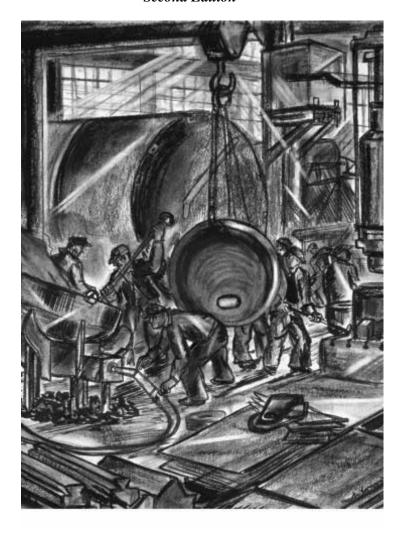


USEFUL INFORMATION FOR MANUFACTURERS AND EXPORTERS

Second Edition



Machine Shop No.1 (Pen and ink with pastel) Fritz Brandtner, National Gallery of Canada and Paul Kastel Art Gallery Inc., Acct.# 5739

How Statistics Canada can help your business



Statistique Canada Canadä^{*}

USEFUL INFORMATION FOR MANUFACTURERS AND EXPORTERS

This practical and informative guide for manufacturers and exporters will assist you in navigating your way through the many Statistics Canada products and services that are of specific interest to you. For your convenience, key sources for important information and how to contact us are provided in this guide.

Please take a few minutes to review *Useful Information for Manufacturers and Exporters*. If you have questions or require additional information on how to access or use the information, please contact us and we would be pleased to work with you in acquiring the information you need.

You can contact us through our Regional Offices (see pages 28 & 31 of this guide for locations).

This product is FREE on the internet and is also available in French. If you would like to go directly to any underlined publication, paper or internet address, please go to the HTML version of this product, then, simply click on the linked item.

Last revised date: 2000-09-15

Responsible division: Manufacturing, Construction and Energy Division

Dissemination agent (613) 951-9497

We look forward to serving you soon!

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"...Canada has the best statistics in the world, ..." The Economist (July 9, 1991)

Statistics Canada has been recognized as one of the world's leading statistical agencies. In addition to the many business and household surveys that we collect, we maintain hundreds of databases, containing reliable information about Canada, its economy, institutions and people.

The information contained in *Useful Information for Manufacturers and Exporters* will assist you in meeting your business information needs by pointing you directly to the information you require.

The first section contains a descriptive overview of our manufacturing data collection and dissemination activities. Case studies are provided to show you some useful ways in which to use our data to your advantage. As well, a list of the surveys, publications and research papers available from the Manufacturing, Construction and Energy Division is presented.

In the next sections, we profile the International Trade, Investment and Capital Stock, and the Science, Innovation and Electronic Information Divisions. We discuss some of the premier products and services, and present how easy it is to access trade and capital investment information.

The final sections introduce you to the many ways to access information and contact staff at Statistics Canada. As well, other Statistics Canada publications of interest to manufactures are presented. The vast array of information available from Statistics Canada that will assist you in making informed business decisions are highlighted.

Throughout the guide we have included recent highlights, trends and some very practical examples of how your company can benefit from accessing Statistics Canada information.

	1995	1996	1997
			_
Manufacturing GDP (billions\$)	114.3	115.7	123.2
Percentage of Total Canadian GDP	17.3%	17.2%	17.6%
Total Manufacturing Exports (billions\$)	206.2	214.5	232.2
Percentage of Total Canadian Exports	77.2%	77.9%	75.4%
Number of Production Workers	1,288,386	1,349,901	1,409,852
Annual Production Wages (billions\$)	44.0	46.1	48.8
Cost of Fuel & Electricity (billions\$)	9.4	9.6	10.2
Cost of Materials & Supplies (billions\$)	228.0	237.3	251.0
Value of Shipments (billions\$)	396.4	406.6	434.1
Total Direct Employment	1,715,160	1,775,738	1,840,923
Total Salaries & Wages (billions\$)	64.9	67.3	71.1
Total Manufacturing Establishments	32.7	36.2	34.9
Total Value of Shipments & Other Revenue	462.4	468.7	495.5
(billions\$) Capital Investment in Manufacturing (billions\$)	16.7	18.3	19.5
Manufacturing R&D Expenditure (billions\$)	4.9	5.0	5.5
Percentage of Total R&D Industry Expenditure	62.2%	64.2%	64.6%

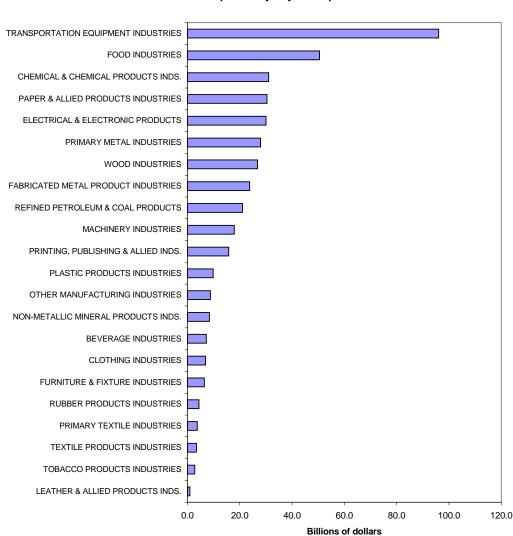
Source: Statistics Canada, Manufacturing, Construction, and Energy Division; Investment and Capital Stock Division; Service Bulletin Science Catalogue No. 88-001-XIB Vol. 23(3); CANSIM, as of November 1999

Note: Data subject to revisions.

Canadian Manufacturing Industry Highlights

The manufacturing industry is a very important part of Canada's economy. This sector continues to be an important engine of growth in the economy. Approximately 78% of merchandise exports originate from the manufacturing sector. In 1998, manufacturing accounted for nearly 17.8% of the country's Gross Domestic Product (up slightly from 17.6% in 1997). Almost two million Canadians are employed in about 35,000 factories, while thousands more service these plants.

