTAGE DISTRIBUTIONS OF VALUE-ADDED, FOOD BEVERAGE PROCESSING INDUSTRIES, 1989

	CDA 000,000	ATL	NFLD	PEI	NS	NB	QUE	ONT	PRAIRIES	MAN	SASK	ALB	B.C.
FOOD AND BEVERAGE IND.	15,309	9	2	0	3	3	26	44	12	4	2	7	8
FOOD IND.	11,997	10	3	1	3	3	25	44	13	4	2	7	8
Meat and Poultry Products	2,325	-	-	-	1	2	23	39	-	7	-	14	9
Meat & Meat Products Ind. (exc. Poultry)	1,830	3	0	-	1	-	23	37	28	7	4	16	9
Poultry Products Ind.	495	-	-	-	3	-	24	48	-	5	-	9	7
Fish Products Ind.	965	66	33	3	21	9	5	-	-	-	-	-	26
Fruit & Vegetable Ind.	1,405	-	-	-	-	-	13	57	-	?	-	1	6
Canned & Pres. Fruit & Veg. Ind.	974	-	-	-	3	-	19	68	-	-	-	-	6
Frozen Fruit & Veg. Ind.	431	-	-	-	-	-	1	34	-	-	-	-	7
Dairy Products Ind.	2,074	6	-	-	-	2	45	30	-	3	-	-	-
Fluid Milk Ind.	895	10	1	0	5	4	25	34	13	3	-	-	18
Other Dairy Products Ind.	1,179	3	-	-	-	0	60	26	-	2	-	6	-
Flour, Prep. Cereal & Feed Ind.	1,157	-	-	-	-	-	-	55	-	3	-	-	5
Cereal Grain Flour Ind.	174	-	-	-	-	-	26	36	-	-	-	9	-
Prep. Flour Mixes & Prep. Cereal	375	-	-	-	-	-	-	89	1	-	-	-	-
Feed Ind.	608	5	-	-	2	1	29	40	19	5	4	10	8
Veg. Oil Mills (exc. Corn Oil)	169	-	-	-	-	-	-	40	-	-	-	-	-
Bakery Products Ind.	1,155	-	-	-	-	-	37	42	-	-	-	-	6
Biscuit Ind.	220	-	-	-	-	-	33	59	-	-	-	-	0
Bread & Other Bakery Prod. Ind.	935	5	-	-	2	2	38	38	11	4	1	6	7
Sugar & Sugar Confectionary	750	-	-	-	-	-	-	-	-	-	-	-	-
Cane & Beet Sugar Ind.	182	-	-	-	-	-	-	-	-	-	-	-	-
Chewing Gum Ind.	177	-	-	-	-	-	-	100	-	-	-	-	-
Sugar & Chocolate Conf. Ind.	391	-	-	-	-	-	29	63	-	-	-	0	4
Other Food Products Ind.	1,997	-	-	-	-	-	-	60	-	2	-	5	-
Tea & Coffee Ind.	367	-	-	-	-	-	41	35	-	-	-	-	20
Dry Pasta Products Ind.	79	-	-	-	-	-	-	53	-	-	-	-	6
Potato Chip, Pretzel & Popcorn Ind.	307	-	-	-	-	-	25	43	16	-	-	-	-
Miscellaneous, N.E.C.	1,244	-	-	-	-	0	18	73	-	2	-	4	2
BEVERAGE IND.	3,311	6	-	-	2	2	28	47	11	3	2	6	7
Soft Drink Ind.	691	12	-	-	-	-	23	40	20	5	5	10	5
Distillery Products Ind.	546	-	-	-	-	-	20	69	-	-	-	-	-
Brewery Products Ind.	1,898	-	-	-	-	-	32	44	-	-	2	5	7
Wine Ind.	176	-	-	-	-	-	23	45	-	-	-	-	-

Source: Statistics Canada, Survey of Manufactures, 1988
- indicates data are confidential

APPENDIX TABLE 4

INDUSTRIES SHARES OF FOOD AND BEVERAGE PROCESSING VALUE ADDED, CANADA AND THE PROVINCS, 1988

CDA	CDA 000,000	ATL	NFLD	PEI	NS	NB	QUE	ONT	PRAIRIES	MAN	SASK	ALB	B.C.
FOOD AND BEVERAGE IND.	100	100	100	100	100	100	100	100	100	100	100	100	100
FOOD IND.	78.4	85.2	43.9	100.0	85.4	82.7	76.5	76.9	80.4	84.4	75.1	79.6	81.2
Meat and Poultry Products	15.2	-	43.9	-	6.1	8.3	13.7	13.5	-	28.0	-	32.3	16.8
Meat & Meat Products Ind. (exc. Poultry)	12.0	3.7	-	-	3.2	-	10.7	10.0	26.4	23.3	26.6	28.0	13.8
Poultry Products Ind.	3.2	-	0.1	-	3.0	-	3.0	3.5	-	4.5	-	4.3	3.0
Fish Products Ind.	6.3	44.1	-	36.0	43.0	18.6	1.2	-	-	-	-	-	20.6
Fruit & Vegetable Ind.	9.2	-	37.9	-	-	-	4.8	11.8	-	18.2	-	2.0	7.0
Canned & Pres. Fruit & Veg. Ind.	6.4	-	-	-	6.6	-	4.7	9.7	-	-	-	-	4.4
Frozen Fruit & Veg. Ind.	2.8	-	-	-	-	-	0.1	2.1	-	-	-	-	2.5
Dairy Products Ind.	13.5	9.0	-	-	-	8.1	23.9	9.0	-	9.6	-	-	-
Fluid Milk Ind.	5.8	6.3	-	5.3	10.0	7.0	5.8	4.4	6.0	4.8	-	-	13.1
Other Dairy Products Ind.	7.7	2.7	0.8	-	-	1.1	18.1	4.6	-	4.8	-	7.0	-
Flour, Prep. Cereal & Feed Ind.	7.6	-	-	-	-	-	-	9.4	-	6.9	-	-	4.8
Cereal Grain Flour Ind.	1.1	-	-	-	-	-	1.2	0.9	-	-	-	1.6	-
Prep. Flour Mixes & Prep. Cereal	2.4	-	-	-	-	-	-	4.9	0.1	-	-	-	-
Feed Ind.	4.0	2.0	-	-	3.0	2.0	4.5	3.5	5.9	5.1	7.4	5.9	4.0
Veg. Oil Mills (exc. Corn Oil)	1.1	-	-	-	-	-	-	1.0	-	-	-	-	-
Bakery Products Ind.	7.5	-	-	-	-	-	11.0	7.2	-	-	-	-	5.9
Biscuit Ind.	1.4	-	-	-	-	-	1.9	1.9	-	-	-	-	0.1
Bread & Other Bakery Prod. Ind.	6.1	3.3	-	-	3.8	4.6	9.1	5.3	5.3	6.3	3.4	5.2	5.7
Sugar & Sugar Confectionary	4.9	-	-	-	-	-	-	-	-	-	-	-	-
Cane & Beet Sugar Ind.	1.2	-	-	-	-	-	-	-	-	-	-	-	-
Chewing Gum Ind.	1.2	-	-	-	-	-	-	2.6	-	-	-	-	-
Sugar & Chocolate Conf. Ind.	2.6	-	-	-	-	-	2.9	3.6	-	-	-	0.1	1.1
Other Food Products Ind.	13.0	-	-	-	-	-	-	17.7	-	7.7	-	9.5	-
Tea & Coffee Ind.	2.4	-	-	-	-	-	3.8	1.9	-	-	-	-	5.9
Dry Pasta Products Ind.	0.5	-	-	-	-	-	-	0.6	-	-	-	-	0.4
Potato Chip, Pretzel & Popcorn Ind.	2.0	-	-	-	-	-	2.0	1.9	2.6	-	-	-	-
Miscellaneous, N.E.C.	8.1	-	-	-	-	0.7	5.6	13.3	-	5.0	-	4.6	2.2
BEVERAGE IND.	21.6	14.8	-	-	14.6	17.5	23.5	23.1	19.6	15.4	24.9	20.4	18.8
Soft Drink Ind.	4.5	5.8	-	-	-	-	4.0	4.1	7.2	6.0	11.8	6.6	2.9
Distillery Products Ind.	3.6	-	-	-	-	-	2.8	5.5	-	-	-	-	-
Brewery Products Ind.	12.4	-	-	-	-	-	15.7	12.3	-	-	13.1	9.5	10.9
Wine Ind.	1.1	-	-	-	-	-	1.0	1.2	-	-	-	-	-

Source: Statistics Canada, Survey of Manufactures, 1988.
- indicates data are confidential

