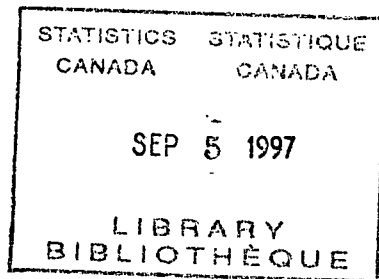


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RESEARCH PAPER

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ENTREPRISES

**Longitudinal analysis of Canadian imports
by characteristics of
importing firms, 1978-86**

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Statistics
Canada

Statistique
Canada

Canada

LONGITUDINAL ANALYSIS OF CANADIAN IMPORTS
BY CHARACTERISTICS OF
IMPORTING FIRMS, 1978-86

ABSTRACT

This study analyzes Canadian imports over the nine-year period from 1978 to 1986 by characterizing importers in terms of their industry, country of control, firm size, propensity to import and country of import origin. For each of these years, a specially summarized import file has been constructed which covers the universe of Canadian importers at the individual firm level. These files have been enriched with additional variables by matching them against the universe of corporate tax-filers, and against other files which indicate the country of control of the importer. Further, a longitudinal analysis has been conducted on a panel of Canadian and foreign controlled importers. The panel is made up of importers for the years 1979 and 1986 that are corporate tax filers. Finally, inter-affiliate import trade is examined for 1986. Various cross-tabulations indicate the importance of tied trade by industry, type of importing firm and country of import origin. This database provides a unique source of information for the analysis of a number of important public policy trade-related issues.

ANALYSE LONGITUDINALE DES IMPORTATIONS CANADIENNES
SELON LES CARACTERISTIQUES
DES FIRMES IMPORTATRICES
1978-1986

RESUME

Cette étude est une analyse des importations canadiennes sur la période de neuf ans allant de 1978 à 1986 selon les caractéristiques des importateurs en termes de leur branche d'activité, du pays de contrôle, de la taille de la firme, de la propension à importer et du pays d'origine des importations. On a construit, pour chacune de ces années, un fichier sommaire spécial des importations qui couvre l'univers des importateurs canadiens au niveau de la firme. On a ajouté à ces fichiers des variables supplémentaires et on les a rapprochées de l'univers des sociétés contribuables et à d'autres fichiers qui donnent le pays de contrôle de l'importateur. Par ailleurs, on a effectué une analyse longitudinale d'un panel d'importateurs canadiens et sous contrôle étranger. Ce panel se compose des importateurs pour les années 1979 et 1986 qui sont des contribuables. Enfin, on étudie le commerce des importations entre sociétés affiliées. Divers tableaux recoupés donnent l'importance du commerce par branche d'activité, type de firme importatrice et pays d'origine des importations. Cette base de données est une source unique d'information pour l'analyse d'un certain nombre de questions de politique publique importantes reliées au commerce.

INTRODUCTION

Trade analysis has historically relied on data with a high level of product detail and country information (of origin in the case of imports and destination in the case of exports). There has been much less analysis, however, of trade data according to the types of businesses involved—the industrial organization of trade.

The causes and effects of foreign trade are extremely complex. They include cyclical movements in demand and supply forces in international markets, technological and cost factors affecting the comparative advantage of producer countries, relative exchange rate movements, traditional trading patterns, and other market and institutional factors.

Over the past several years, Statistics Canada has carried out a number of studies related to the importance and behaviour of Canadian and foreign controlled firms in Canada. The work has been undertaken with a view to developing a longitudinal analytical database to track movements over time in the relationships between firms' trade characteristics and other aspects such as size, multinational status, industrial focus or industrial influence.

This study uses micro-data and record linkage techniques as an approach to analyzing Canadian imports in the context of their business attributes over the 1978-86 period. The database is constructed from two separate administrative data files and a Statistics Canada (STC) survey source, integrated by means of STC's Business Register.

Part I presents cross-sectional, or snapshot views of Canadian imports at several points of time based on various characteristics of the importing business: industrial classification, country of control, firm size, propensity to import (defined as the imports-to-sales ratio), degree of home sourcing and the concentration of imports by the largest firms. Basic attributes are explored, including the industrial composition and country of control of importers and, more importantly, the extent to which they change over time. The country of origin of Canadian imports is compared with the country of control of the importing business, to look at changes over time in the degree of "home" country sourcing by foreign controlled firms.

A further line of inquiry involves the study of firms' import propensities: have Canadian firms responded to the increasing globalization of the business marketplace by becoming more import-intensive? If so, have they displayed different responses according to their industry, country of control and size?

In Part II, a longitudinal analysis is conducted on a panel of Canadian and foreign controlled importers. The panel is made up of importers for the years 1979 and 1986 that filed a corporate income tax return. Three principal groups can be identified: firms continuously in existence, firms ceasing to import after 1979, and firms first appearing as importers in 1986. Firms are classified by country of control, while Canadian controlled firms are also differentiated with respect to their transnational status. These groups are

analyzed to assess how firms' importing practices, juxtaposed against their domestic sales levels, have changed over time.

Part III examines inter-affiliate trade for 1986. The administrative document for imports, the B-3, was amended in 1985 to provide data on imports from affiliates (defined as cross-ownership of 5% or more of the voting shares). The change was made in conjunction with a change to the valuation system-- imports were to be valued at the amount stated for duty purposes. The objective of this part of the study is to quantify the extent of inter-affiliate trade for 1986, cross-tabulated by size, country of control and industry of the importing company, and by the country of origin of the imports. This part of the study has very little in the way of an experience rating and therefore is exploratory in nature.

In a concluding section, key findings are summarized and some future directions are outlined.