Manufacturing in Canada continues to prosper given the health of the American economy, and despite the global reaction to financial crises in several countries including the Asian-Pacific crisis in the late 1990's. Manufacturing shipments jumped 6.8% to \$434.1 billion in 1997 - even with the impact of price increases taken into account, growth in manufacturing was 3.9%.



Value of Shipments by Major Group - 1997

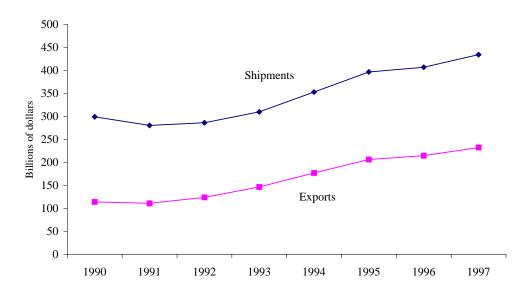
Source: Statistics Canada, Manufacturing, Construction and Energy Division

Exports drive manufacturing shipments

In 1997, manufacturing shipments were up in every province in Canada, showing an overall increase of 6.8% from 1996, for a total of \$434.1 billion dollars. Exports of Canadian manufacturers totalled \$249.5 billion in 1998, up 7.5% from the previous year. The chart below shows how manufacturing shipments and exports tend to mirror each other, which illustrates the importance of international trade to the manufacturing sector.

In 1999, production continues to increase primarily because of strong exports to the U.S. and higher sales to European countries. Increased manufacturing productivity has been led by the auto parts, primary and fabricated metals, electronic products and pharmaceuticals sectors. As of June 1999, output increased in 12 of the 22 major manufacturing groups, accounting for 65.8% of total manufacturing Gross Domestic Product.

Manufacturing Industries of Canada



Source: Statistics Canada, Manufacturing, Construction and Energy Division; International Trade Division Note: Export and shipment data are valued differently, and therefore, absolute comparisons may not be precise.

Case #1: How manufacturing data can be used

Statistics Canada produces a variety of price and deflation indices that help small, medium, and large businesses to make informed decisions.

Sally Wong has recently graduated from university with a chemistry degree. Rather than working in a research laboratory as many of her classmates, she has chosen to use her academic and entrepreneurial skills to start a business. After meeting with a loan officer at her bank, she was advised to do some additional research to improve her business plan. By visiting her local university library, Sally was able to find a wealth of Statistics Canada information to bolster her business report.

To start, Sally used the indices for constant dollars adjustments of chemical prices to better gauge the profit viability of the industry. These indices are adjusted for sales, imports, exports, raw materials and value added. Using 1992 as a benchmark year, petrochemical prices continued to rise until 1998, at which time prices fell approximately to 1989 levels. On the whole, total chemical prices have been falling since 1995, however specific chemical sectors, such as the manufacturing inks, adhesives, and other chemicals have continually increased in price. Generally, rising chemical prices bode well for producers and distributors. It is important to note, however, that as chemical prices have fluctuated across industry segments over the past 10 years, the cost to build and repair chemical plants has risen continually since 1989. These increases in plant construction costs closely reflect the rise in the inflation rate (Consumer Price Index).

Sally decided to open a business by developing a special non-toxic adhesive for potters. The information presented in this table can assist users to measure average price change over time within a specific industry.

Indices Used for Constant Dollar Adjustment

Chemical
Prices

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Petrochemicals	120.9	110.3	106.2	100.0	103.0	121.1	138.6	127.8	131.7	120.4
Inorganic	102.7	101.8	101.8	100.0	102.8	105.2	118.3	120.7	117.9	119.3
Inks Adhesives	93.6	96.5	99.9	100.0	101.2	104.8	110.4	110.8	112.2	112.9
TOTAL	112.9	106.4	104.3	100.0	102.7	115.6	130.8	124.2	126.5	119.3
GDP Deflator	93.3	96.1	98.7	100.0	101.2	102.6r	105.1	106.7r	107.4r	107.0
Consumer Price	89.0	93.3	98.5	100.0	101.8	102.0	104.2	105.9	107.6	108.6
Index										
Chemical Plant	92.3	95.6	97.8	100.0	102.4	105.4	109.3	110.9	113.2	117.1
Investment										

Source: Statistics Canada, Industrial Product Price Indexes, CANSIM No. 1878; National Income and Expenditure Accounts, Quarterly Estimates, Catalogue No. 13-001-XPB; Consumer Price and Prices Indexes, Catalogue No. 62-010-XPB; Chemical and Petrochemical Process Plant Index for 1981-89, CANSIM No. 294

Note: "r" represents revised data.

Case #2: Benchmark *your* performance...

Compare your company's performance against industry averages obtained using data from Statistics Canada's *Manufacturing Industries of Canada: national and provincial areas* (Catalogue No. 31-203-XPB).

The owner of Joel's Fine Men's Clothing Inc. in Valleyfield, Quebec needs to compare his company's progress with his competitors. Currently, he is trying to reduce his miscellaneous expenses and cannot justify spending thousands of dollars on a private market research study.

Using self-produced ratios, he compares his costs of production (i.e. wages, fuel and materials) to shipments against the overall men and boys' clothing contractors in the province of Quebec. Here are the results:

SIC 2435: Men's and Boys' Clothing Contractors Industry, 1997 Quebec

	# of Establishments	# of Employees	Average Wages	Wages Paid	Cost of Fuel	Cost of Material	Value of Shipments
					\$00	0,000	-
Industr	y 71	3512	\$15,661	55.0	1.7	25.8	115.8
Joel's	1	112	\$19,304	2.2	.04	2.0	5.4

Source: Statistics Canada, Manufacturing, Construction and Energy Division

The following ratios indicate:

	Wages/Shipments	Fuel/Shipments	Materials/Shipments
Industry	47.5%	1.5%	22.3%
Joel's	40.0%	0.7%	37.2%

Joel noticed that even though his company pays higher than average industry wages and salaries, his wages to shipments ratio was below the industry ratio. His fuel to shipment ratio is almost half the industry ratio as well. This finding indicates to Joel that his capital expenditure on energy conservation measures has been successful. The ratio that most concerned Joel was the materials to shipments ratio because it was considerably higher than the overall industry ratio. Joel consulted his senior managers to find a way to reduce these costs by 20 percent. It was decided that rather than compromising the company's product quality they would seek out new suppliers of cotton in North Africa and of wool in Central Asia. This type of information from Statistics Canada is useful for any company wanting to measure their performance characteristics against their specific industry.