APPENDIX TABLE 5

NET PROFIT MARGIN RATIO FOR FOOD AND BEVERAGE MANUFACTURING CORPORATIONS, 1972-1987

Year	Meat Products	Dairy Products	Fish Products	Fruit and Vegetable Canners	Grain Mills	Bakery Products	Other Food Products	Total Food	Total Beverage	Soft Drinks	Distilleries	Breweries	Wineries	Total Manu-facturing
							percent							
1972	2.0	3.7	3.7	5.9	3.5	4.5	6.1	3.8	15.0	6.4	21.1	16.5	15.6	6.6
1973	2.4	3.9	9.2	6.5	4.7	4.5	6.3	4.4	15.2	6.3	31.8	11.5	12.2	8.5
1974	2.2	3.2	3.0	7.1	4.1	6.0	5.9	3.9	12.8	5.5	27.7	9.8	7.7	8.9
1975	1.7	3.4	-0.4	6.3	3.2	4.7	4.8	3.3	11.8	8.1	21.0	10.2	7.0	7.1
1976	2.3	2.6	2.1	5.8	4.3	10.7	5.5	4.1	10.3	4.9	21.4	10.0	1.7	6.1
1977	1.7	3.5	4.8	5.7	4.0	2.9	4.5	3.4	8.1	5.4	22.2	3.2	2.6	5.6
1978	1.7	3.9	6.4	5.0	4.6	4.3	3.5	3.6	10.9	4.5	26.1	8.4	9.4	6.4
1979	1.8	3.8	3.0	4.7	3.6	4.7	4.9	3.5	9.4	3.6	22.5	7.5	9.4	7.8
1980	1.5	3.8	-1.9	4.9	3.0	5.4	4.9	3.1	9.5	3.4	21.9	8.5	8.6	7.4
1981	0.9	3.6	-2.5	5.3	2.7	5.4	4.9	2.9	9.4	3.1	24.1	7.9	9.0	6.3
1982	1.1	3.6	-3.9	6.5	3.3	4.9	4.1	2.7	10.5	3.0	28.2	7.8	11.4	2.0
1983	1.0	4.5	-2.5	6.3	4.3	5.1	5.0	3.4	10.5	3.4	25.1	10.1	13.1	3.7
1984	1.5	4.1	-1.3	7.1	4.0	4.7	5.5	3.5	7.8	2.8	10.9	10.7	11.4	5.7
1985	1.4	4.1	0.3	5.4	3.7	4.9	5.3	3.4	5.4	2.1	14.2	4.7	9.5	4.9
1986	1.5	4.2	4.0	6.3	5.2	4.7	4.8	3.9	5.6	6.6	4.2	4.2	5.6	6.2
1987	1.4	4.3	3.6	5.4	4.6	6.4	4.9	3.9	7.1	9.6	6.8	1.3	7.1	6.7

Source: Statistics Canada, Corporation Financial Statistics, Catalog No. 61-207, annual

APPENDIX TABLE 6

EMPLOYMENT IN THE AGRI-FOOD SECTOR, CANADA AND THE PROVINCES, 1990

	Cda	NF	PE	NS	NB	PQ	ON	MB	SK	AB	BC
	- 000 -										
SECTOR											
Primary Agriculture	428	8	5	7	5	60	109	39	82	94	27
Food and Beverages	235	13	3	11	11	54	94	9	5	17	18
Other Agri-Food	1,165	16	5	40	29	299	427	53	43	108	143
Total Agri-Food	1,831	34	13	58	45	413	630	101	130	219	188
Total Employment	10,151	146	37	295	223	2,469	4,140	387	300	978	1,146
PERCENTAGE OF TOTAL NATIONAL AND PROVINCIAL EMPLOYMENT											
Primary Agriculture	4	5	14	2	2	2	3	10	27	10	2
Food and Beverages	2	9	8	4	5	2	2	2	2	2	2
Other Agri-Food	11	11	14	14	13	12	10	14	14	11	12
Total Agri-Food	18	23	35	20	20	17	15	26	43	22	16

Source: Labour Force Survey, Cat. 71-001, 1990, special request

APPENDIX TABLE 7

CANADA'S MAJOR FOOD AND BEVERAGE EXPORT CUSTOMERS, 1988

COUNTRY	VALUE $ BILLIONS	% OF TOTAL EXPORTS
USA	3.4	56
JAPAN	1.1	18
EUROPE (not incl. U.K.)	0.7	11
U.K.	0.2	3
OTHER	0.8	12
TOTAL	6.1	100

Source: ISTC, "Commodity Trade by Industrial Sector, 1988"

APPENDIX TABLE 8

TABLE 8: TRADE BALANCE IN SELECTED PROCESSED FOOD PRODUCTS, ANNUAL 1983-1991 ($ MILLION)

	1983	1984	1985	1986	1987	1988	1989	1990	1991[a]
Red Meat Exports	697	750	825	991	1,065	945	943	1,039	909
Red Meat Imports	321	378	377	396	488	545	588	705	186
Balance	**376**	**372**	**448**	**594**	**577**	**400**	**355**	**334**	**123**
Dairy Products Exports	239	241	217	194	145	1,942	187	193	167
Dairy Products Imports	102	113	109	129	143	159	150	156	150
Balance	**137**	**128**	**108**	**65**	**2**	**33**	**37**	**37**	**17**
Grain Product Exports	214	262	251	265	266	311	366	393	431
Grain Product Imports	151	203	183	197	209	215	257	310	362
Balance	**63**	**59**	**69**	**68**	**56**	**96**	**109**	**83**	**69**
Oilseed Product Exports	127	265	281	209	223	331	212	200	263
Oilseed Product Imports	284	385	334	330	350	363	311	253	278
Balance	**-157**	**-120**	**-53**	**-121**	**-127**	**-32**	**-99**	**-53**	**-15**

[a] Preliminary

Source: Agriculture Canada Trade Tapes

APPENDIX TABLE 9

TRADE ORIENTATION (%), 1972 and 1986

	Import Share of Domestic Market		Export Share of Domestic Shipments	
	1972	1986	1972	1986
Canada				
Food (incl. fish)	7.9	13.0	9.7	14.6
Manufacturing	27.6	38.6	25.8	37.6
U.S.				
Food (incl. fish)	3.5	3.8	3.0	4.1
Manufacturing	6.1	12.9	5.6	8.2

Source: Industry, Science and Technology Canada, *Manufacturing Trade and Measures* and U.S. Department of Commerce, *Industrial Outlook Database*.

APPENDIX TABLE 10

TRADE MEASURES FOR FOOD AND BEVERAGE PROCESSING INDUSTRIES, 1981 and 1987

Processors & Manufacturers of:	Export Orientation (%)		Import Penetration (%)	
	1981	1987	1981	1987
Meat & Poultry	9.8	13.4	5.3	6.8
Meat & Meat Products	11.0	15.8	5.5	7.5
Poultry	1.4	0.9	4.4	3.6
Fish	83.1	63.3	54.8	32.2
Fruits & Vegetables	9.3	8.5	27.7	23.3
Dairy Products	4.3	2.1	2.0	2.0
Flour, Prepared Cereals & Feed	13.1	8.3	2.7	4.5
Cereal Grain Flour	24.5	7.6	3.1	1.7
Prepared Flour Mixes & Cereals	35.4	19.2	9.1	12.0
Feed	6.0	6.5	1.9	4.1
Vegetable Oil	24.4	25.4	22.5	27.9
Bakery Products	3.7	7.8	3.0	5.2
Biscuits	5.3	13.9	5.5	11.7
Bread & Other Bakery Products	3.2	5.9	2.1	3.2
Sugar & Confections	7.4	16.7	29.6	29.8
Sugar & Chocolate Confections	5.4	15.4	18.9	28.4
Other Food Products	3.8	5.0	24.7	22.3
Tea & Coffee	0.9	6.2	41.3	38.6
Dry Pasta	11.4	10.1	8.0	12.0
All Food	**12.9**	**14.5**	**12.4**	**12.3**
Soft Drinks	0.6	0.8	2.3	3.1
Distilled Beverages	44.6	40.5	24.4	21.7
Brewery Products	7.4	7.3	1.4	1.1
Wine	0.5	0.6	47.0	51.6
All Beverages	**12.6**	**9.8**	**10.0**	**9.1**

Source: ISTC, "Commodity Trade by Industrial Sector", 1981 and 1987

APPENDIX TABLE 11

CANADA'S SHARE OF WORLD AGRI-FOOD* EXPORTS
(1970-1988)

YEAR	PERCENT
1970	4.3
1975	3.9
1979	3.3
1980	3.6
1981	3.9
1982	4.3
1983	4.5
1984	4.4
1985	4.0
1986	3.5
1987	3.6
1988	3.9

Source: UNCTAD, Commodity Yearbook, United Nations, N.Y. 1990

* Agri-food includes primary and processed agricultural products.