PART I: A CROSS-SECTIONAL ANALYSIS OF CANADIAN IMPORTS, 1978-86

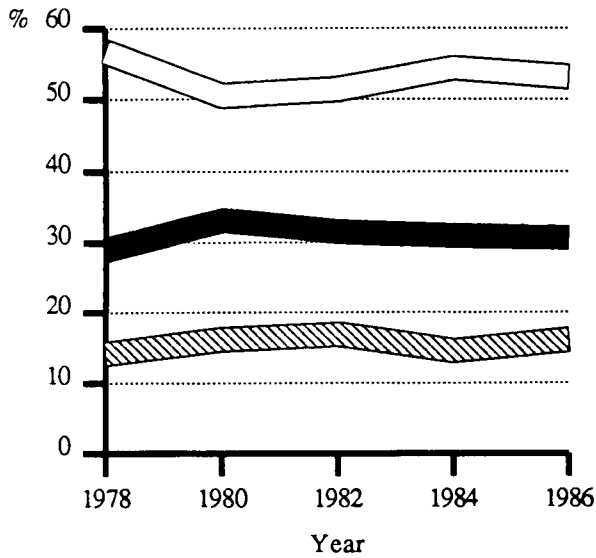
Trade analysis has historically relied on data with a high level of product detail and country information (of origin in the case of imports and destination in the case of exports). There has been much less analysis, however, of trade data according to the types of businesses involved -- the industrial organization of trade.¹ In Canada, some business surveys contain micro-data on trade, but they are not comprehensive annual information sources.² This situation changed in the mid-1970s when an identifier was added to import documents. By 1978 it became possible to build annual files based on the characteristics of the importing firm. A computer linkage process ensued that brought together a number of business-related files. STC's Business Register was instrumental in facilitating this linkage.³ Thus far export data cannot be integrated into this composite business level analysis; however, as discussed in the closing section of this paper, the means now exist to overcome this data gap.

The present analysis is based on nine annual composite files constructed for the years 1978 through 1986. At its base is an annual import component containing summary data on imports by individual businesses. The import base has a considerable amount of detail on products, countries of origin⁴, the import value (for duty purposes), and duty assessed. Added to the import base

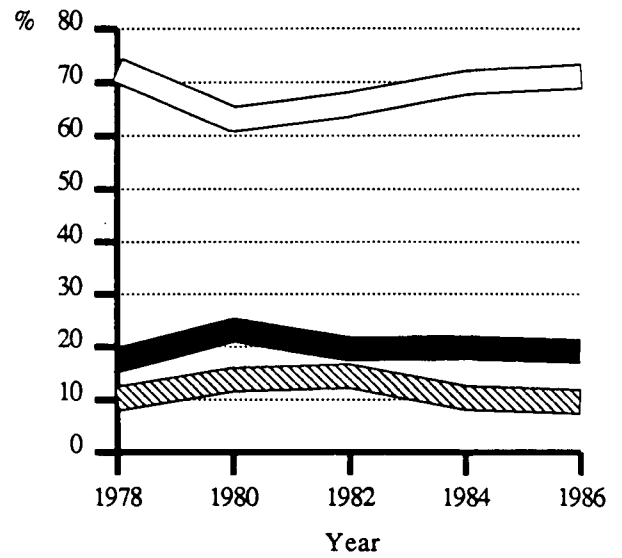
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- ¹ Two studies were carried out by Statistics Canada entitled Canadian imports by domestic and foreign controlled enterprises, catalogue 67-509. The first was for 1978 and the second for 1980.
 - ² Some summary trade information, including trade that is intra-firm, exists for a small number of the largest foreign controlled subsidiaries: see Foreign-owned Subsidiaries in Canada (FOS) for various years from 1970 to 1982, published by the former Department of Industry, Trade and Commerce (now called Industry, Science, and Technology Canada). Statistics Canada's survey of the destination of manufacturing shipments, conducted every five years, is another source. A question on exports, however, has been added to the Annual Survey of Manufactures since 1986.
 - ³ The Business Register is a central register of business names, addresses, industrial classifications, etc, whose primary function is to provide the frame for business surveys. The version in existence from 1970 to 1988 is currently being replaced by a new Central Frame Data Base.
 - ⁴ The breakdown of origin is restricted to the United States, Japan, the United Kingdom, other western European countries and other countries.

Chart 1.1 Imports By Industry and Country of Control, 1978-86

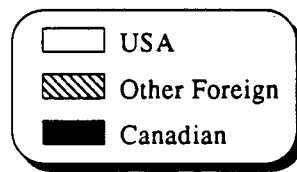
Part 1: Total All Industries



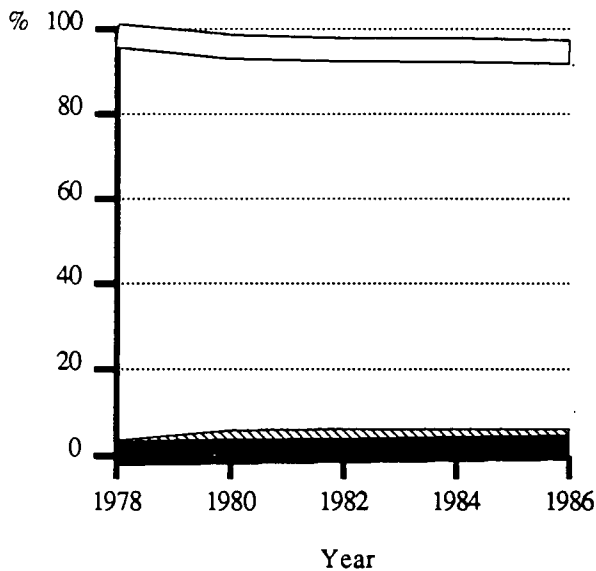
Part 2: All Manufacturing



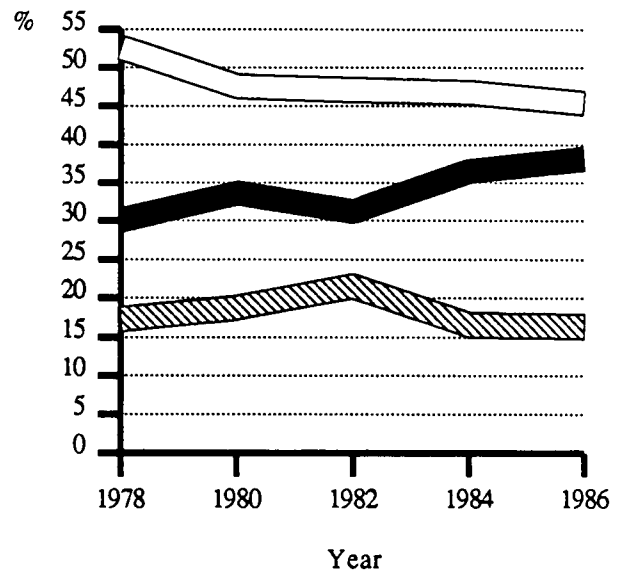
Country of Control



Part 3: Automobile Manufacturing



Part 4: Other Manufacturing



is a CALURA component⁵ comprising basic financial data (sales, assets, equity, taxable income and profits), an industrial classification⁶, and the country of control and enterprise affiliation of the business. Although not all importers are identifiable or file returns accessible under CALURA, only a relatively small portion of imports is not covered in this work (see Appendix IV).