Manufacturing, Construction and Energy Division (MCED) Surveys: What information is available?

Statistics Canada collects data on all of the 22 manufacturing major industry groups through three primary business surveys:

- The <u>Annual Survey of Manufactures (ASM)</u>
- The *Monthly Survey of Manufacturing (MSM)*
- The *Quarterly Business Conditions Survey*

The survey information we compile is published in both print and electronic formats and is accessible in a variety of media.

Annual Survey of Manufactures

The Annual Survey of Manufactures is a large survey that compiles data from over 35,000 establishments, in over 230 different Canadian industries for our principal publication *Manufacturing industries of Canada: national and provincial areas* (Catalogue No. 31-203-XPB, \$68 Cdn). It is a census of all employers earning revenues in excess of \$30,000. Since it depends on the financial records of an entire year and many variables are collected, the results are released approximately eighteen months after the end of the reference year. Important operating statistics include: total

MANUFACTURING

revenues, value of shipments, employment, wages, inputs, non-manufacturing activity and specific commodity information on inputs and outputs shipped. Additionally, if you need detailed industry statistics or commodity statistics, the Annual Survey of Manufactures is for you.

Businesses use information from this survey to analyze their market share, to forecast, and to benchmark performance to industry standards.

Monthly Survey of Manufacturing

The *Monthly Survey of Manufacturing* (Catalogue No. 31-001-XPB) is designed to capture a snapshot of current economic conditions. This survey samples a select number of establishments who represent all of the other manufacturing establishments. By surveying only a representative sample, cost and response burden are reduced, and timeliness of the publication is improved. For example, current economic indicators are collected each month and become available six weeks after the data are collected.

The value of shipments, inventories, unfilled and new orders is presented by month, including monthly figures for the previous 12 months. Seasonally adjusted data is available at the two-digit Standard Industrial Classification (SIC) level, by province, for all manufacturing industry shipments. In order to facilitate making geographical comparisons of economic activity, shipments by major group and province (not seasonally adjusted) are available as well. This publication includes current months and corresponding previous year data and shows month to month percentage changes, and annual data with dollar and percentage changes. Information from this survey is widely used by manufacturers and other organizations because of its accurate manufacturing shipment information. This publication costs \$20 Cdn per issue and \$196 Cdn for a one year subscription.

When to use annual as opposed to monthly manufacturing data

In order to improve Monthly Survey of Manufacturing (MSM) estimates, Annual Survey of Manufactures' (ASM) levels from previous years are used in a process called benchmarking. In a typical period, the MSM projects monthly estimates for the current and past year. However, for the benchmark year (two to three years ago) the MSM monthly values of manufacturing shipments add up to the ASM annual totals for manufacturing shipments. While the ASM has a much broader number of variables than the MSM, the monthly survey provides more current data.

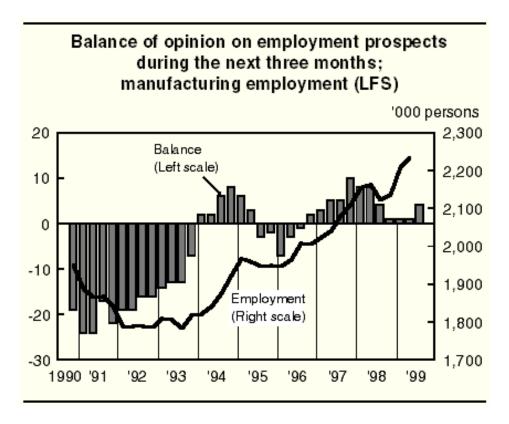
The Quarterly Business Conditions Survey

Four times each year, Statistics Canada surveys the opinions of the manufacturing industry regarding the expected change manufacturers anticipate over the next three months. Opinions are collected regarding expected changes in production and employment, the present state of finished product inventories, orders received, the backlog of unfilled orders and impediments to production such as labour and material shortages, working capital and other non-specified categories. Look for the survey results during the first week of February, May, August and November.

How to Use the Business Conditions Survey

Financial and market analysts are key users of the surveyed opinions. The results from the Business Conditions Survey are primarily released in the form of a "Balance of Opinion". A positive "Balance of Opinion" indicates anticipated growth in the economy in the current quarter, while a negative balance signals a potential downturn.

The following graph illustrates the number of manufacturing paid workers from the Labour Force Survey to the third quarter of 1999 and the Balance of Opinion from 1990 to the end of the second quarter of 1999. The balance of opinion concerning employment opportunities for the next three months among manufacturers represented a modest three-point increase from April's survey. The percentage of manufacturers stating they would decrease their workforce was at 12%, while those stating they would increase employment levels remained at 16%.



Source: Statistics Canada, Business Conditions Survey, July 1999

Reports and Publications

The following industry review reports provide in-depth analysis of major industrial groups. (http://www.statcan.ca/cgi-bin/downpub/freepub.cgi)

Publication	Industry	Frequency
32-250-XIE	Food Industries	Annual
32-251-XIE	Beverage and Tobacco Product Industries	Annual
33-250-XIE	Rubber and Plastic Products Industries	Annual
33-251-XIE	Leather and Allied Products Industries	Annual
34-250-XIE	Primary Textile Industries	Annual
34-251-XIE	Textile Products Industries	Annual
34-252-XIE	<u>Clothing Industries</u>	Annual
35-250-XIE	Wood Industries	Annual
35-251-XIE	<u>Furniture and Fixtures Industries</u>	Annual
36-250-XIE	Paper and Allied Products Industries	Annual
36-251-XIE	Printing, Publishing and Allied Industries	Annual
41-250-XIE	Primary Metal Industries	Annual
41-251-XIE	Fabricated Metal Products Industries	Annual
42-250-XIE	Machinery Industries, except Electrical Machinery	Annual
42-251-XIE	Transportation Equipment Industries	Annual
43-250-XIE	Electrical and Electronic Product Industries	Annual
44-250-XIE	Non-metallic Mineral Product Industries	Annual
45-250-XIE	Refined Petroleum and Coal Products Industries	Annual
46-250-XIE	Chemical and Chemical Products Industries	Annual

