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Research Paper

Foreign Affiliate Trade Statistics – 1999

How Goods and Services are Delivered in International Markets

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This paper represents the view of the author and does not necessarily reflect the opinions of Statistics Canada.



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Abstract

Companies can choose to compete in foreign markets either by producing goods or services in Canada and exporting them to the foreign market or by establishing a commercial presence abroad through foreign affiliates. These foreign affiliates use Canadian financial capital and know-how to produce goods and services for sale in the local foreign market or in other international markets.

Foreign Affiliate Trade Statistics (FATS) measure the operations of (i) affiliates of foreign firms in Canada and (ii) affiliates of Canadian firms located abroad. This report covers the activities of foreign affiliates of Canadian multinationals abroad or outward FATS¹.

The catalyst for measuring Foreign Affiliate Trade Statistics was the *General Agreement on Trade in Services (GATS)*². However, given the increased interest in the overall effects of globalization, the scope of FATS has been expanded to include both goods and services. It is now possible to examine, in a Canadian context, the role of cross-border exports compared to the output of foreign affiliates of Canadian companies. In addition, an analysis can be made of how the goods sector and service sector carry out the delivery of products through each means. Finally, a broad overview can be made of which industries predominant and where these foreign affiliate sales originate.

Keywords: FATS, investment, trade, goods, services

¹ Comparable data for the activities of foreign-owned enterprises in Canada are not yet covered.

² Implemented under the auspices of the World Trade Organization (WTO).

Executive Summary

How do cross-border exports compare to the output of foreign affiliates?

While Canada is one of the world's most trade-oriented nations, it is also one of the most direct investment-oriented³. Exports, which represented 43% of Gross Domestic Product (GDP)⁴, totaled \$417 billion in 1999⁵. By comparison, the sales from the foreign affiliates of Canadian direct investors' abroad totaled \$300 billion - just over 70% of exports⁶.

How do goods-producing industries and service providers deliver their products in foreign markets?

While the output of the Canadian economy is driven by service-producing industries (67% of GDP⁷), Canadian exports are dominated by goods (88%). In 1999, exports of goods totaled \$365 billion while the sales from goods-producing foreign affiliates reached \$177 billion – just under half of the cross-border exports⁸. **Cross-border delivery was the predominant channel to supply goods to foreign markets.**

Sales of services on the other hand were largely delivered through foreign affiliates. Cross-border exports in services⁹ totaled \$52 billion in 1999 while sales from foreign affiliates in the service sector were \$124 billion – more than twice the amount of cross-border exports. Since statistics on the service sector are taking on increased importance for monitoring trade agreements such as the GATS¹⁰ as well as other government policy decisions, it is particularly important to closely examine their role in the overall trade framework.

³ *NAFTA Quarterly* Scotiabank Group, Winter 2001, p. 3.

⁴ Gross Domestic Product, expenditure-based at market prices - 1999.

⁵ *Canada's Balance of International Payments, First Quarter 2001*, Table A.

⁶ While the sales of foreign affiliates of Canadian companies are measured as part of the non-resident economy, profits from these affiliates accrue to the Canadian investor and are included in the Canadian Balance of Payments.

⁷ Gross Domestic Product at basic prices by industry for 1999 - \$constant 1997.

⁸ Sales from foreign affiliates are based on the industry or economic activity of the foreign affiliate. Exports of goods and services are based on commodity or product classification.

⁹ Including travel, transportation and commercial services, but excluding government services.

¹⁰ Note: GATS uses a "product" basis, not an industrial activity basis.

Background and Coverage

A detailed discussion on the rationale for collecting these statistics as well as a proposal for how to measure them have been presented in the research paper, *Foreign Affiliate Trade Statistics, Measuring Economic Globalization, A Canadian Perspective – From Research to Reality* (www.statcan.ca - Products and services - Research papers - National accounts - Balance of Payments Division). In addition, overall preliminary estimates for FATS (sales and employment) for 1998 were presented in the article *Foreign Affiliate Trade Statistics – A Preview (Canada's international investment position, 2000, p. 18)*.

The data quality for 1999 FATS has improved significantly. Imputations have been made for non-response and missing values thereby increasing the availability and reliability of the statistics (see endnote on Data Quality).

To measure outward FATS, the Balance of Payments Division has expanded the statistical system that is already in place to measure Canadian Direct Investment Abroad. All enterprises receiving the questionnaire *Capital Invested Abroad by Canadian Enterprises* (approximately 1,880) were asked to report employment and sales for each of their foreign subsidiaries, branches, joint ventures and associates (approximately 4,800 foreign entities).