The principal objective of this cross-sectional analysis is to examine structural aspects of Canadian importers and changes over time. Business attributes such as industrial composition and country of control are profiled for successive time periods. The country of origin of imports is compared with the business's country of control, to show the degree of home sourcing by foreign MNEs and the extent to which it has been subject to change. Imports of a business are related to output to quantify the importance of import trade to overall domestic production; this relationship is of most significance for the manufacturing industry. Finally, the degree of import concentration by the largest importing enterprises in Canada is examined.

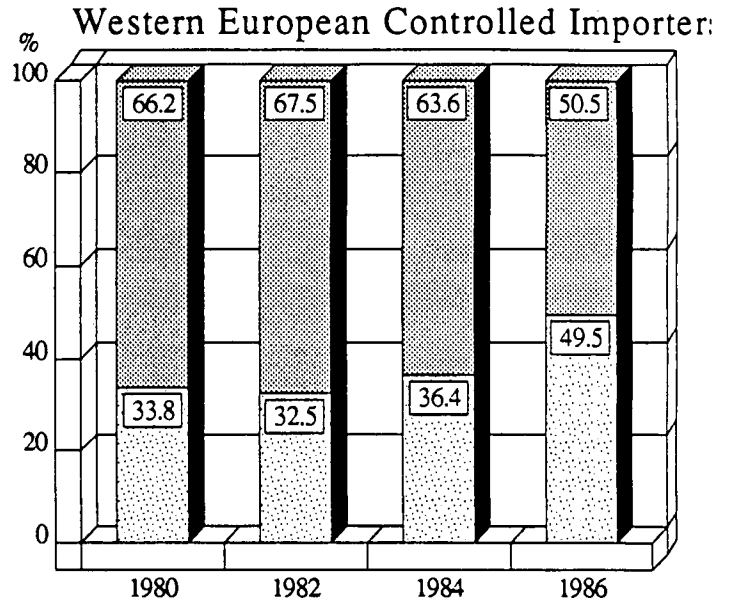
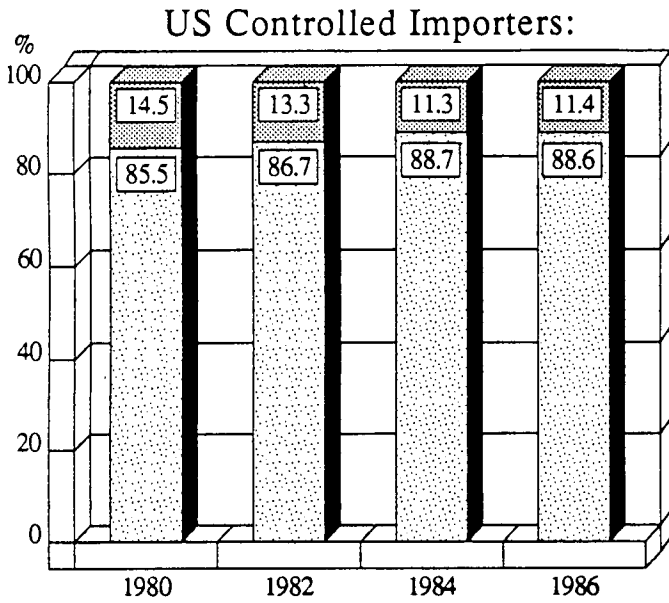
Imports by country of control and industry

Imports by foreign controlled firms have consistently represented the major share of total imports, varying between a high of 71% in 1978 and a low of 67% in 1980 (Chart 1.1). The U.S. proportion of imports by all foreign controlled firms mirrored the foreign share of the total. In 1978, U.S. controlled firms accounted for a high of 80% of total imports by foreign controlled firms, followed by a low of 76% in 1980.

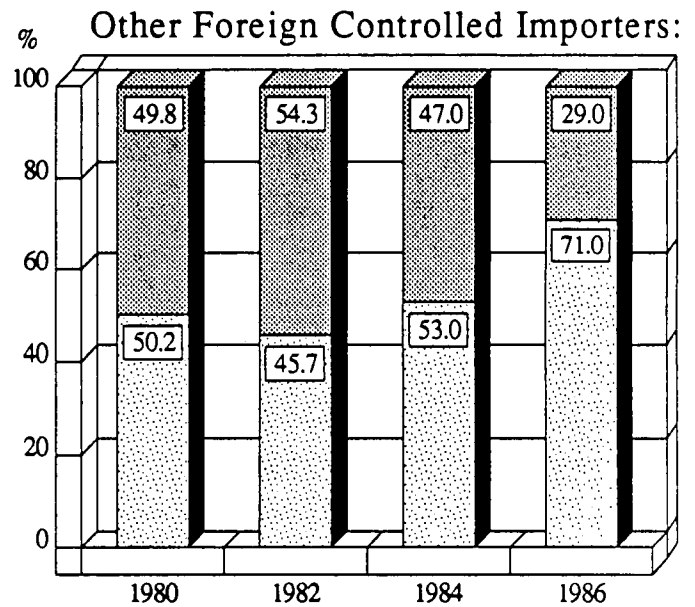
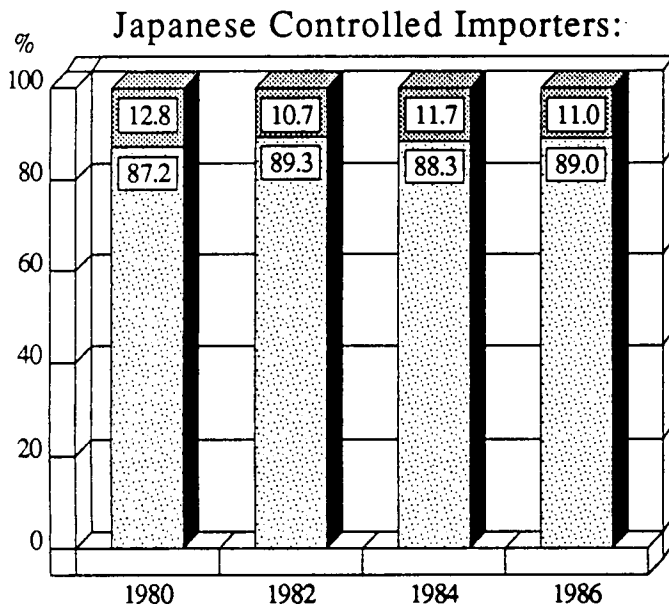
⁵ This file is built from two separate sources; a financial component based on corporate income tax records accessed through the Corporations and Labour Unions Returns Act (CALURA), and CALURA surveys of enterprise affiliation and control. CALURA provides for analysis of the extent and effects of foreign control in the Canadian economy. Through survey and other means, an inter-corporate ownership database has been compiled which includes the country of control of a firm and its enterprise affiliation. The country of control of a business is an assignment based on the geographical locus of control of a firm. Enterprise affiliation refers to the family of companies under common control. For further information see Krause, Lothian and Richards on Ownership, Control and Country of Control of Corporations, background document of the Industrial Organization and Finance Division, Statistics Canada, June 1987.