APPENDIX TABLE 12

PERCENTAGE CHANGE 86 (70-74) (AVG) OF VALUE-WEIGHTED INDICIES OF FOOD AND BEVERAGE EXPORTS BY DEGREE OF PROCESSING, CANADA, THE U.S. AND THE WORLD

	CANADA % change 86 (70-74)	U.S. % change 86 (70-74)	World % change 86 (70-74)
FOOD & BEVERAGES			
Total Exports	60	41	88
Highly Processed Products	92	65	80
Semi-Processed Products	129	82	166
High-Value Unprocessed	57	45	39
Low-Value Unprocessed	41	10	52
Low-Value Byproducts	59	275	139
CATLLE			
Highly Processed	32	-27	21
Semi-processed	146	1,100	85
High-Value Unprocessed	-10	-30	10
HOGS			
Highly Processed	73	-3	14
Semi-Processed	414	-42	140
High-Value Unprocessed	354	-25	117
CHICKENS			
Highly Processed		79	379
Semi-Processed	-26	459	162
High-Value Unprocessed	1	-21	128
TURKEYS			
Semi-Processed	537	-29	375
High-Value Unprocessed	235	88	287
ANIMALS, OTHER & MIXED			
Highly Processed	-12	-57	12
Semi-Processed	22	160	8
High-Value Unprocessed	-26	-52	41
EGGS			
Highly Processed	1,248	960	69
High-Value Unprocessed	-74	71	66
DAIRY			
Highly Processed	26	141	74
Semi-Processed		199	232
CORN & SORGHUM			
Semi-Processed	79	172	139
Low-Value Unprocessed	2,388	16	43
WHEAT			
Highly Processed	77	289	172
Semi-Processed	-31	51	36
Low-Value Unprocessed	33	4	47

APPENDIX TABLE 12 (cont'd)

TABLE 12: PERCENTAGE CHANGE 86 (70-74) (AVG) OF VALUE-WEIGHTED INDICIES OF FOOD AND BEVERAGE EXPORTS BY DEGREE OF PROCESSING, CANADA, THE U.S. AND THE WORLD

	CANADA % change 86 (70-74)	U.S. % change 86 (70-74)	World % change 86 (70-74)
OTHER & MIXED GRAINS			
Highly Processed	34	46	85
Semi-Processed	91	385	269
Low-Value Unprocessed	69	-6	95
OILSEEDS			
Semi-Processed	183	20	138
High-Value Unprocessed	67	71	96
VEGETABLE & PULSES			
Highly Processed	134	106	157
High-Value Unprocessed	110	56	80
Semi-Processed			28
Low-Value Unprocessed		-15	69
TUBERS & ROOTS			
Low-Value Unprocessed	103	-48	43
Semi-Processed		280	37
Highly Processed			682
FRUITS			
Highly Processed	90	18	64
High-Value Unprocessed	65	36	41
Low-Value Unprocessed		-33	170
SUGAR			
Highly Processed	418	3,173	49
Semi-Processed	207		26
Low-Value Unprocessed			63
NUTS			
High-Value Unprocessed	-8	167	-28
Highly Processed		190	70
Low-Value Unprocessed			184
COCOA & CHOCOLATE PRODUCTS			
Highly Processed	298	132	124
Semi-Processed		66	170
High-Value Unprocessed			
ALCOHOLIC BEVERAGES			
Highly Procesed	51	136	38
OTHER FOOD PREPARATIONS			
Highly Processed	376	-9	130
High-Value Unprocessed	455	74	68

Source: Calculated from Larry Traub, "Value-Weighted Quantity Indices of Exports for High-Value Processed Agricultural Products", USDA, ERS, bull. #827.

Note: A brief definitions of product categories is in the text.

APPENDIX TABLE 13

SHARE OF HIGH AND SEMI-PROCESSED PRODUCTS OF TOTAL AGRI-FOOD EXPORTS FOR SELECTED COUNTRIES/REGIONS, 1980

Country/Region	Percent
New Zealand	89
Western Europe	71
Australia	51
Canada	40
U.S.	34

Source: Calculated from "Value Weighted Quantity Indices of Exports for High-Value Processed Agricultural Products", USDA, ERS, Bulletin No. 827 1991.

APPENDIX TABLE 14

CANADA'S 50 LARGEST FOOD AND BEVERAGE PROCESSORS

RANK	COMPANY	PRINCIPAL BUSINESS	FOOD SALES 1990 ($ million)	OWNERSHIP	
1	The Seagram Company Limited	Spirits, wines, juices	6,750	Public	34% C&E Bronfman
2	John Labatt Limited	Beer, dairy, milk processed foods	5,274	Public	39% Brascan
3	Canada Packers Inc. (Maple Leaf	Meats, processed foods	3,092	Public FC	56% Hillsdown Holdings
4	McCain Foods Limited	French fries, pizza, juices	2,396	Private	100% McCain Family
5	George Weston Limited	Baking, fisheries	2,224	Public	57% WG Weston
6	Hiram Walker & Sons Limited	Spirits, wines	2,100	Private FC	100% Allied Lyons
7	Saskatchewan Wheat Pool	Flour and grains	1,909	Private	Owned by members
8	Cargill Limited	Meats, feeds	1,612	Private FC	Sub. of Cargill Inc. (Minn.) 92%
9	Kraft General Foods Canada Inc.	Cheese, cereal, coffee	1,565	Private FC	100% Philip Morris Companies Inc.
10	The Molson Companies Ltd.	Beer	1,322	Public	23.8% EH Molson, 13.8% TP Molson Estate
11	Alberta Wheat Pool	Flour and grains	1,223	Private	Owned by members
12	Nestle Enterprises Limited	Coffee, frozen foods, canned foods	1,050	Private FC	100% Nestle SA (Switz.)
13	T.C.C. Beverages Ltd. (Coca Cola)	Soft drinks	1,002	Public	49% Coca Cola Co. (Atlanta)
14	Maple Leaf Mills Ltd. (Maple Leaf Foods)	Flour, baked goods	800	Private FC	100% Hillsdown Holdings PLC
15	Nabisco Brands Ltd.	Cereals, cookies, canned goods	754	Private FC	100% Nabisco Brands Inc.
16	Unilever Canada Limited	Teas, cake mixes	750	Private FC	100% Unilever PLC
17	Groupe Olympia, Turcotte & Turmel (Olymel)	Processed meat	750	Private	33.3% GPA Bonneau Inc.
18	Beatrice Foods Inc.	Dairy, cookies	746	Private FC	73% Onex Corporation
19	Burns Foods (1985) Limited	Meat products	735	Private	60% A. Child; 25% R.A. Jackson
20	J.M. Schneider Inc.	Meat, processed foods	618	Public	72% Schneider family
21	National Sea Products Limited	Seafood	608	Public	45% Jodfrey family
22	Manitoba Pool Elevators	Grain	583	Private	Owned by members
23	Lantic Sugar Limited	Sugar	581	Private	50% Jannock; 50% B.C. Sugar
24	Fishery Products International	Seafood	535	Public	12% by OMERS
25	Agropur Cooperative Agro-alimentaire	Dairy, juice	496	Private	Owned by members
26	Culinar Inc.	Bakery, cookies	471	Private	54% Société d'investissement Desjardins
27	Dairyland Foods	Dairy	460	Private	Owned by members

(continued)

APPENDIX TABLE 14 (cont'd)

CANADA'S 50 LARGEST FOOD AND BEVERAGE PROCESSORS

RANK	COMPANY	PRINCIPAL BUSINESS	FOOD SALES 1990 ($ million)	OWNERSHIP	
28	Gainers Inc.	Processed meats	457	Private	Controlled by Prov. of Alberta
29	Pepsi-Cola Canada Ltd.	Soft drinks, snack foods	450	Private FC	100% PepsiCo. Inc.
30	Campbell Soup Company Ltd.	Canned goods	450	Public FC	71% Campbell Soup Co., N.J.
31	Robin Hood Multifoods Inc.	Flour, grains, canned vegetables	446	Private FC	100% International Multifoods Corp.
32	H.J. Heinz Company of Canada Ltd.	Canned vegetables and juices	440	Private FC	100% H.J. Heinz Company
33	Canada Malting Co. Ltd.	Malt	400	Public	19.9 John Labbatt, 19.9% Molson Ltd.
34	Canada Starch Co. Inc.	Starch, vegetable sauces	366	Private FC	100% CPC International Inc.
35	Intercontinental Packers Limited	Meat	360	Private	Mitchell family
36	General Mills Canada Inc.	Cereal, pasta	360	Private FC	100% General Mills Inc.
37	Fletcher Fine Foods Ltd.	Meat packing	345	Private	100% Alb. Pork Producers Marketing Bd.
38	Borden Canada Inc.	Pasta, snack foods	333	Private FC	100% Borden Inc.
39	Kellogg Canada Inc.	Cereals, canned goods	330	Private FC	100% Kellogg Company Ltd.
40	Ralston Purina Canada Inc.	Pet foods	315	Private FC	100% Ralston Purina Company Inc.
41	Saputo Cheese Ltd.	Cheese	293	Private	Saputon family (100%)
42	The Quaker Oats Company of Canada Ltd.	Cereal, pet Foods	274	Private FC	100% Quaker Oats Co. Inc.
43	Multi-Marques Inc.	Bakery products	268	Private	25% Corporate Foods, 75% Quebec Group
44	G.E. Barbour Inc.	Food preparations	251	Private	90% Bullmoose Holdings Ltd.
45	Centennial Food Corporation	Meat packing	230	Private	51.5% Centennial Food Corp. (1989) Ltd.
46	Primo Foods Limited	Meat, pasta, canned vegetables	225	Private FC	100% Whitman Corporation
47	Export Packers Company Limited	Poultry, eggs	211	Private	100% Rubinstein Family
48	Redpath Industries Limited	Sugar	209	Private FC	100% Tate & Lyle PLC
49	Central Alberta Dairy Pool	Dairy	208	Private	Owned by members
50	Maple Lodge Farms Limited	Poultry	207	Private	May family
		Total	**47,834**		