In order to be consistent with the international practice for measuring FATS, only the data for majority-owned foreign affiliates (MOFA's) are included. For operational reasons, depository institutions and foreign branches of firms were excluded from the 1999 estimates. Therefore all data unless otherwise stated refer to non-bank MOFA's of Canadian companies. The non-bank MOFA universe included 1,439 Canadian enterprises reporting on the activities of 3,725 foreign affiliates.

Supplying Services from Foreign Affiliates of Canadian Companies

For many service providers, because consumption and production of services must be simultaneous, establishing a foreign affiliate may be the only option. This supports the long-held view that some services by their nature are delivered primarily by foreign affiliates¹¹.

While technological improvements in communication may tend to reduce the need for local provision of services in the future, estimates from the United States show that sales of services by foreign affiliates have been increasing at a faster rate than cross-border exports since 1994¹². Between 1997 and 1998 sales from foreign affiliates increased 12% while cross-border exports of services increased just 2.1%¹³.

Although U.S. sales of services to foreign markets are now dominated by sales from foreign affiliates, cross-border exports are still a significant contributor to the supply of U.S. services internationally¹⁴. This differs from the Canadian experience where cross-border exports of services are relatively small. To try and determine the nature of this difference the composition of cross-border service exports for the two countries was examined.

Although some services by their nature are more likely to be delivered through foreign affiliates, others such as travel and passenger airfares (transportation) are inherently cross-border in nature. Therefore a review of the composition of the type of cross-border service for the two countries has been made to determine whether this might be a contributing factor to the difference. For the year 1999 it was found that the broad composition of the cross-border services is almost identical; therefore the difference in the proportion of service exports is not apparently due to the overall composition of these exports.

Table 1: Cross-border Exports of Services 1999

Type of Service	Canada ¹⁵	US ¹⁶
Travel	30%	29%
Transportation	19%	18%
Other Services	51%	53%
Total	100%	100%

¹¹ *Survey of Current Business November 2001* p. 50.

¹² Since the United States have been collecting and compiling FATS for many years, comparisons will be made to this source throughout the article.

¹³ *Survey of Current Business November 2001* p. 49. This is the most recent information available for year-over-year comparisons. With the implementation of NAICS in 1999, year-over-year comparisons will resume when 2000 estimates are published.

¹⁴ For 1999, U.S. exports of services totaled \$US256 billion while Sales to foreign persons by foreign affiliates of U.S. companies totaled \$US338.4 billion *Survey of Current Business November 2001* p. 49.

¹⁵ *Canada's international trade in services 2000* p.76,

¹⁶ *Survey of Current Business, November 2001, p.64.*

In which industries are sales of foreign affiliates predominant?

Approximately 70% of the sales were reported in three industrial sectors.

The Manufacturing sector accounted for almost half (48%) of the sales while Finance¹⁷ and Insurance reported 12% of the sales with Information and Cultural Activities close behind at 10%. The *North American Industry Classification System* (NAICS) is being used for the collection of FATS¹⁸.

Table 2: Industry Distribution of Sales and Employment

	Sales \$millions	%	Employment 000's	%
Agriculture, forestry, fishing and hunting*	912	0.3	1	0.1
Mining and oil and gas extraction *	25,703	8.6	72	9.3
Utilities & Construction*	6,824	2.3	9	1.2
Manufacturing	143,313	47.7	384	49.7
Wholesale trade	12,460	4.1	19	2.5
Retail trade	3,404	1.1	6	0.8
Transportation and warehousing	12,888	4.3	28	3.6
Information and cultural activities	30,455	10.1	73	9.5
Finance (non-bank) & Insurance	34,992	11.6	26	3.4
Professional, scientific and technical services	2,952	1.0	17	2.2
Management of companies and enterprises	4,820	1.6	12	1.6
Other services	21,687	7.2	125	16.2
Total	300,410	100	772	100

* Goods only - Services included in "Other"

Collecting estimates on employment in the foreign affiliates is challenging. The survey that collects Foreign Direct Investment (FDI) data focuses on financial items from the foreign affiliate's balance sheet and income statement. In most cases, employment counts are not part of these source documents. For large multinationals, the parent may have to obtain these estimates directly from each of their foreign affiliates.

Employment abroad in foreign affiliates of Canadian companies totaled 772 thousand in 1999. This is relatively small when compared to total employment in Canada of 14.5 million¹⁹.

¹⁷ Excluding NAICS 5221 - Depository Credit Intermediation.