⁶ Businesses are classified according to the 1960 version of the Standard Industrial Classification, Catalogue # 12-501, Statistics Canada.

Chart 1.2 Total Imports by Country of Control of Importer and Country of Import Origin, 1980-1986



Country of Import Origin



Import shares categorized by industry of importer are structured into two broad groups: manufacturing, which accounts for some two-thirds of total imports, and wholesale trade, with just under one-quarter. There was a certain amount of variation within manufacturing industries. Automobile industries, for example, accounted for 43% of imports by the manufacturing sector in 1978, but this proportion fell to a low of 32% by 1980 before rising to 52% by 1986. And following the second O.P.E.C. oil price shock in 1979,⁷ imports by other manufacturing industries hit a high of 68% in 1980, but then declined to 48% by 1986.

Imports by foreign controlled firms in the wholesale trade industry rose steadily throughout the period, from 51% in 1978 to 57% in 1986, the main impetus coming from Japanese and Korean automobile wholesalers.

Home sourcing by foreign controlled firms, 1980-86

The high degree of import purchases from their home country by foreign controlled firms has been well documented in a number of studies.⁸ In some cases there is a large volume of two-way trade. The prime example consists of firms operating under the Canada-U.S. automotive agreement. Section III of this study indicates that a significant proportion of home sourcing is inter-affiliate in nature. One reason for this behaviour is the parent company's greater relative knowledge of home country supply opportunities. The general finding is that foreign firms purchase a large and growing share of their total import bill from the home country.

Information on home sourcing is broken down into four geographical areas: the United States, Western Europe, Japan, and other foreign countries (Chart 1.2). U.S. and Japanese controlled firms have the highest levels of home-sourced purchases. Imports from their home country by U.S. controlled firms rose from 86% of total U.S. imports into Canada in 1980 to 89% by 1986. The corresponding proportion for Japanese firms rose from 87% in 1980 to 89% in 1986. The evidence suggests, then, that greater internationalization has not been a factor in the importing practices by foreign controlled MNEs.

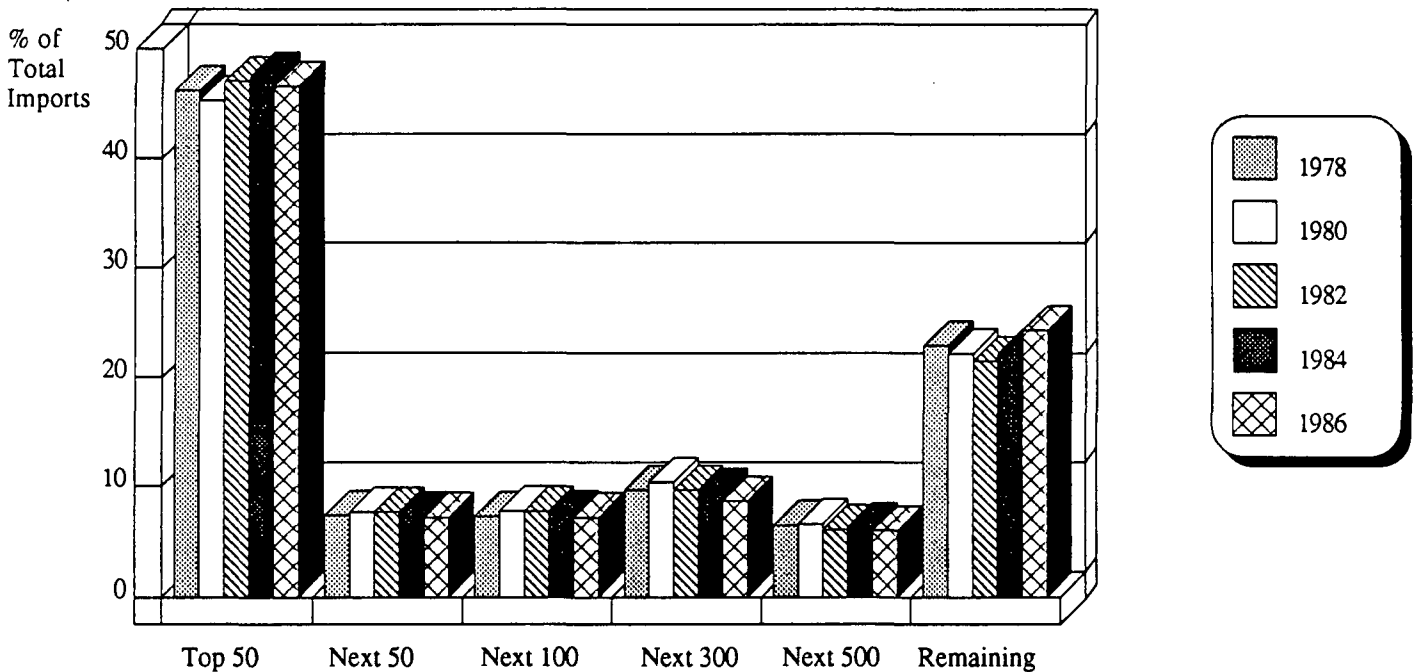
⁷ A higher price for crude petroleum was the principal reason why imports of that product rose by 30% in 1978/79 and again by 52% in 1979/80. The oil majors conducting the bulk of this trade are classified to petroleum refining SIC 365 or to other non-automotive manufacturing in this analysis.

⁸ See for example the FOS data (footnote 1).