FC: Foreign controlled.
Source: "Food in Canada," September 1991

APPENDIX TABLE 15

FOOD AND BEVERAGE PROCESSING: GEOGRAPHIC CONCENTRATION OF SHIPMENTS AND FIRMS*, 1989

	SHIPMENTS	FIRMS	
REGION	% OF TOTAL	% OF TOP 100	% OF TOTAL
Ontario	43	65.2	47
Quebec	23	10.2	16
Atlantic Region	10	6.4	14
Prairies	16	14.4	13
British Columbia	8	3.8	7
TOTALS	100	100	100

* Sales are grouped with head offices but sometimes companies have plants in other provinces

Source: Statistics Canada, Census of Manufacturing and Food in Canada, "Top 100", September 1991.

APPENDIX TABLE 16

NUMBER OF FIRMS AND INDUSTRY CONCENTRATION RATIOS, FOOD AND BEVERAGE INDUSTRIES, 1985, AND PAST AND CURRENT TRENDS

Industries	Number of Firms in 1985	Concentration		Past Trend in Concentration	Comments
		4 firm	8 firm		
Red Meats	486	36	49	strong decrease	increasing
Poultry	68	36	54	none	increasing
Fish	299	47	56	slight increase	
Canned Fruits and Veg	153	41	55	none	
Frozen Fruits and Veg	29	61	78	slight increase	
Fluid Milk	82	49	69	increase in 1984	
Other Dairy	161	48	62	none	
Flour	26	79	91	none	
Flour Mixes and Cereal	16	73	97	none	
Feed	430	23	33	slight increase	
Vegetable Oil	9	68		strong increase	
Biscuit	21	79	94	recent decrease	
Bread and Other Bakery	412	45	58	increase	
Cane & Beet Sugar	5		100	increase	
Chewing Gum	6		100	decrease	
Sugar & Chocolate	86	65	85	decrease	
Tea & Coffee	22	70	93	recent increase	increasing
Dry Pasta	31			none	
Chips, Pretzels and Popcorn	16	89	97	none	
Other Food NEC	224	33	50	none	
Soft Drink	151	52	67	slight increase	
Distilling	16	77	96	slight increase	
Brewing	11	98		none	
Wine	30	66	85	decrease	

Source: Statistics Canada, Industrial Concentration in Manufacturing, Mining and Logging Industries Catalogue No. 31-302, 1985 (most recent)

APPENDIX TABLE 17

PERCENTAGE OF SALES BY FOREIGN CONTROLLED FIRMS, FOOD AND BEVERAGE INDUSTRIES, 1980 AND 1988

Industry	1980	1988
Meat	11	1
Dairy	32	23
Fruit and Vegetable	63	56
Grain Mills	24	45
Bakery Products	18	12
Other Food Products	58	66
Total Food	**29**	**28**
Soft Drinks	48	64
Distilleries	35	46
Breweries	n/a	n/a
Wineries	n/a	n/a
Total Beverages	**35**	**36**

Source: Statistics Canada, CALURA, data retrieved from CANSIM

APPENDIX TABLE 18

NUMBER OF PLANTS, BY INDUSTRY, BY REGION, 1989

	Atlantic	Quebec	Ontario	Prairies	B.C.
Meat Products	26	140	186	123	49
Poultry	9	25	41	20	10
Fruit and Vegetables	20	58	96	19	34
Fluid Milk	29	33	47	25	24
Industrial Milk	14	65	83	47	5
Flour, Cereal and Feed	29	176	213	148	34
Bakeries	37	184	169	80	59
Sugar and Confections	9	37	41	13	18
Other	17	119	172	67	52
Beverages	31	66	94	49	34

Source: Statistics Canada, Census of Manufactures, 1989.

APPENDIX TABLE 19

HISTORICAL STATISTICS FOR FOOD AND BEVERAGE PROCESSING

YEAR	PLANTS	VALUE-ADDED MANUFACTURING ($000 000)	VALUE-ADDED PER PLANT ($000)	EMPLOYMENT	EMPLOYMENT PER PLANT
1960	7,598	1,652	22	190,946	25
1961	7,734	1,713	22	210,762	27
1962	7,678	1,817	24	210,312	27
1963	7,528	1,899	25	210,119	28
1964	7,407	2,057	28	214,986	29
1965	7,150	2,189	31	220,700	31
1966	6,945	2,386	34	227,221	33
1967	6,737	2,517	37	228,748	34
1968	6,361	2,637	41	224,111	37
1969	6,082	2,833	47	224,111	37
1970	5,778	2,945	51	221,768	38
1971	5,599	3,160	56	218,315	39
1972	5,377	3,427	64	220,483	41
1973	5,129	3,970	77	222,512	43
1974	5,010	4,457	89	220,932	44
1975	4,740	4,996	105	220,415	47
1976	4,521	5,486	121	219,646	49
1977	4,211	6,116	145	222,858	53
1978	4,535	6,921	153	229,906	51
1979	4,791	7,663	160	232,384	49
1980	4,667	8,353	179	234,187	50
1981	4,492	9,567	213	234,078	52
1982*	3,518	10,190	290	222,997	63
1983	3,484	11,060	317	218,014	63
1984	3,547	11,744	331	218,719	62
1985	3,532	12,473	353	223,903	63
1986	3,582	13,376	373.4	226,579	63
1987	3,440	14,639	425.5	228,528	66
1988	3,600	15,273	424.3	231,776	64
1989	3,659	15,441	422	229,834	63

* Change in 1982 largely reflects reclassification of about 800 small bakeries from processing to the retail trade sector.

Source: Statistics Canada, Survey of Manufactures, 1960-1988.

APPENDIX TABLE 20

SHARE OF ESTABLISHMENTS AND SHARE OF TOTAL SHIPMENTS BY EMPLOYMENT SIZE RANGE, FOOD AND BEVERAGE INDUSTRIES, CANADA, 1988 AND THE U.S., 1987

	Employment Size Group								
	1-4	5-9	10-19	20-49	50-99	100-499	500-999	1000-2500	2500+
	percent								
Food Industries									
Canada									
Establishments (3,313)	20	15	18	21	13	13	1	- - - 0 - - -	
Shipments ($41,176 million)	1	1	4	13	18	47	9	- - - 7 - - -	
United States									
Establishments (18,653)	24	14	16	18	11	14	2	1	0
Shipments ($286,950 million)	1	1	3	8	13	44	14	14	3
Beverage Industries									
Canada									
Establishments (287)	14	7	12	26	16		- - - 24 - - -		
Shipments ($6,832 million)	0	0	4	10	11		- - - 74 - - -		
United States									
Establishments (1,930)	22	10	14	18	14	20	- - - 2 - - -		
Shipments ($42,776 million)	0	0	1	5	12	50	- - - 30 - - -		

Source: Statistics Canada, Survey of Manufactures, 1988 and U.S. Bureau of the Census, Census of Manufacturers, 1987

APPENDIX TABLE 21

PROPORTION OF OUTPUT AND ESTABLISHMENTS IN FOOD AND BEVERAGE PROCESSING, BY SIZE CATEGORY, 1980 AND 1988

Employment Category	1980		1988	
Food	Establishment	Shipments 000,000	Establishments	Shipments 000,000
1-19	65	8	52	7
20-49	16	12	21	13
50-99	8	17	13	18
100-199	6	24	8	22
200-999	5	40	6	33
1,000*			.2	7
Total	**4,323**	**25,076**	**3,313**	**43,918**
Beverages				
1-20	34	4	33	3
20-49	30	10	26	8
50-99	16	15	16	12
100+	21	65	24	77
Total	**344**	**3,127**	**287**	**6,832**

Source: Census of Manufactures, Catalogue No. 31-203; Table #59 for 1980 data and Table #60 for 1988 data.