¹⁸ Companies were requested to use NAICS codes at the 4-digit level to identify the principal industrial activity of their foreign entities. The United States uses NAICS to measure the activities of US affiliates of foreign companies (inward FATS) and it will soon be used to measure the operations of foreign affiliates of US companies (outward FATS). Consistency and comparability with this source is clearly important. For other international reporting purposes, a special grouping of industries from ISIC Rev.3 (International Standard Industrial Classification) is requested. At the present time a concordance is being developed for NAICS and ISIC to facilitate such adaptation as may be needed to the international categories.

¹⁹ *Canada at a Glance, 2002*, Labour markets 1999, Total civilian population, p.13.

Goods-producing industries accounted for approximately 60% of sales and employment while service providers accounted for approximately 40%²⁰.

Table 3: Goods producers and Service suppliers

Industry	Sales		Employment	
	\$millions	%	000's	%
Goods producers	176,752	59	466	60
Service providers	123,658	41	306	40
Total	300,410	100	772	100

Goods producers

The Goods sector is dominated by foreign subsidiaries in the Manufacturing sector, which report 81% of the sales and 82% of the employment.

Table 4: Goods-producers

Industry	Sales		Employment	
	\$millions	%	000's	%
Manufacturing	143,313	81.1	384	82.4
Mining and oil & gas extraction	25,703	14.5	72	15.5
Utilities & Construction	6,824	3.9	9	1.9
Agriculture	912	.5	1	.2
Total	176,752	100	466	100

The second largest Goods sector in terms of sales and employment is the Mining and oil & gas extraction sector at 14% and 15% respectively. Canada has historically been a leader through its expertise in developing natural resources around the world. Canadian companies must go where the natural resources are located in order to develop them and maintain its competitive edge in this historically important sector.

Service Suppliers

Sales of service providers are much more diversified than sales in the goods sector. Four sectors account for 63% of the reported sales for service providers - Information and cultural activities, Finance, Insurance and Transportation & warehousing.

²⁰ The distinction between goods producers and service providers in Canadian outward FATS follows the US model with a few exceptions. Canadian FATS classifies Utilities with "Goods" and Wholesale and Retail with "Services"; Construction Management is included in "Services" in Canadian statistics.

Table 5: Service suppliers

Industry	Sales		Employment	
	\$millions	%	000's	%
Information and cultural activities	30,455	24.6	73	23.9
Insurance	18,333	14.8	7	2.3
Finance (non-bank)	16,659	13.5	19	6.2
Transportation and warehousing	12,888	10.4	28	9.2
Wholesale ²¹	12,460	10.1	19	6.2
Management of companies and enterprises	4,820	3.9	12	3.9
Retail	3,404	2.8	6	2.0
Professional, scientific and technical services	2,952	2.4	17	5.6
Other services	21,687	17.5	125	40.8
Total	123,658	100	306	100

The Information and cultural activities sector accounts for approximately 25% of the sales of services. This sector includes publishing (including software), motion picture, video and sound recording industries, radio and TV, telecommunications, information and data processing services. Several of these industries form part of the fast-evolving ICT (Information and Communications Technologies) sector.

The Insurance and Finance sectors combined account for a further 28% of sales. The finance and insurance sectors account for the largest share of Canadian direct investment abroad and form part of the service industries that are being increasingly internationalized. The rapid development of information and telecommunications systems as well as the deregulation of financial markets has contributed to this growth. Although exports of insurance services at \$3.4 billion were a leading source of commercial service exports in 1999, sales of foreign affiliates in the insurance sector (\$18.3 billion) were by far the preferred channel to deliver this product internationally. Once again, the proximity of the consumer and supplier may play a key role in this determination.

Transportation and warehousing report 10% of sales of service providers. Transportation includes transport by air, rail, water and truck as well as transit, ground passenger, sightseeing transportation. Also included in Transportation services are pipeline transportation and courier and messenger services.

²¹Wholesale and Retail sales and employment are included in the Service sector. The new *Manual on Statistics of International Trade-in-Services** observes that although sales for wholesale and retail distribution are of goods, output is defined as a service, equal not to the total value of sales but to the trade margins realized on goods purchased for resale. At the present time Canadian FATS measures the sales or gross operating revenue of these firms rather than the trade margins. **Manual on Statistics of International Trade-in-Services* - in the process of being published by the United Nations jointly with the OECD, IMF, European commission, UNCTAD and WTO, para 4.49 p.99.

What is the geographical profile of FATS activity?