Recent research reports

(http://www.statcan.ca/cgi-bin/downpub/research.cgi)

- Logging Industry (Catalogue No. 25F0002MIE)
- Destination of Shipments 1984 1993 (Catalogue No. 31F0026MIE95001)
- Destination of Shipments, 1996 (Catalogue No. 31F0026MIE96001)
- Comparison of Establishment Group in the Manufacturing Sector, 1985 1996 (Catalogue No. 31F0027MIE96001)
- Overview of Packaging Products used by Canadian Manufacturing Industries (Catalogue No. 31F0027MIE96002)
- Stages of Processing and Economic Trends in the Manufacturing Sector, 1988 1996 (Catalogue No. 31F0027MIE96003)

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- The Evolution of Production costs in the Manufacturing Sector (Catalogue No. 31F0027MIE95001)
- Canadian Manufacturing Activity: A Geographic Perspective (Catalogue No.31F0028XIE)
- The Structure of Manufacturing in Canada (Catalogue No. 31F0029XIE)

Current commodity reports

To order: (http://www.statcan.ca/english/search/ips.htm)

Publication	Commodity	Frequency
25-001-XIB	Pulpwood	Monthly
32-006-XIB	Oils and Fats	Monthly
32-022-XIB	<u>Tobacco</u>	Monthly
35-001-XIB	Plywood	Monthly
35-003-XIB	Sawmills	Monthly
36-003-XIB	Particle Waferboard Fibreboard	Monthly
41-001-XIB	Steel Products	Monthly
41-006-XIB	Steel Wire	Monthly
41-011-XIB	Steel Pipe and Tubing	Monthly
43-009-XIB	Electric Lamps	Monthly
44-001-XIB	Cement Industry	Monthly
44-004-XIB	Mineral Wool	Monthly
45-001-XIB	Asphalt Roofing	Monthly
46-002-XIB	Chemical Products	Monthly
25-002-XIB	Solid Fuel Burning	Quarterly
33-002-XIB	Footwear Statistics	Semi-annually
35-006-XIB	Shipments of Office Furniture	Semi-annually

International Trade Highlights

In July 1999, exports surpassed the \$30 billion mark. Exports continued their upward trend primarily as a result of strong activity in the lumber, natural gas and crude oil sectors. Overall, a steep drop in car exports dampened growth.

For the first time since July 1996, the forest product sector was the main contributor to the monthly increase in exports. Although all sub-sectors rose, lumber showed the strongest growth, with increases resulting from both higher prices and volumes. Strong construction activities in the United States reduced Canadian lumber inventories, pushing prices upward in July 1999 by 8.9%.

The automotive products sector dropped sharply in July 1999, partly as a result of a \$180 million decrease in passenger car exports. However, at more than \$7.6 billion, automotive exports remain more than 50% higher than in July 1998. The increase in production capacity and overtime in certain plants to meet demand, explain this year-over-year advance.

The International Trade Division of Statistics Canada has information on every commodity imported or exported in Canada. Each year we process documents containing over twenty million import/export transactions, going to or from over 200 countries world-wide. The information from these documents and from other sources is used to produce the definitive database of Canada's international trade.

International Trade: Products and Services for Canadian Businesses

International Trade Division offers information on world trade. Using adjusted United Nations data, we provide information on global trade from 1970 to 1999. Our world trade information uses the Standard International Trade Classification second revision system of classification which is available up to the 4-digit level. You can track trends for more than 180 trading partners and more than 800 commodities for almost two decades.

The International Trade Division also tracks any changes to the Harmonized System (HS) of Classification with our Classification Tracking System. All updates are recorded for changes to codes, descriptions, units of measure, and effective dates.

World trade atlas - Canada edition

Canada's trade with the world.

The World trade atlas - Canada edition is a new data and software product from the International Trade Division of Statistics Canada and Global Trade Information Services Inc., designed to replace the Canadian trade analyzer (CTA) (catalogue no.65F0015XCE). It contains Canada's trade activity with the rest of the world. Features of the World trade atlas - Canada edition include: Canadian trade data with over 250 trading partners, up to five years of the most recent monthly data, data on 18,000 import and 6,000 export commodities, including national, provincial, territory and U.S. state, currency conversion, detailed Harmonized System exports and imports data at the HS-8 and HS-10 digit level, respectively.

The World trade atlas - Canada edition also offers: drill down / drill up capabilities from low level to high level of detail; powerful graphing capabilities; sort and 'Top / Bottom' reporting functions; keyword searchable fields; easy export of data for use in other applications; user friendly; and online help.

World Trade Analyzer (WTA), 1980 - 1999

Over a decade and a half of global trade at your fingertips.

Using adjusted United Nations source data, the WTA provides trade information for more than 160 trading partners and 600 commodities at the SITC (Rev 2) 4-digit level. Look for our new currency conversion feature!

Did you know that in 1998...?

- New Brunswick exported over 2 million fresh and frozen lobsters to the United States
- Canada exported over 15.5 million dollars worth of mustard seed to Bangladesh, third after the United States and Belgium.
- The United Kingdom imported 2,665,180 cans and packages of sockeye salmon from British Columbia.
- Japan imported and consumed over 60,000 tonnes of Canadian peat.

Services

Custom Data Retrievals

Need information for a specific project, or on an ongoing basis? We can provide import and export trade information in the medium and in the frequency of your choice. Choose from Canadian, American, or world trade data, and from many different trade variables. Trade data that are available:

Canadian World **American** Over 30 years of data Adjusted United nations • HS-based annual data HS-based data from data from 1970 from 1989 – present 1988- present present (SITC (rev 2)) • Customs district level • Over 800 commodities Over 17 variables data Over 180 trading More than 18,000 Value and quantity import commodities partners (1998 data)

Case #3: Finding new markets...