APPENDIX TABLE 22

AVERAGE SIZE OF ESTABLISHMENT IN FOOD AND BEVERAGE PROCESSING, REGIONS, 1970 AND 1988

Region	Shipments/Establishment: Millions of constant 1986 dollars	
	1970	1988
	percent	
Atlantic	4.2	9.0
Quebec	5.4	11.5
Ontario	7.1	17.4
Prairies	5.8	13.5
British Columbia	4.9	10.6

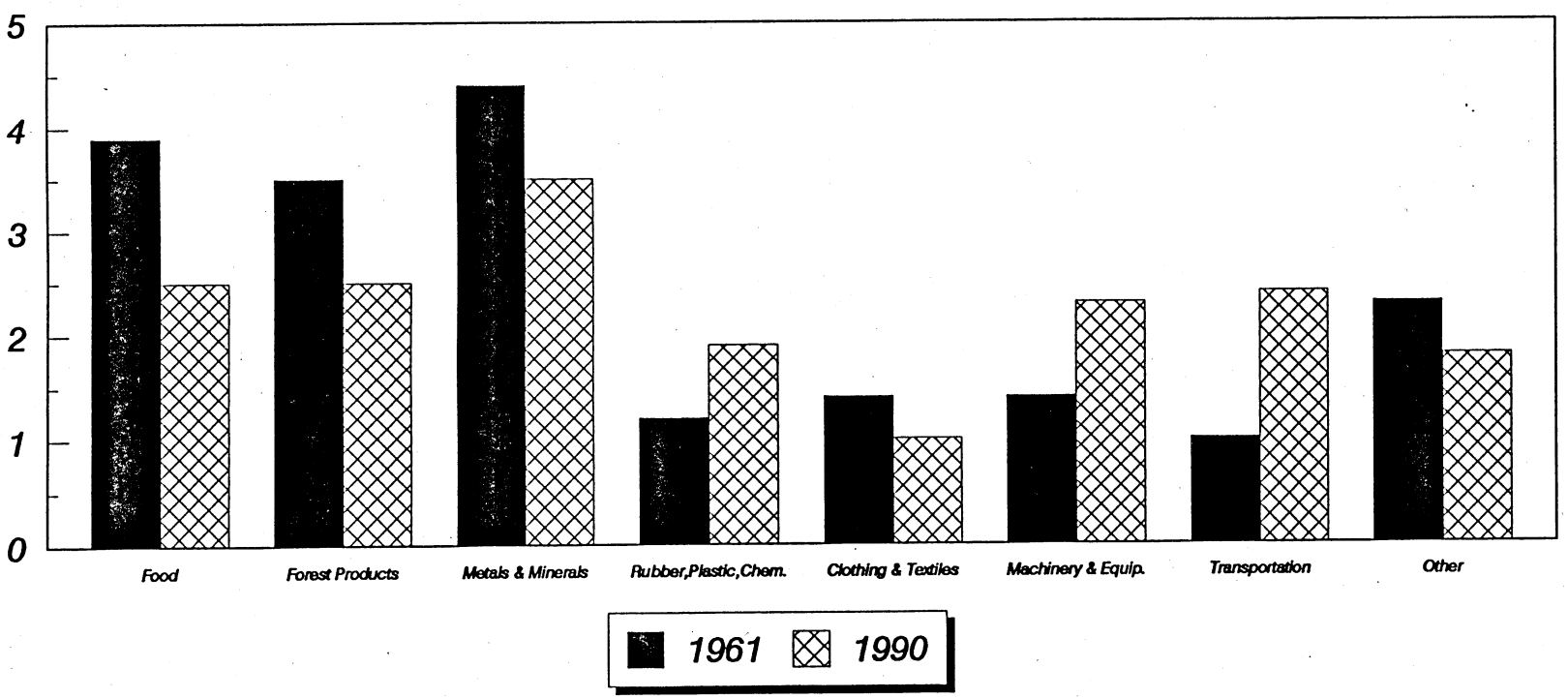
Source: Statistics Canada, Survey of Manufactures, Cat. #31-203, 1970 and 1988.

List of Appendix Figures

Appendix Figure 1

MANUFACTURING SHARE OF TOTAL GDP BY INDUSTRY GROUP

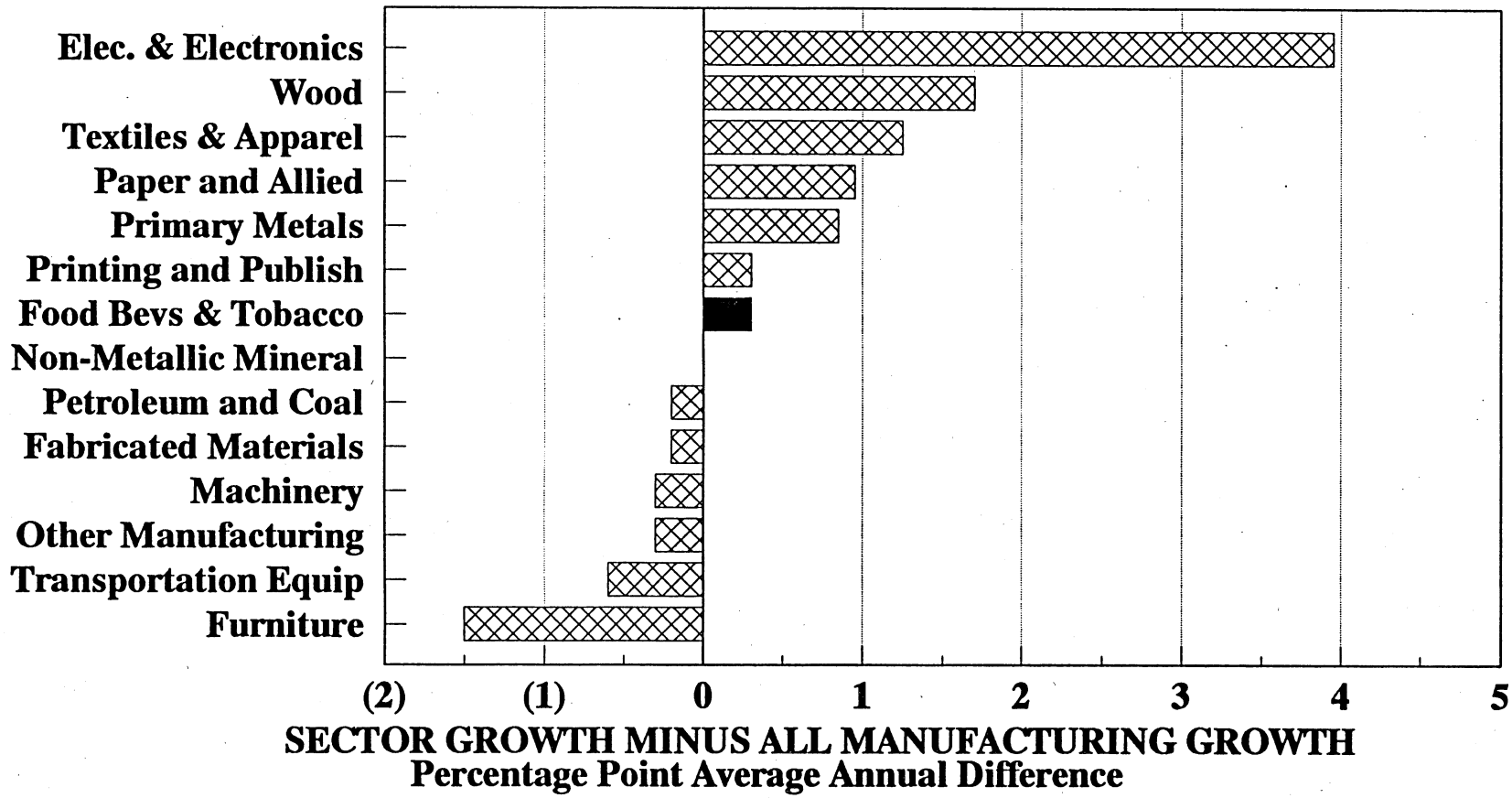
(constant dollars)



Source: ISTC, Industrial Competitiveness: A Sectorial Perspective, Minister of Supply and Services, Canada, 1991, pg. 5