Just over two-thirds (68%) of sales originated from foreign affiliates of Canadian companies in the United States, which also accounted for 63% of the employment of MOFA's.

Sales from foreign affiliates of Canadian companies located in the U.S. totaled \$203 billion in 1999 while an estimated 484 thousand persons were working in these foreign affiliates. For comparative purposes, most recent counterpart U.S. statistics²² for Canadian non-bank MOFA's in the U.S. show sales of \$209 billion and employment of 536 thousand in 1999.

Table 6: Geographical Distribution

	Sales		Employment	
	\$Billions	%	000's	%
United States	203	68	484	63
United Kingdom	19	6	55	7
Other European Union	30	10	70	9
Other OECD countries	15	5	45	6
Other Countries	33	11	118	15
Total	300	100	772	100

Europe (including the United Kingdom) together with other OECD countries accounted for 21% of sales and 22% of employment. Countries outside the OECD accounted for proportionately more employment than sales. When geographical data become available at the industry level, it will be useful analytically to examine these results. Also, as more countries move towards compiling and publishing FATS, it will be possible to examine comparable bilateral or regional results.

Looking ahead

This first release of FATS data for 1999 has provided increased geographical and industrial detail. It has also provided an overview of sales in terms of goods-producing industries and service providers - an important start in developing measurements for the GATS and other international reporting. It has also laid the groundwork for future FATS releases, which will aim to expand the level of detail even more.

The next release of FATS data on sales and employment for the reporting year 2000 is planned for 2002. The longer-term goal is to release FATS data at the same time as the International Investment Position data, 15 months after the reference period. This would provide more timely data and more scope for comparison with other financial data for foreign affiliates.

²² *Survey of Current Business* September 2001, p. D-62.

Data Quality

The coverage of the frame of non-bank MOFA's, based on the set of enterprises that received the questionnaire is documented elsewhere as "reasonably complete". (*Canada's Balance of International Payments and International Investment Position, Concepts, Sources, Methods and Products*, 67-506-XPE, p.95).

Using deterministic regression models, missing values of partially complete responses were imputed. Data from complete responses were used to create and validate the regression models. No data provided by respondents were changed by edit rules or by imputation. Missing values were not imputed if data from the previous year were available and could be substituted.

Each non-bank MOFA that responded to the survey was assigned a sampling weight. Sampling weights adjusted the estimates of total sales and employment upwards. That way, the estimates approximate the totals that would result if data were available from both respondents and non-respondents.

- In each industrial sector, respondents were weighted to represent non-respondents.
- The largest respondent MOFA's were assigned a weight of 1.
- Each industrial sector has its own estimates and coefficients of variation.

Every published result by sector group has a coefficient of variation of 10% or less. Given the highly positively skewed distributions of both sales and employment, this threshold is of reasonable magnitude for a survey of this size. As well, there were sufficient numbers of complete responses in each sector group to be able to use the imputation method described above. For these reasons, the quality of the estimates is considered acceptable or better.

Appendix

Summary of Main Concepts²³

Ownership

For purposes of FATS majority-owned foreign affiliates, that is enterprises in which the direct investor owns more than 50% of the voting shares, are included in the universe. Economic variables are attributed in their entirety to a single country and are not factored down by ownership shares.

Country of Origin

Most countries compile foreign direct investment statistics according to the BPM5²⁴ which recommends that direct investment position statistics be allocated to the immediate host or investing country. Therefore, given the current situation, the immediate basis will be accepted as the most expedient way of producing FATS. In the longer-term, the UBO (Ultimate Beneficial Owner) approach is encouraged. Ideally, reporting countries would report on both basis for different analytical purposes.

Classification – Product or Industry

The GATS requires information on the sales of services from foreign affiliates on a product basis. However, at the present time no country is in a position to collect sufficient data at this level. The new *Manual on Statistics of International Trade-in-Services* has recommended that compilers proceed on an industry or economic activity basis for the present time. In Canadian FATS the activity of each foreign affiliate is collected on the basis of the NAICS classification.

Economic variables

i) Sales or Gross Operating Revenue

This is one of the most important FATS variables. Companies are instructed to exclude investment income from gross operating revenue, as it is conceptually different from sales. Special instructions are provided for banks, insurance companies and holding companies where the definition of sales can be more complex.

ii) Employment

Companies are asked to report the Average annual number of employees for each foreign affiliate.

²³ Condensed from *Foreign Affiliate Trade Statistics, Measuring Economic Globalization, A Canadian Perspective – From Research to Reality*

²⁴ *Balance of Payments Manual*, 5th Edition, International Monetary Fund, 1993.