Martin Laframbroise owns a small hockey stick manufacturing operation in Eastern Ontario. His business has been performing reasonably well, and the profits have been consistent for many years. Most of his merchandise is sold domestically, with some sticks going to the New England states. Martin, however, is frustrated that after investing in new equipment and human resources training, he still cannot expand his business and increase profits. A friend suggested to Martin that he should find new markets for his product.

With this advice, Martin called the International Trade Division at Statistics Canada to obtain data about who buys Canadian hockey sticks. The International Trade Division provided him with data in the chart below on hockey stick consumers. He was shocked to discover that the USA was such big consumer of Canadian hockey sticks. This information compelled Martin to re-assess his marketing and distribution strategies so that he could take advantage of these lucrative foreign markets. International Trade data can be used effectively to assist manufacturers in finding new markets for their products.

Selected provincial exports to the top five consumers of hockey sticks*

	1998				
	Onta	rio	Quebec		
	Export Value (\$)	Export Quantity (units)	Export Value (\$)	Export Quantity (units)	
France	11,000	612	214,000	10,848	
Germany	215,000	20,028	351,000	46,056	
Japan	132,000	1,584	199,000	15,120	
Switzerland	0	0	471,000	29,280	
United States	10,852,000	748,044	19,328,000	1,416,960	
* HS-Code	9506.99.11				

Source: Statistics Canada, International Trade Division

Investment and Capital Stock Highlights

The Investment and Capital Stock Division measures fixed capital investment through its three annual surveys. The surveys investigate actual investment and investment intentions. The final actual investment figures are augmented by data from: building permits, trades journals, press releases, and company reports. Approximately 7,000 of the 25,000 establishments who complete the surveys are manufacturers.

The data are tabulated for Canada and the provinces, by industrial sector for the various components of investment (construction and machinery and equipment by type of asset) and for the private and public sectors. In addition, estimates for manufacturing at the two-digit Standard Industrial Classification level are presented for Quebec, Ontario, Alberta and British Columbia.

National Wealth and Capital Stock

Data on fixed capital investment is combined with price indices for deflation, and surveyed estimates of useful life in order to produce capital stock estimates by industry and province. Fixed Capital Flows and Stocks are produced annually by industry and province.

As well, capacity utilization rates are produced for all the non-farm goods-producing industries. Capacity utilization rates are calculated using a methodology that relies on: annual survey estimates, capacity output-capital ratios and related economic indicators. The capacity output-capital ratios are derived by examining the time series of production and capital in relation to the year of the highest capital productivity. Annual survey estimates of capacity utilization for manufacturing industries are available. Surveying for capacity means that it is now possible to take into account the business perception of the gap between actual and potential outputs. These sources of information provide a better picture of trends in capacity utilization.

Products

There are fixed release dates for capital and repair expenditures and the capacity utilization surveys. The Capital Stock series are updated annually in late summer. All publications are available on the Internet, and data are also available through CANSIM.

- Private and Public Investment in Canada Intentions (Catalogue No. 61-205-XIB)
- Private and Public Investment in Canada Revised Intentions (Catalogue No. 61-206-XIB)
- Capital Expenditures by Type of Asset Actual (Catalogue No. 61-223-XIB)
- Fixed Capital Flows and Stocks, Historical Occasional (Catalogue No.13-568-XPB)

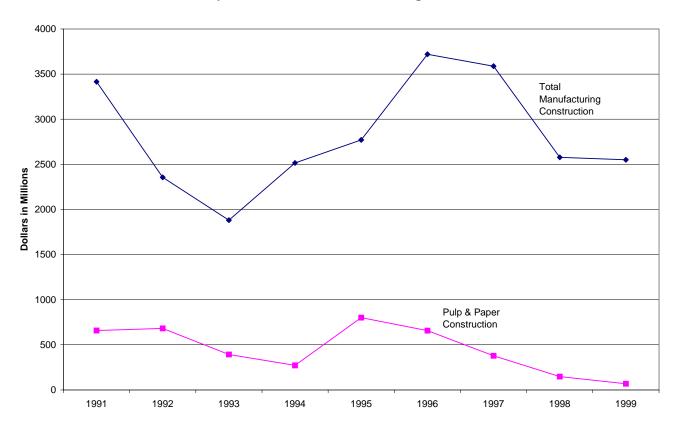
Case #4: How investment information can help you...

The Chief Financial Officer of a pulp and paper company in the Temiscaming region of Quebec was preparing for the annual shareholders meeting. He wanted to show to the shareholders how capital costs have been decreasing significantly since 1995. In order to obtain data on industry wide capital expenditure, he contacted his Statistics Canada regional office. A representative supplied him with graphs (see below) and other data on a cost recoverable basis. Using the graph as a roadmap to explain recent industry changes, the Chief Financial Officer outlined to the shareholders that the unusually high

capital investments in 1995 and 1996 were due to environmental regulations. Shareholders were quick to observe that since 1996, capital expenditures decreased significantly. Using construction as one form of capital expenditure, the Chief Financial Officer explained the various factors that have affected the pulp and paper industry in Canada.

The decline in capital expenditure in 1996 mirrored the rapid price decrease for pulp and paper products, after the most prosperous year ever on record for pulp prices in 1995. Since 1995, there has been a decline in demand for newsprint given a combination of factors, including the increased pulp and paper production in other countries, customers using up their inventories which accumulated during the price hike in 1995, and the Asian crisis that began in 1997. The Chief Financial Officer was successful in presenting a clear industry picture to the shareholders based on Statistics Canada data.

Capital Investment, Manufacturing Canada



Source: Statistics Canada, Investment and Capital Stock Division

Canadian Manufacturing Science and Innovation Highlights

The mandate of the Science Innovation and Electronic Information Division (SIEID) is to improve our understanding of the interaction among science, technology, and society. This is achieved through continually developing new statistical indicators, with input from our clients. These indicators are incorporated into a framework that presents a coherent picture of scientific and technological inputs and outputs. This framework takes a macro perspective to the development of indicators and looks at the:

- Actors: people, firms, public institutions
- Activities: invention, innovation, research & development, etc.
- Linkages: source of innovation, commercialization of intellectual property, etc.
- Outcomes: skills, jobs, organizational and social change, etc.