Appendix Figure 2

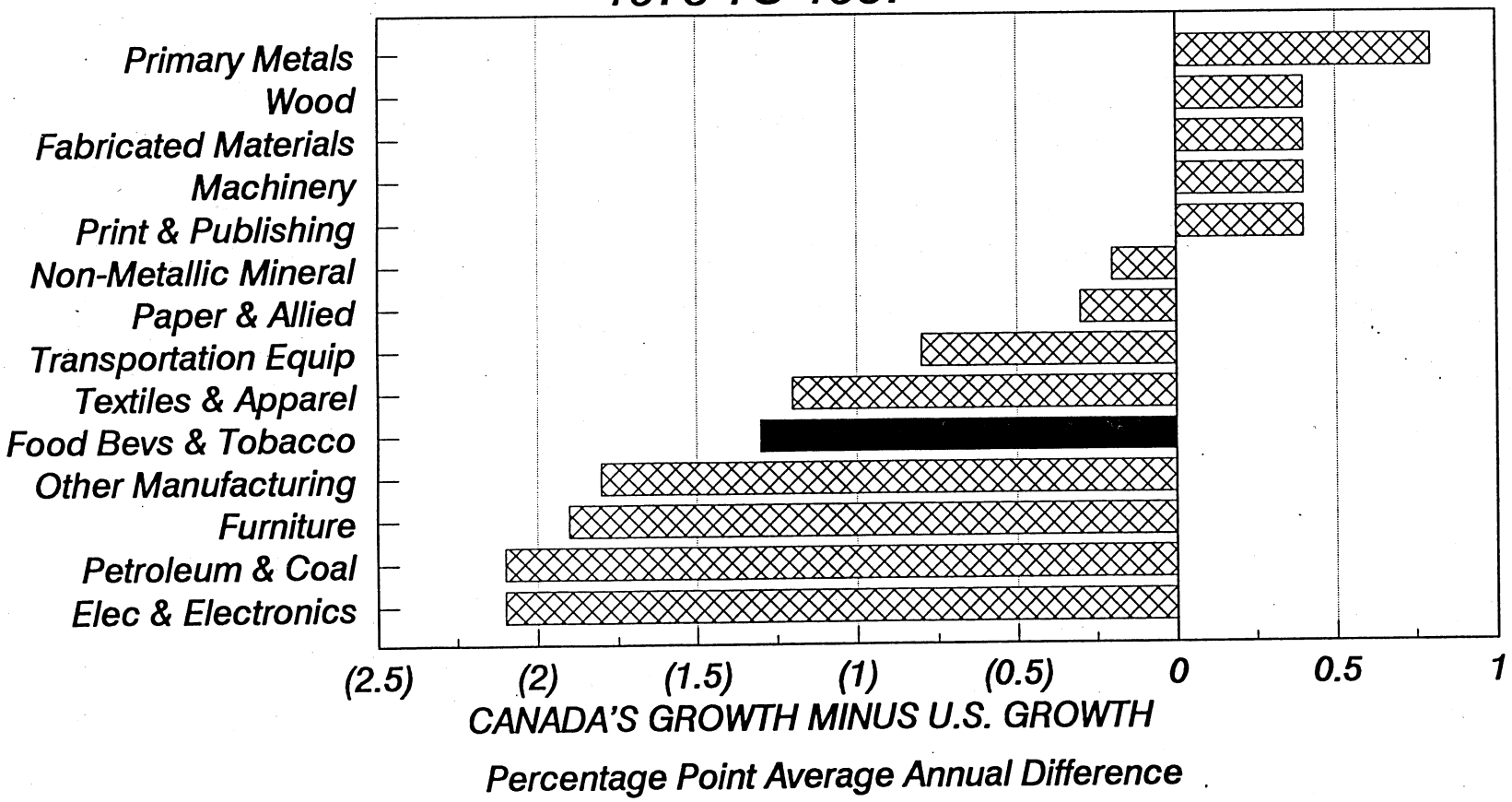
LABOUR PRODUCTIVITY GROWTH
RELATIVE TO OVERALL MANUFACTURING
1973 TO 1987



Source: ISTC, Industrial Competitiveness: A Sectorial Perspective, Minister of Supply and Services, Canada, 1991

Appendix Figure 3

LABOUR PRODUCTIVITY GROWTH
RELATIVE TO THE UNITED STATES
1973 TO 1987



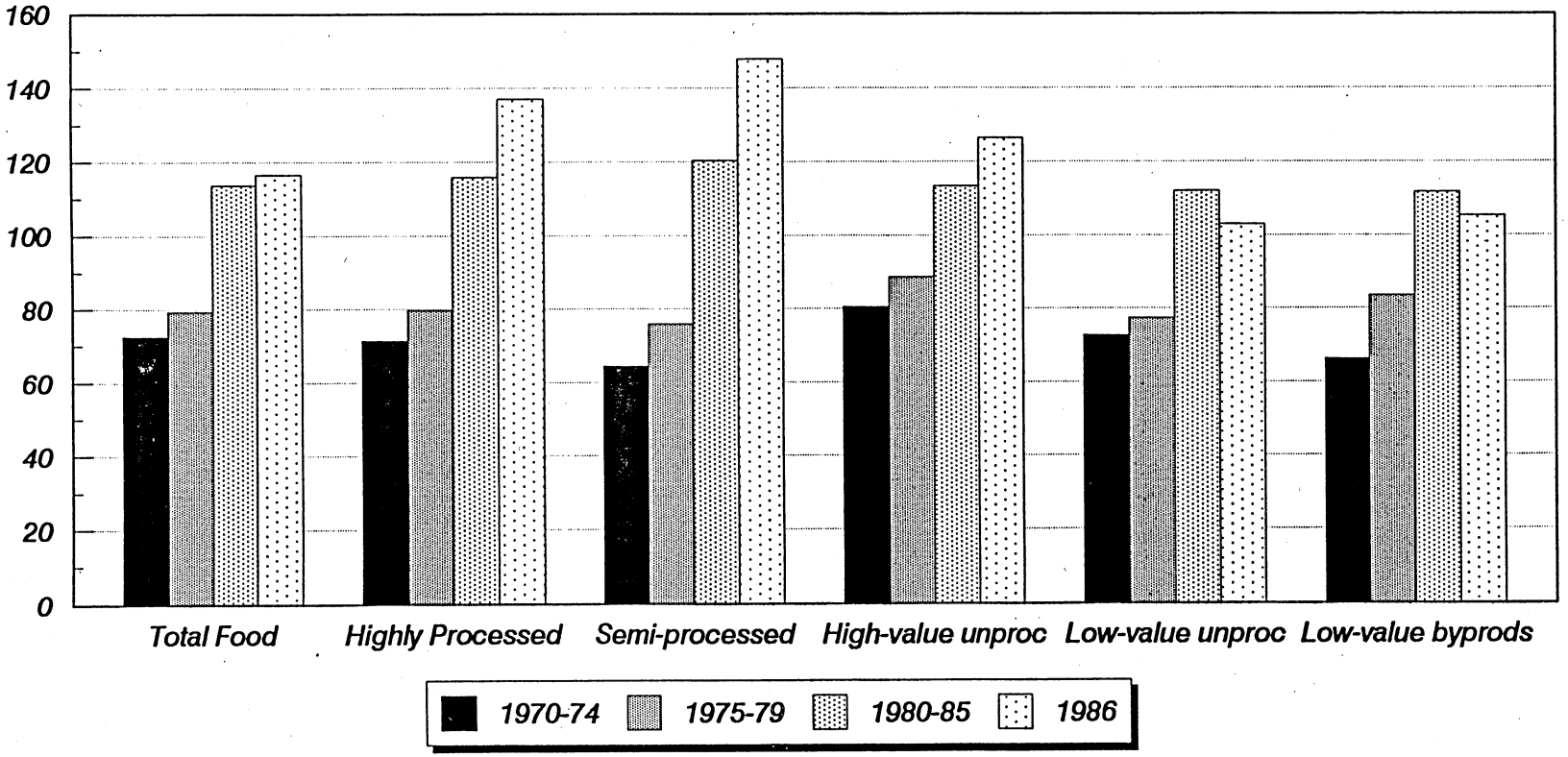
Source: ISTC, Industrial Competitiveness: A Sectorial Perspective, Minister of Supply and Services, Canada, 1991

Appendix Figure 4

EXPORT INDICES, CANADIAN AGRI-FOOD

BY VOLUME

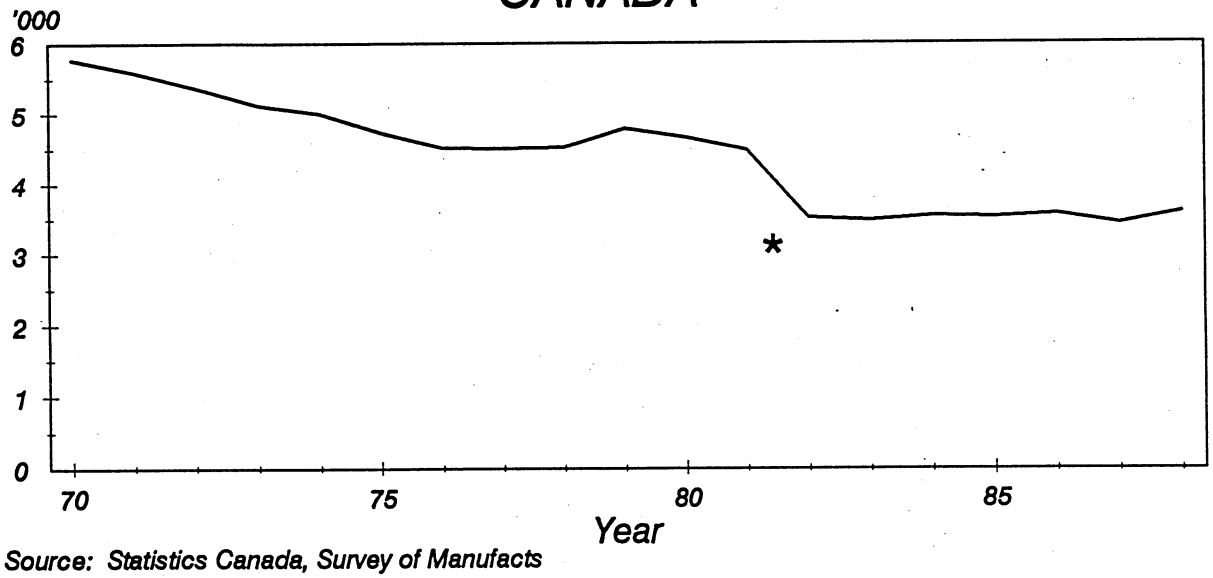
Index value 1980=100



Source: USDA, Value-Weighted Quantity Indices of Exports for High-Value Processed Agri. Products USDA, ERS, Bulletin No. 827, 1991