Table 1.1 Top 50 Importing Firms By Country of Control, Selected Years, 1978-86

Year	Canadian Firms			Foreign Firms			Total, Top 50		
	# of Firms	Import Value		# of Firms	Import Value		# of Firms	Import Value	
		\$ Millions	% of Top 50		\$ Millions	% of Top 50		\$ Millions	% of Total
1978	15	3,744	16	35	19,017	84	50	22,760	46
1980	16	6,856	23	34	22,939	77	50	29,795	45
1982	13	5,630	18	37	25,266	82	50	30,897	47
1984	11	6,661	15	39	37,171	85	50	43,831	48
1986	14	7,337	15	36	43,118	86	50	50,455	47
			avg. 18			avg. 82			avg. 47

Chart 1.3 Canadian Imports By Groups of Leading Importers, Selected Years, 1978-86



Firms controlled in Western Europe and other foreign countries source far less of their imports from their home country than U.S. and Japanese controlled firms, although the proportion has been growing much faster. For other foreign countries, the proportion dipped from 50% in 1980 to 46% in 1982, but it subsequently jumped to 71% by 1986. The story is similar for Western European firms. From 34% in 1980, their share declined in 1982 before vaulting to nearly 50% by 1986. In the case of these latter two categories of firms, the overall import shares are fairly small, so that the addition of new importers or reclassifications of companies' country of control can have a dramatic effect.

Import concentration by the largest importers

Concentration in imports by leading groups of importers was substantial and very stable over the 1978-86 period. Imports by the top 50 enterprises averaged 47% of the total, with negligible variation occurring from year to year.

The share of imports by the top 50 importing enterprises averaged 71% over the same nine years. Again, there was virtually no movement in this share from year to year. It is important to note, moreover, that since this analysis is cross-sectional rather than longitudinal, there can be movement of firms into and out of these leading groups. The key point here is the high degree of import concentration existing in Canada, and the consistency of those shares over time.

Not surprisingly, foreign controlled firms are dominant among the top 50 importers. However, their influence among the largest 50 firms is much greater than their importance overall. Foreign controlled companies account for some 82% of imports by the largest 50 companies, whereas on an aggregate basis their share is only 70% of the total. This finding is consistent with distributions of foreign controlled firms by sales or asset size, in which foreign controlled firms are concentrated in the higher size categories.

PART II: LONGITUDINAL ANALYSIS OF CANADIAN IMPORTERS, 1979 AND 1986

With business becoming increasingly multi-faceted and transcending national boundaries, governments (through the GATT and bilaterally) have opened up trade and investment opportunities, encouraging international competition through such devices as tax-free zones, free trade agreements, deregulation and more open investment laws. At the same time, however, our statistical infrastructure has been struggling to reflect the changes in this complex new economic order and its implications for policy.

For a long period of time, substantial amounts of foreign direct and portfolio investment have flowed into Canada, bringing a whole series of associated benefits and costs. For large debtor nations like Canada, it is important to understand the dynamic relationships between trade, investment, and research and development in the context of the larger multinational enterprises that have become so dominant in the economy.

To enhance our understanding of certain of these relationships, our research focused on a longitudinal panel of Canadian importers for the years 1979 and 1986. Imports for these firms have been related to their output or sales at a firm level. As an example of the type of questions that can be posed with this new database, consider the following: how have firms importing practices evolved over the seven-year period? Are there differences in the behaviour of firms according to their size or ownership structure? Are home sourcing practices by foreign multinationals changing as the world economy becomes more interdependent?

Drawing on STC's Business Register, Canadian import files were linked between the years 1979 and 1986 at the legal entity level, and related to corporate income tax records for both years. This longitudinal linkage was restricted to imports by companies that are also corporate income tax filers. In 1979, such companies accounted for \$55.1 billion, or 90%, of the \$61.0 billion of imports registered that year. For 1986, the corresponding figure was \$93.3 billion, or 86% of the total of \$108.3 billion. The residual (10% in 1979 and 14% in 1986) constituted imports by individuals, unincorporated businesses, incorporated businesses without identifiers, or imports otherwise not capable of being linked to tax files.

Once the panel was established for the two years, business corporations were then matched longitudinally between 1979 and 1986, resulting in their classification into three types of "life status":

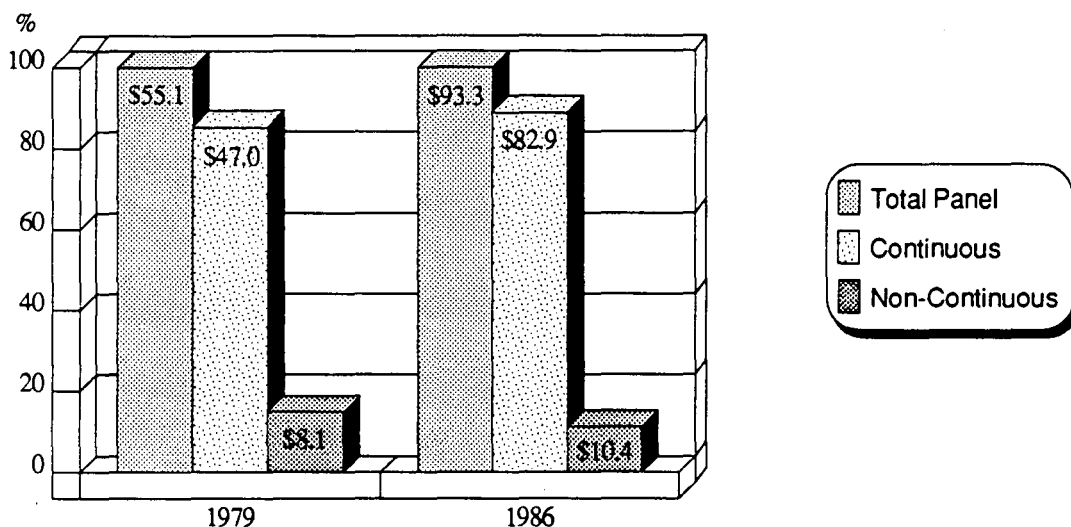
- 14,882 firms that existed in both years (continuous firms)
- 13,704 firms that could no longer be identified in 1986 (deaths)
- 13,673 firms that were newly identified for 1986 (births).