The following branches within SIEID are responsible for collecting these measures: Science and Technology Activities, Industrial Research & Development, Human Resources and Intellectual Property, Advanced Technologies, Innovation, Biotechnology and Technology Use, and Electronic commerce.

Science and Technology Activities

One type of activity that this branch investigates is business practices. Business strategies are often implemented through the adoption of certain business practices, and are an important part of a firm's technological regime. The extent to which business practices are used by manufacturing plants is provided below.

Use of manufacturing practices and techniques, 1998

Practices (percentages of establishments)	Yes (%)	No (%)	N/A (%)
Continuous improvements	49	30	21
Just-in-time inventory	40	40	21
Certification of suppliers	36	43	21
Benchmarking	35	41	24
Plant certification	34	43	22
Electronic work order management	29	48	22
Cross-functional design teams	29	44	27
Concurrent engineering	29	43	28
Statistical process control	23	53	24
Quality function deployment	22	52	25
Distribution resource planning	10	61	29
Process simulation	10	63	27

Source: Statistics Canada, Science, Innovation and Electronic Information Division

Continuous improvement is a technique that involves an incremental approach to quality improvement, and it has the highest usage rate with almost half of the establishments having adopted it. Other important techniques are: just-in-time inventory, supplier certification, benchmarking and plant certification, between 34% and 40% of plants surveyed each used these techniques. Just-in-time inventory is a low inventory system whereby suppliers agree to deliver a product immediately upon request. Benchmarking is the ongoing practice of comparing a plant's standards against that of the

industry leaders; while plant certification—such as ISO 9000—refers to any program that includes quality certification by a third party.

Research and Development

Research and development (R&D) is an important input in the innovation process. Firms engage in R&D to create new products and processes, and to be more receptive to technological advances.

Manufacturers' R&D activities in the last three years, 1998

R&D Activity (percentage of establishments)	YES (%)	NO (%)
Does your firm do R&D in-house?	49	51
Does your firm do R&D jointly with another firm?	20	80
Does your firm contract out R&D?	14	86
Any R&D activity	55	45

Source: Statistics Canada, Science, Innovation and Electronic Information Division

Internet Use

Did you know that in 1998...?

• 57% of manufacturing firms in Canada had an Internet home page. This was also the same percentage as those that advertised on the World Wide Web.

Most firms (89%) use the Internet to perform searches on the World Wide Web, as shown in the table below. As well, 39% of establishments sell their goods and services using the Internet.

Purposes for Manufacturer's Internet Use, 1998

Purpose (percentage of establishments)	YES (%)	NO (%)
Searching on the World Wide Web	89	11
Selling your goods and services	39	61
Advertising/marketing your goods and services	57	43
Purchasing goods and services	40	60
Secure electronic transactions	27	73
Sharing R&D	16	84
Other	9	91

Source: Statistics Canada, Science, Innovation and Electronic Information Division

Introduction

In order to compare statistics, classification systems must be used. To evaluate the performance of manufacturers, two sorts of classification systems are used – industry and goods. All manufacturing establishments (typically a plant) are classified industrially. Each material input, manufactured product, merchandise export, and merchandise import can be classified as a standard good.

Industrial Classification Systems

Statistics Canada until recently has used its own home-grown industrial classification system called the Standard Industrial Classification (SIC) 1980 system. There are 236 detailed (4-digit) manufacturing industries under this system, which is a hierarchical structure outlined in *Standard Industrial Classification 1980* (Catalogue No. 12-501-XPE). The Annual Survey of Manufactures has statistics from 1983 to 1997 based on the 1980 SIC.

In order to compare with our North American Free Trade Agreement partners, a new industrial classification system is being introduced called the North American Industrial Classification System (NAICS). There are 259 detailed (6-digit) manufacturing industries under NAICS. The Annual Survey of Manufactures will be releasing statistics on a NAICS basis for the years 1990-1998 in the fall 2000. The hierarchical structure of NAICS is as follows:

- Two-digits sector (e.g., 32 and 33 comprise the manufacturing sector)
- Three-digits subsector (e.g., 322 paper manufacturing)
- Four-digits industry group (e.g., 3221 pulp, paper and paperboard mills)
- Five-digits industry (e.g., 32211 pulp mills)
- Six-digit national industry (e.g., 322111 mechanical pulp mills)

All levels are comparable between Canada, the United States and Mexico except the last, which is reserved for each country. Canada has decided that it is important to distinguish between mechanical and chemical pulp mill, hence the sixth digit in the example is not 0. The manual entitled *North American Industry Classification System* (Catalogue No.12-501-XPE) details the classification.

Commodity Classification Systems

Canada uses the Standard Classification of Goods (SCG) to classify commodities. The first six-digits of this is the Harmonised System (HS) of goods used by most countries to classify merchandise trade. The last three-digits are added by Statistics Canada with input from Revenue Canada (Customs). The Annual Survey of Manufactures, manufacturing current commodity surveys, and International Trade Division use the SCG. Thus, it is easy to compare manufacturing shipments and exports. Care must be taken in comparing shipments and trade data levels because the two areas use different sources and processes to come up with the statistics. The SCG is hierarchical, as shown:

- 47 Pulp of wood or of other fibrous cellulosic material; recovered (waste & scrap) paper and paperboard
- 47.03 Chemical wood pulp, soda or sulphate, other than dissolving grades
- 47.03.11 Chemical softwood pulp, soda or sulphate, other than dissolving grades

More information can be obtained in the manual entitled *Standard Classification of Goods* (Catalogue No.12-580-XPE).

Statistics Canada is on the internet (www.statcan.ca)



Read the latest Statistics Canada releases in *The Daily*. All of our information and publications appear first in this online resource. In addition to this, you can look up product and service information using *The Daily's* key word search engine. Previous issues are easily accessible, and a schedule of our upcoming releases is available.



Information is updated each working day! Information on a variety of subjects including population and demographics, economic conditions, international trade, manufacturing and construction, trade, finance and services. To access this, go to <u>Canadian Statistics</u>.