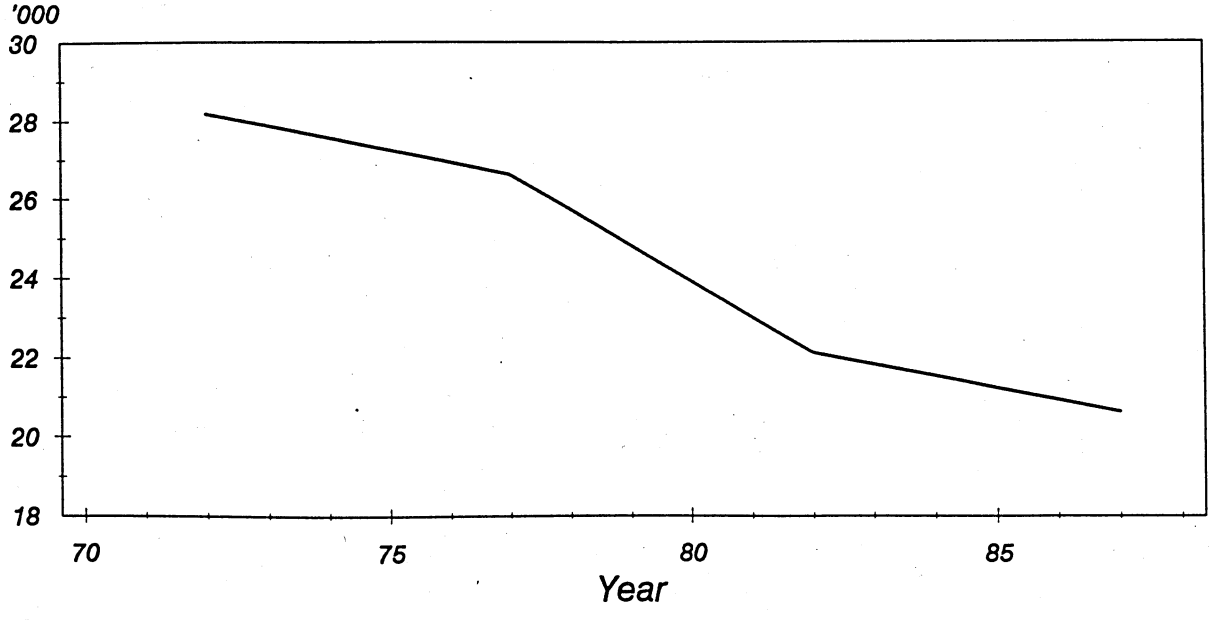
NUMBER OF ESTABLISHMENTS, FOOD & BEVERAGE PROCESSING

Appendix Figure 5



Source: Statistics Canada, Survey of Manufacts
*Decline partially due to reclassification of industries

Appendix Figure 6

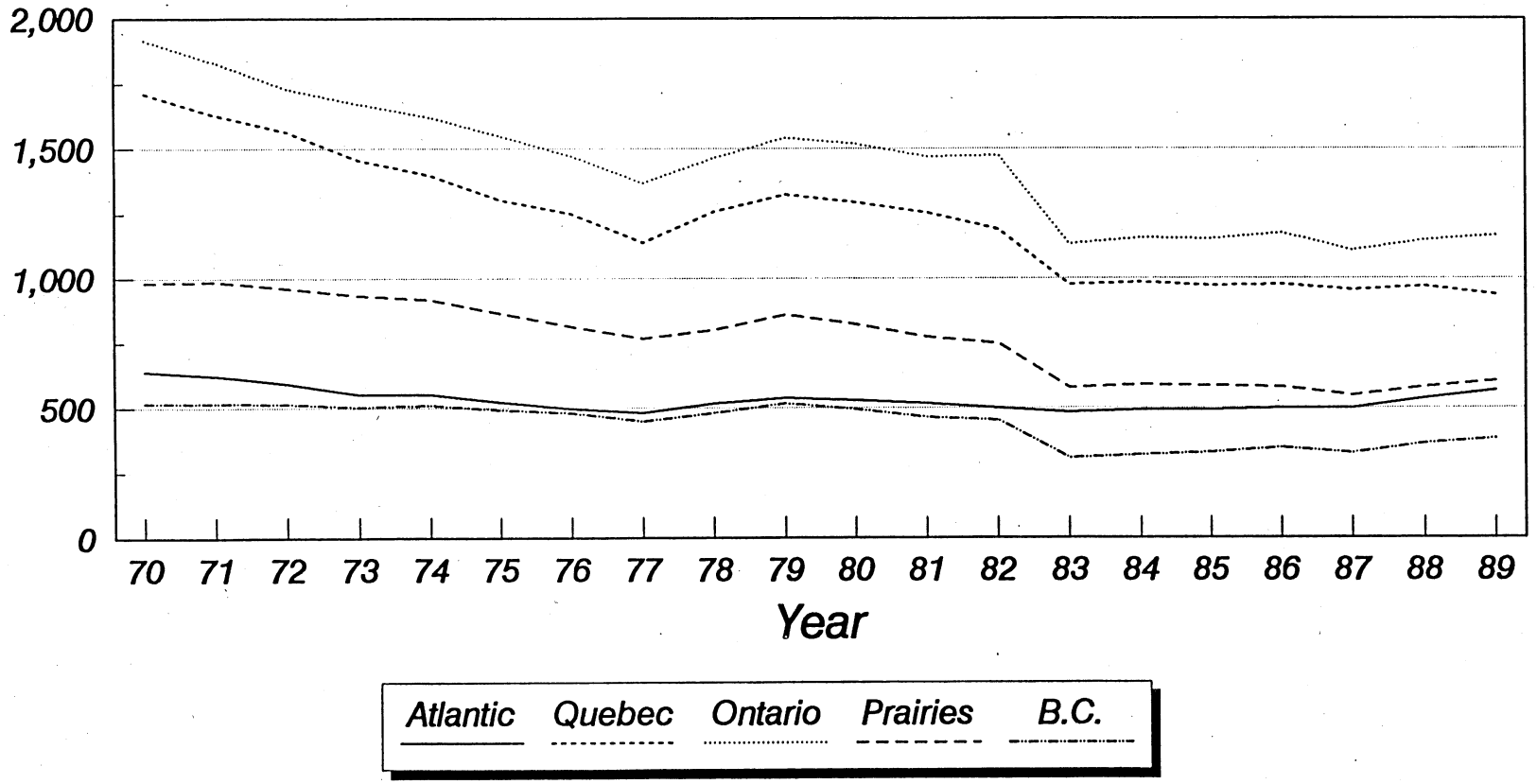


Source: U.S. Census of Manufactures, 1972-87
Data for non-census years have been interpolated.

Appendix Figure 7

NUMBER OF ESTABLISHMENTS BY REGION

FOOD AND BEVERAGE PROCESSING

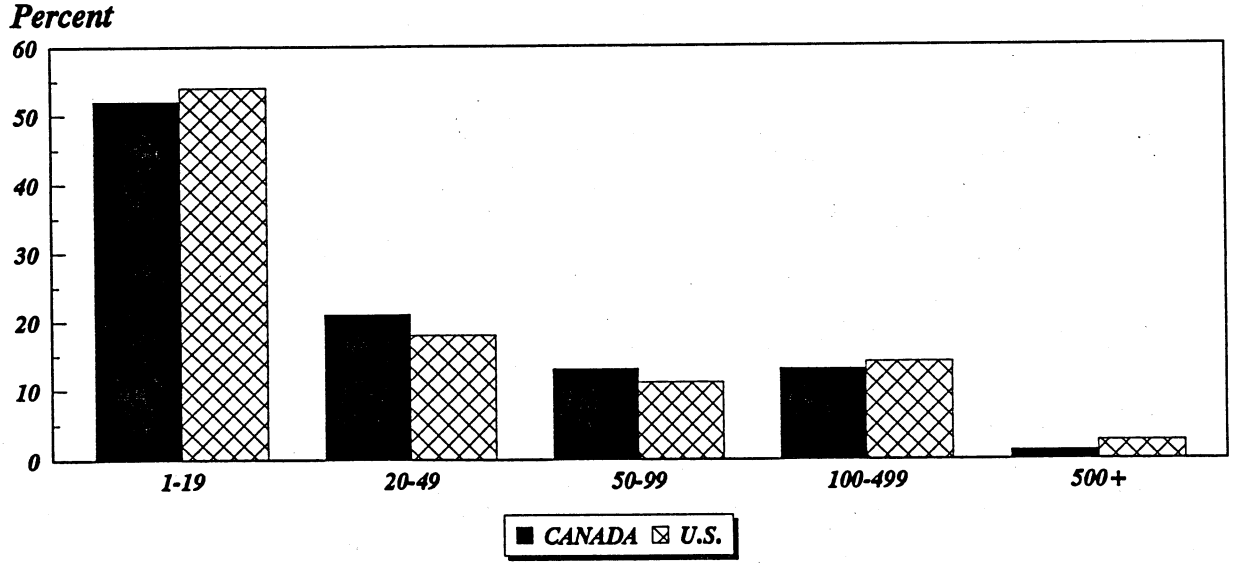


Source: Statistics Canada, Survey of Manufacts.
**Decline in 1982-83 is partially due to reclass. of bakeries from Mnfg. to Retail*