These latter two non-continuous categories accounted for 15% of total imports in 1979 and 11% in 1986. A significant proportion (in import value terms) of the non-continuous group of firms, rather than being completely new or completely disappearing, is likely to have reorganized over this period

through merger, amalgamation, acquisition or divestiture, either for strategic reasons or for reasons of corporate taxation.

The 14,882 continuous firms represented just over one-half of all firms in the panel for both years. In 1979, their \$47 billion of imports accounted for 85% of the total for the panel. This share grew to 89% in 1986. At the same time, sales by continuous firms grew as a proportion of sales by all businesses in the panel, rising from 78% in 1979 to 80% in 1986. An interesting statistical profile, described below, emerges for these continuous firms and their importing practices. It should be noted that while non-continuous firms have been included to complete the panel, the analysis is largely focused on the continuous firms.

Chart 2.1 Distribution of the Longitudinal Canadian Import Panel by Life Status, 1979 and 1986



- o \$ are in billions in chart
- o 1979 Panel coverage is 90% of total Canadian imports of \$61.0 Billion.
- o Panel coverage for 1986 is 86% of \$108.3 Billion.

General findings

Overall, imports by the 14,882 continuous firms grew proportionally over the seven-year period, both with respect to imports by all firms included in the panel and in relation to sales or output by these firms.⁹ The continuous firms' import-to-sales ratio rose from 17.5% in 1979 to 18.2% in 1986.

In addition to identifying firms with respect to their country of control, the database also made a distinction among domestically controlled firms between transnational enterprises (TNEs) and firms operating entirely in Canada. This was accomplished by linking files to records of direct investment abroad. Accordingly, a Canadian TNE importer is defined as a company controlled in Canada and belonging to an enterprise group with some degree of direct investment abroad.

Among the continuous firms included in the panel, foreign controlled firms were three times more import-reliant than their Canadian controlled counterparts in the initial year (1979). This gulf had widened to four times by the end of the period (1986) as the foreign firms became more import-intensive and Canadian firms less so.

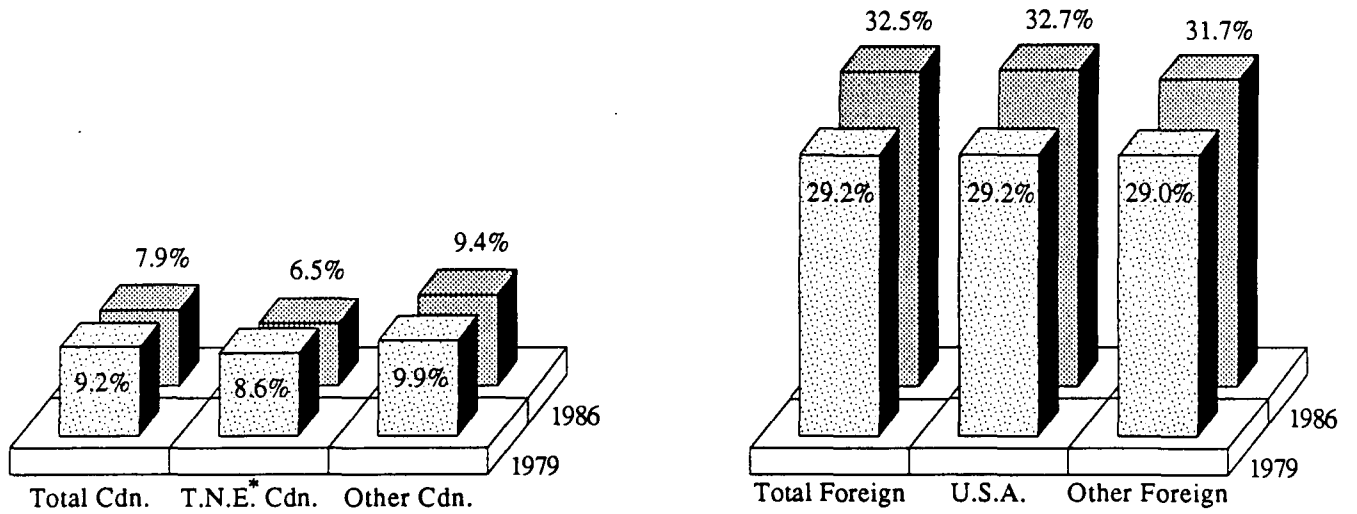
Foreign controlled firms in general became more import-reliant over the period, with import propensity rising from 29.2% to 32.5%. U.S. controlled firms accounted for 80% of imports by all foreign controlled firms in the initial year, but this figure declined to about 78.5% in the terminal year. Import propensities of both U.S. controlled and other foreign controlled firms were remarkably similar in both years, although the import propensity of U.S. controlled firms rose faster.

The import propensity of the 12,556 continuous Canadian controlled firms included in the panel fell over the course of the period from 9.2% in 1979 to 7.9% in 1986. Import propensities of both categories of Canadian controlled firms (TNEs and others) have declined in contrast to those of foreign controlled firms. The import propensity of Canadian TNEs fell by one-quarter, to 6.5% in the terminal year, and of other Canadian firms by a more modest 5%, from 9.9% to 9.4%. The finding that Canadian TNEs are actually less import-intensive than other Canadian controlled firms appears surprising, but it can be explained by the preponderance of other Canadian controlled wholesalers. Concentrated in the under \$50 million sales category, these firms have a disproportionately high import propensity. Canadian controlled wholesalers that are TNEs are similar in propensity but, given their much smaller number, dissimilar in influence.