Online Databases

Statistics Canada provides two major databases that allow you to retrieve information and pay only for the information you select:



CANSIM (Canadian Socio-Economic Information Management System) is Statistics Canada's major socio-economic database. It contains current and historic statistics on industries, the economy and demographic characteristics of Canadians. CANSIM also contains data for the Bank of Canada, Canadian Mortgage and Housing Corporation, Health Canada, Human Resources and Development Canada, Industry Canada, and selected data on the United States. Follow the on-screen directions and keyword searches to look up the information you need. Download the information into the software format and language (English or French) of your choice.

Commonly used matrix numbers to access the most relevant manufacturing data are in the following ranges: 458 - 520, 444 - 445, 5371 - 5586 (Annual Survey of Manufactures), 9550 - 9595 (Monthly Survey of Manufacturing).

Canadian International Merchandise Trade Database

Obtain detailed export and import statistics by commodity on the Internet. Obtain custom trade data -both export and import data for Canada's trade with the world (including individual provinces and U.S. states).

Online Catalogue

If you cannot find what you are looking for or do not know where to begin your search for Statistics Canada information, look in our online catalogue: Browse or order from our online catalogue.

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Contact Statistics Canada Specialists

You can contact our manufacturing, international trade, and investment specialists to make a custom request, ask specific questions or for any kind of assistance. Many businesses order custom tables and information directly from Statistics Canada. We offer this service on a cost recoverable basis and as such, your information request will be reviewed promptly and a cost and time estimate provided to suit your budget. Our researchers and analysts will work with you in providing the information you need. If you require our services on a regular basis, we can arrange to have the information delivered in the frequency and format of your choice - in print, electronically, CD-ROM, diskette, microfilm, or microfiche.

You can reach one of our specialists at:

Manufacturing, Construction, and Energy Division

Dissemination Unit, Manufacturing Section Statistics Canada 11-B7 Jean Talon Building Ottawa, Ontario K1A 0T6

Telephone: (613) 951-9497 Fax: (613) 951-9499 Email: manufact@statcan.ca

International Trade Division

Statistics Canada 9-B3 Jean Talon Building Ottawa, Ontario K1A 0T6

Telephone: (613) 951-9647 Toll Free: 1-800-294-5583 Fax: (613) 951-0117 Toll Free: 1-800-664-0055 Email: trade@statcan.ca

Investment and Capital Stock Division

Statistics Canada 9-D8 Jean Talon Building Ottawa, Ontario K1A 0T6

Telephone: (613) 951-2030 Toll Free: 1-877-338-2368 Fax: (613) 951-0196 Contact: Les Shinder Email: Shinder@statcan.ca

Science Innovation and Electronic Information Division

Statistics Canada 7 R.H. Coats Building Ottawa, Ontario K1A 0T6

Telephone: (613) 951-2199
Fax: (613) 951-9920
Email: <u>carol.poirier@statcan.ca</u>

http://www.statcan.ca/cgi-bin/downpub/

research.cgi

ACCESSING THE SOURCE

Contact the nearest Statistics Canada Reference Centre

Statistics Canada's reference centres are located in major cities across Canada. In addition to the many Statistics Canada products and services available, the reference centres offer research assistance and facilities, and a telephone inquiry service available to everyone. The reference centres are open during normal business hours.

Manufacturers and trade organizations may also wish to take advantage of our Account Executive Service. An Account Executive is an information specialist who works with you to find the Statistics Canada information to meet your information needs. Our Account Executive Service is one-stop shopping!

By telephone

For general inquiries on any subject, please call the nearest Statistics Canada reference centre. A complete list of local telephone numbers has been provided at the end of this document. If you are calling from outside of the local telephone service area, please call the:

National Enquiries Line: 1-800-263-1136

National Telecommunications Device for the Hearing Impaired: 1-800-363-7629

Depository (Public) Libraries and the Statistics Canada Library

Statistics Canada catalogued publications are distributed to over 700 libraries across Canada. In addition, there are approximately 50 full depository libraries in Canada. The full depository libraries receive all Statistics Canada publications and all other federal government publications. To reach the location of a full depository library, please call the nearest Statistics Canada Reference Centre. Statistics Canada regional offices also contain a complete inventory of Statistics Canada publications.

The Statistics Canada Library, located in Ottawa, houses a complete set of current and historical Statistics Canada publications. In addition, the library contains a wide selection of library material from a variety of sources. The library is available to the public and the staff is available to help users with their information search and retrieval.

Local calls: (613) 951-8219

Fax: (613) 951-0939

Internet: http://lib1.statcan.ca (Search the on-line catalogue - **BiblioNet** - to view a complete list of what is available from the Statistics Canada library).

OTHER STATISTICS CANADA INFORMATION OF INTEREST

Manufacturers should be aware of the other sources of Statistics Canada data available to them. Sales and family expenditures, investment, employment, and information on the population are just some of the topics surveyed by Statistics Canada. In addition to our survey data, we produce classification and reference manuals, publications, research articles and special reports.

Information on Energy is always of interest!

Nine monthly surveys and programmes provide volume date on production imports, exports, pipeline movements, and sales of energy commodities by very broad end user categories (industrial, commercial, and residential) (e.g. Supply and disposition of crude oil and natural gas, Catalogue No. 26-006-XPB. Four quarterly surveys provide data on the disposition of energy (electricity, natural gas and refined petroleum products) and the consumption of energy by key (energy intensive) industries in the manufacturing sector.

Our Quarterly Report on Energy Supply-Demand in Canada (Catalogue No. 57-003-XPB96004) is an excellent source to obtain an overview of the energy sector in Canada and the provinces. Information on production, trade, interprovincial movements, and consumption on a natural unit or energy basis by sector are available.

Common inquiries from the business community about energy type and location of generating stations in Canada are best answered through consulting the Electric Power Generating Stations (Catalogue No. 57-206-XPB).

Energy consumption and carbon dioxide emissions by manufacturing industries are also available at the national level on a cost-recovery basis. Energy use in the manufacturing sector is concentrated in specific industries and the energy mix consumed by the manufacturing sector is also changing. For further information contact our Energy Section by telephone at (613) 951-3566.