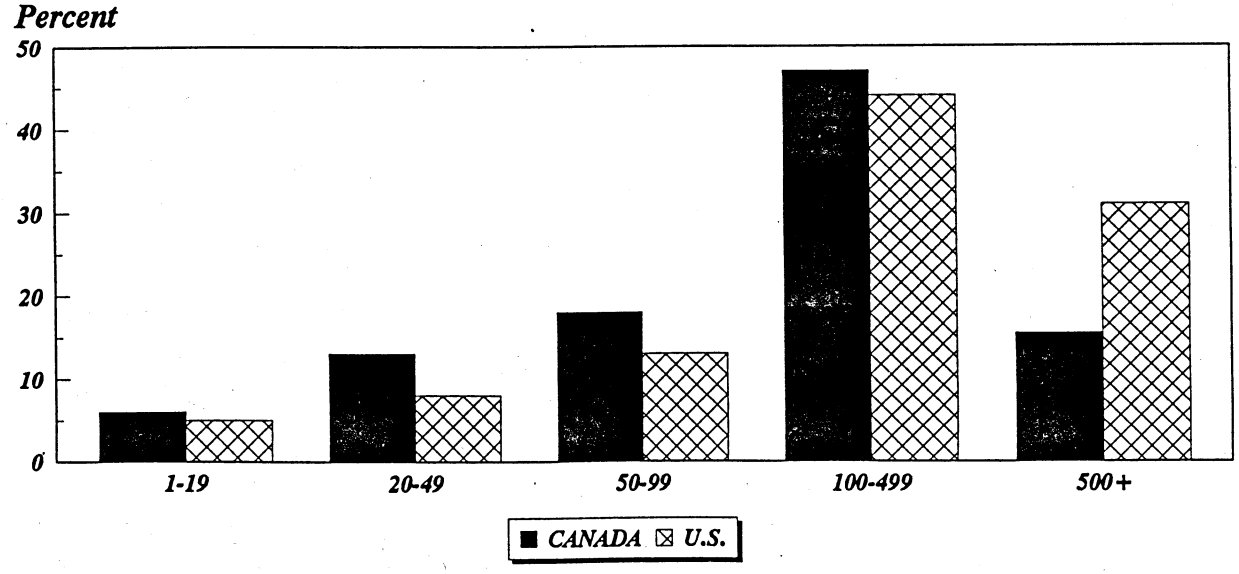
Appendix Figure 8(A)

FOOD PROCESSING PLANTS, 1987

SHARE OF ESTABLISHMENTS BY EMPLOYMENT SIZE CATEGORY



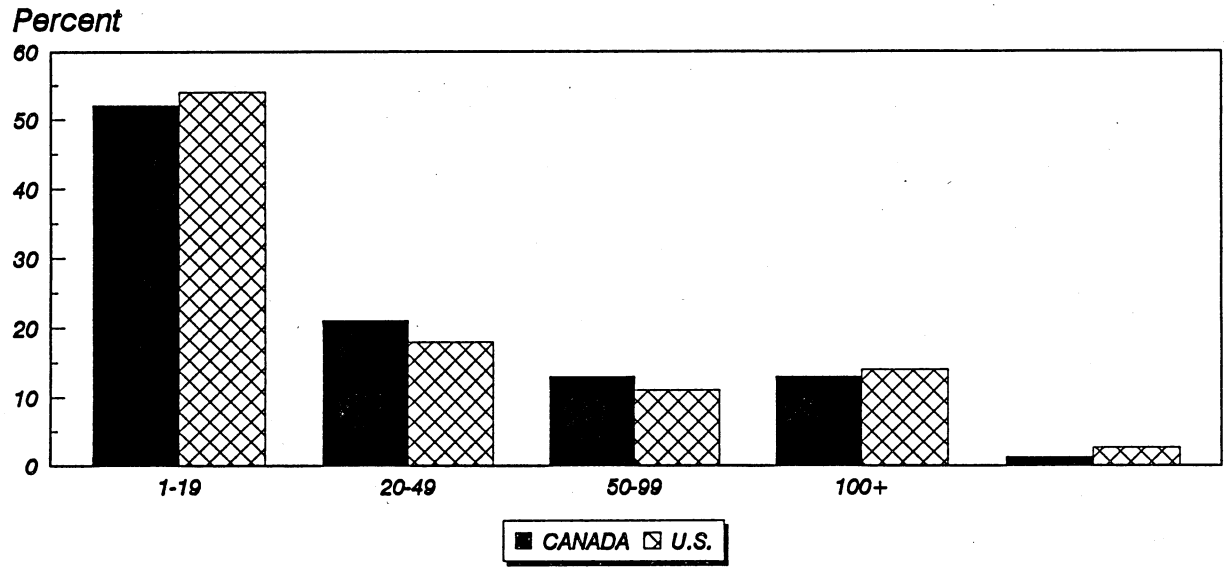
SHARE OF SHIPMENTS BY EMPLOYMENT SIZE CATEGORY



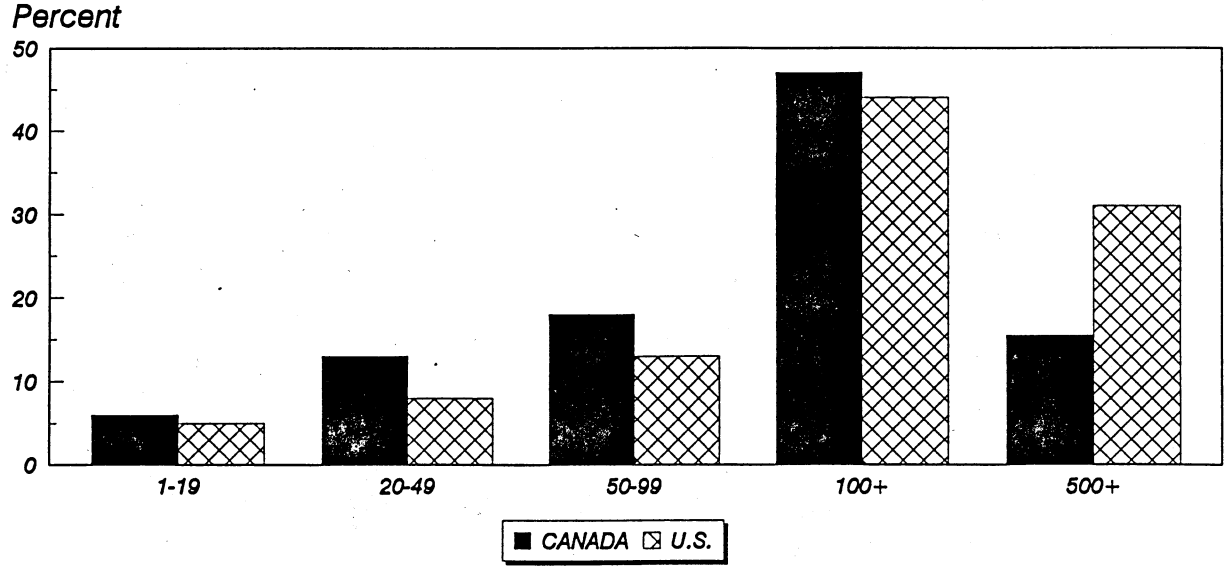
Source: Statistics Canada, Census of Manufacturing
U.S. Bureau of Census, Census of Manufacturing

Appendix Figure 8(B)
BEVERAGE PROCESSING PLANTS, 1987

SHARE OF ESTABLISHMENTS BY EMPLOYMENT SIZE CATEGORY



SHARE OF SHIPMENTS BY EMPLOYMENT SIZE CATEGORY



Source: Statistics Canada, Census of Manufacturing
U.S. Bureau of Census, Census of Manufacturing