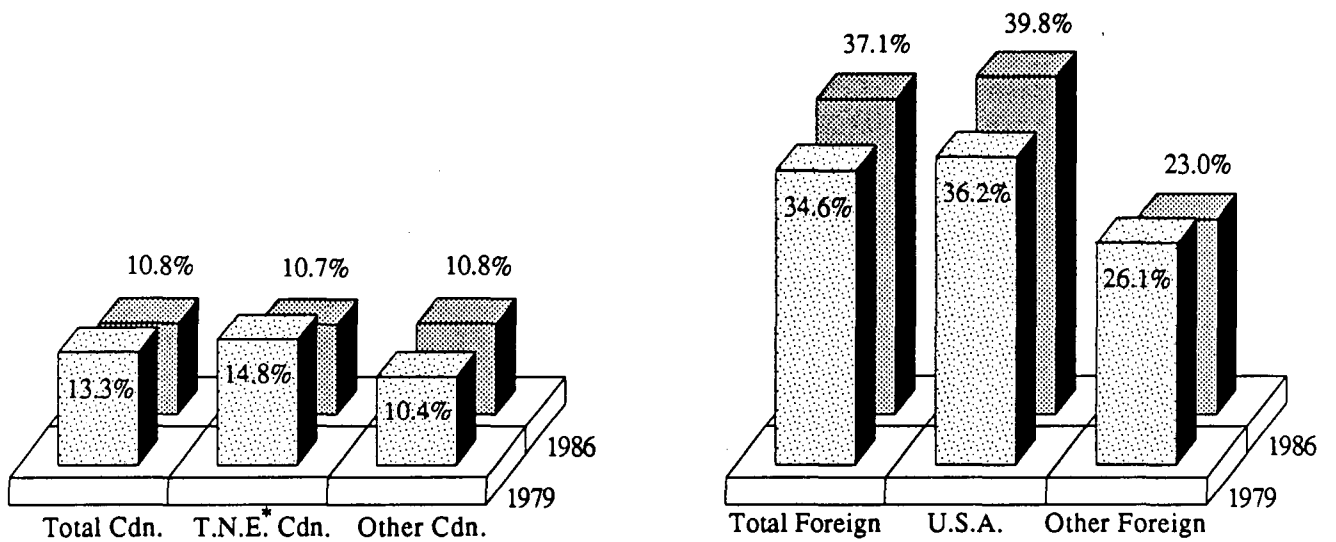
⁹ Sales are not the perfect yard-stick against which to calibrate a firm's imports. There are difficulties with regard to timing, valuation and the type of import purchased. For example, imports acquired as capital goods constitute additions to a firm's infrastructure and are recognized as fixed assets.

Chart 2.2 Continuous Firms Import/Sales Ratios By Country of Control, 1979 and 1986

Part 1: Total, All Industries



Part 2: Manufacturing Industries



* refers to Canadian Trans-national Enterprises (ie. with direct investment abroad in at least one foreign country)

Industry/size effect

In terms of industrial activity, over 90% of imports in both periods are attributable to two broad activities, namely manufacturing and wholesaling. Manufacturers, accounting for approximately two-thirds of imports, became 3% more import-intensive. This pattern was not reflected by Canadian controlled businesses, however, whose import-intensity declined by 19%, mainly due to the influence of continuous firms in the \$50+ million sales category. In contrast, foreign controlled firms increased their import propensity to 37% from 35%, a 7% increase. The increase in imports by foreign controlled firms relative to sales was wholly accounted for by U.S. controlled manufacturers, while the import propensity of other foreign controlled firms actually declined over the period.

Manufacturing itself is heavily influenced by the Canada-U.S. automotive agreement, which has facilitated a large volume of two-way trade. For firms classified to automobile industries (SICs 323, 324, 325), the import propensity has risen to 64.7% from 62.5%. This trend is apparent among all categories of firms irrespective of country of control, although it should be noted that the behaviour of the industry is totally reflective of the 24 large (\$100+ million in sales) U.S. controlled multinationals.

Just under one-quarter of imports were attributable to the wholesale trade sector. Overall, import propensities in this sector rose from 25% in 1979 to 26.4% in 1986, closely mirroring increases found in manufacturing. In wholesale trade, the predominant influence was exerted by 344 firms controlled in other foreign countries; the import-to-sales ratio for these firms increased by 28% over the period, to stand at 53.5% in 1986.

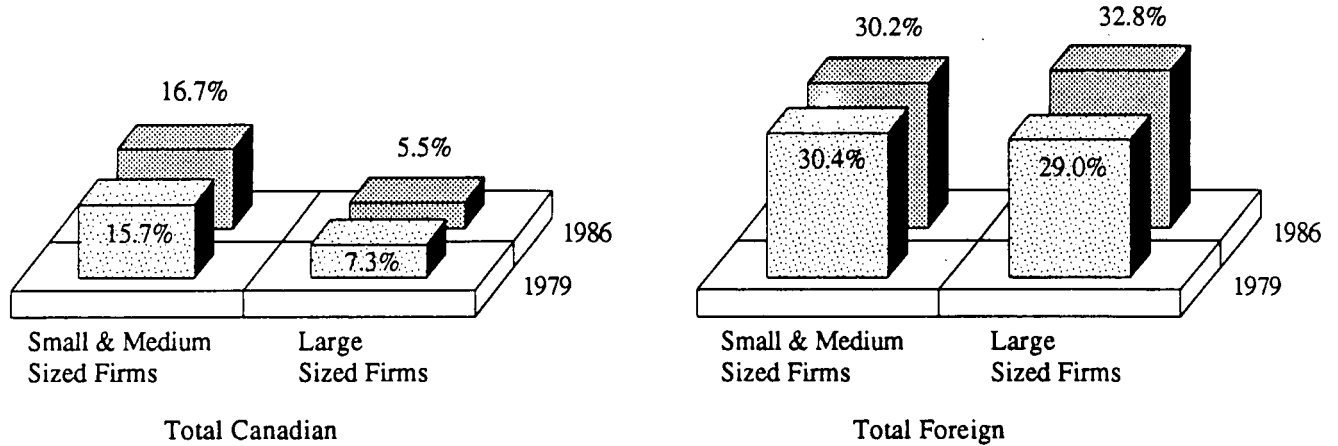
Import sourcing from the United States

Foreign subsidiaries of multinationals are known to import a high percentage of their inputs from their home country (as is equally true of Canadian MNEs¹⁰). The evidence presented earlier in this study corroborates the highly positive correlation between the country of control of a firm and the country of origin of its imports, particularly for U.S. and Japanese controlled firms and, to a lesser extent, for firms controlled in other foreign countries.

¹⁰ Alan Rugman states that "Canadian parents have large exports to their subsidiaries; parents export five times as much as they import from their U.S. subsidiaries", Economic Council of Canada discussion paper 347, Trade Liberalization and International Investment.