Analytical Research Articles available on the Internet

- Determinants of Innovative Activity in Canadian Manufacturing Firms: The Role of Intellectual Property Rights (Catalogue No.11F0019MIE00122)
- Labour Productivity Differences Between Domestic and Foreign-Controlled Establishments in the Canadian Manufacturing Sector (Catalogue No.11F0019MIE00118)
- Growth of Advanced Technology Use in Canadian Manufacturing During the 1990's (Catalogue No.11F0019MIE99105)
- The Determinant of the Adoption Lag for Advanced Manufacturing Technologies, 1998 (Catalogue No. 11F0019MIE98117)
- The Effect of Technology and Trade on Wage Differentials between Nonproduction and Production Workers in Canadian Manufacturing (Catalogue No.11F0019MIE98098)
- The Importance of Research and development for Innovation in Small and large Canadian Manufacturing Firms (Catalogue No. 11F0019MIE97107)

• Specialization and Coverage ratios for the Manufacturing Industries of Canada (Catalogue No. 61F0041MIE97001)

General Resources

- Market Research Handbook 1999 Edition (Catalogue No. 63-224-XPB, \$125 Cdn per issue).
 This print publication is a major source of socio-economic information reflecting key characteristics of national and local markets in Canada.
- Statistics Canada Catalogue (Catalogue No. 11-204-XPB, \$15 Cdn). This print publication provides an excellent overview of many of Statistics Canada's products and services.
- Canadian Economic Observer (Catalogue No. 11-010-XPB, \$23 per issue, \$227 Cdn per year). This is Statistics Canada's monthly flagship publication for economic statistics.
- Financial Performance Indicators for Canadian Business, Volume 1. Medium and Large firms (Firms with revenues of \$5 million and over) (Catalogue No. 61F0058XPE, \$190 Cdn per issue).

Information by size of business

- Financial Performance Indicators for Canadian Business, Volume 2. Small and medium firms (Firms with revenues under \$25 million) (Catalogue No. 61F0059XPE, \$190 Cdn per issue).
- Strategies for success: a profile of growing small and medium-sized enterprises (GSMEs) in Canada (Catalogue No. 61-523-XPE, \$15 Cdn per issue).
- Successful entrants: creating the capacity for survival and growth (Catalogue No. 61-524-XPE, \$35 Cdn per issue).
- Failing Concerns: Business Bankruptcy in Canada (Catalogue No. 61-525-XPE, \$30 Cdn per issue).

Special Series

- Technology adoption in Canadian manufacturing (Catalogue No. 88-512-XPB, \$43 Cdn)
- Innovation in Canadian manufacturing enterprises (Catalogue No. 88-513-XPB, \$22 Cdn)
- Benefits and problems associated with technology adoption in Canadian manufacturing (Catalogue No. 88-514-XPB, \$39 Cdn)
- Innovation and intellectual property (Catalogue No. 88-515-XPB, \$20 Cdn)

OTHER STATISTICS CANADA INFORMATION OF INTEREST

1996 Census results now available

On May 14, 1996, Statistics Canada conducted both the Census of Population and the Census of Agriculture in order to develop a statistical portrait of Canada and Canadians on one day. The census is designed to provide information about people, housing units and farms in Canada by their demographic, social and economic characteristics.

The census is a major source of information for any organization. For further details see Accessing the Source.

A word about confidentiality...

By law, Statistics Canada will not release any data pertaining to any individual or business. Strict procedures and measures protect our respondents from being identified in the statistics that we produce. Statistics Canada guarantees complete confidentiality.

REGIONAL OFFICES

The Advisory Services Division of Statistics Canada provides an information dissemination network across the country through nine regional Reference Centres. Each Reference Centre has a collection of current publications and reference documents which can be consulted or purchased, along with microcomputer diskettes, CD-ROM's, maps, and other products. Copying facilities for printed materials are available on site.

Each Reference Centre provides a wide range of additional services. On the one hand, the Dissemination Services: a free telephone enquiry's line for the most recent basic data. On the other hand, Advisory Services: identification of your needs, establishing sources or availability of data, consolidation and integration of data coming from different sources and development of profiles, analysis of highlights or tendencies and, finally, training on products, services, Statistics Canada concepts and also the use of statistical data.

For more information, you can call the Reference Centre closest to you by dialing the number below or if you are outside the local calling area, please dial the national toll-free enquiries number and you will be in contact with the Regional Reference Centre serving your area.

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Toll-Free **Order Only** Line (Canada and United States): 1-800-267-6677

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Serving the provinces of Newfoundland and Labrador, Nova Scotia, Prince Edward Island and New Brunswick.

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Local calls: (902) 426-5331 Fax number: (902) 426-9538 E-mail: atlantic.info@statcan.ca

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Toll-free number: 1-800-263-1136

Local calls: (514) 283-5725 Fax number: (514) 283-9350 E-mail: louise.bournot@statcan.ca

NATIONAL CAPITAL REGION REFERENCE CENTRE

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Statistics Canada Statistical Reference Centre (National Capital Region) R.H. Coats Building, Lobby Holland Avenue OTTAWA, Ontario

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Toll-free number: 1-800-263-1136

Local calls: (613) 951-8116 Fax number: (613) 951-0581 E-mail: infostats@statcan.ca

ONTARIO REGION REFERENCE CENTRE

Serving the province of Ontario except the National Capital Region

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Toll-free number: 1-800-263-1136

Local calls: (416) 973-6586 Fax number: (416) 973-7475

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Serving the province of Manitoba:

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R3C 4V9

Toll-free number: 1-800-263-1136

Local calls: (204) 983-4020 Fax number: (204) 983-7543 E-mail: statswpg@accglobal.net

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Statistics Canada Advisory Services Park Plaza, Suite 440 2365 Albert Street **REGINA**, Saskatchewan

S4P 4K1

Toll-free number: 1-800-263-1136

Local calls: (306) 780-5405 Fax number: (306) 780-5403 E-mail: statcan@sk.sympatico.ca

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E-mail: johane.tremblay@a.statcan.ca

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