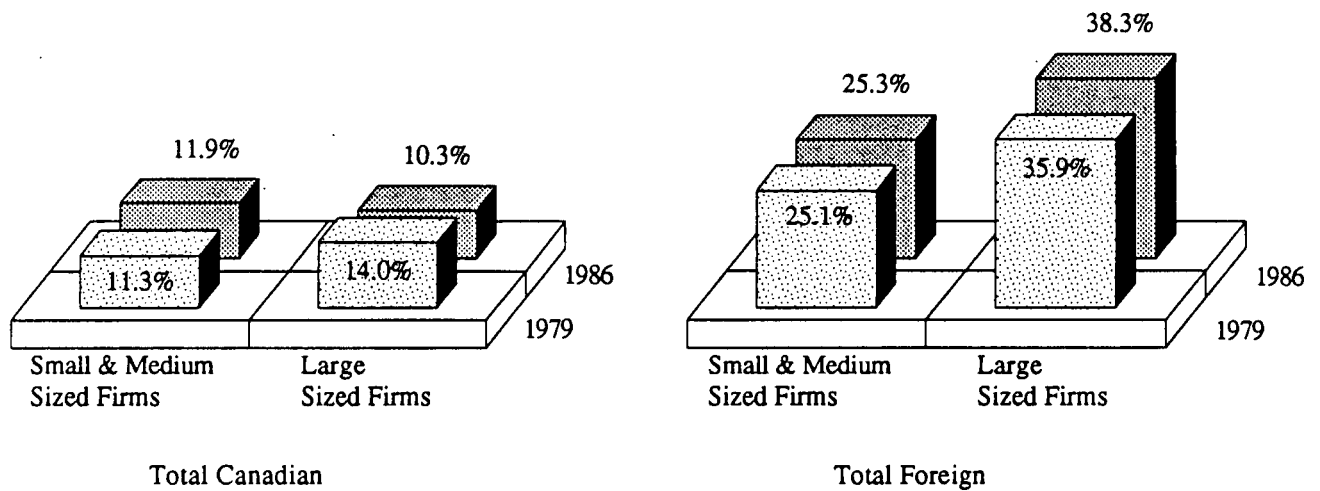
Chart 2.3 Continuous Firms Import/Sales Ratios By Country of Control and Terminal Year Firm Size, 1979 and 1986

Part 1: Total, All Industries



Small & Medium < \$50 Million sales
 Large \$50 + Million sales

Part 2: Total, All Manufacturing



Given this behaviour, the U.S. market has traditionally been the principal supplier of Canadian imports. There are three contributory factors that help explain this trading pattern in the context of firms' country of control: U.S. controlled firms comprise the single largest group of Canadian importers and source heavily from their home country; the second largest group of importers consists of domestically controlled firms, the bulk of whose purchases abroad are of U.S. origin; and the smallest group, firms controlled in other foreign countries, exhibited a preference for sourcing firstly in the home country base and secondly in the United States.

The dominance of the United States as the source of Canadian imports has declined over the course of the 1980s, from 73% in 1979 to 69% in 1986 (the period under study), then further to 65% in 1989. This trend is also reflected in the longitudinal panel for the years 1979 and 1986. Non-continuous firms, in particular, have been more instrumental in raising the share of imports sourced from other countries. In the wholesale industry, non-continuous firms controlled in other foreign countries were mainly responsible for this swing from the United States to the rest of the world, with imports by such firms rising from \$420 million to \$1,015 million. The increase was principally a result of automobile imports from Japan and South Korea. At the same time, the proportion of imports originating in the United States by non-continuous firms controlled in other foreign countries dropped from 33% to 9%.

Chart 3.1 Extent of Inter-Affiliate Imports By Country of Control

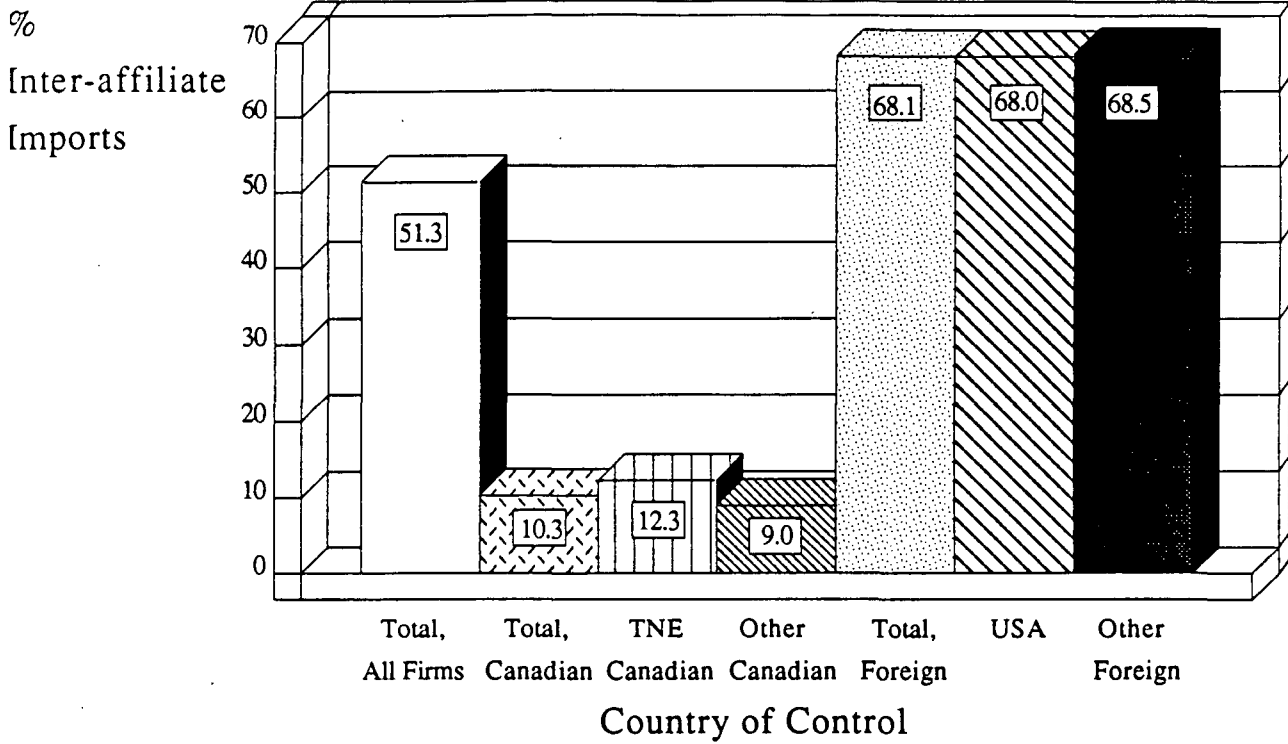
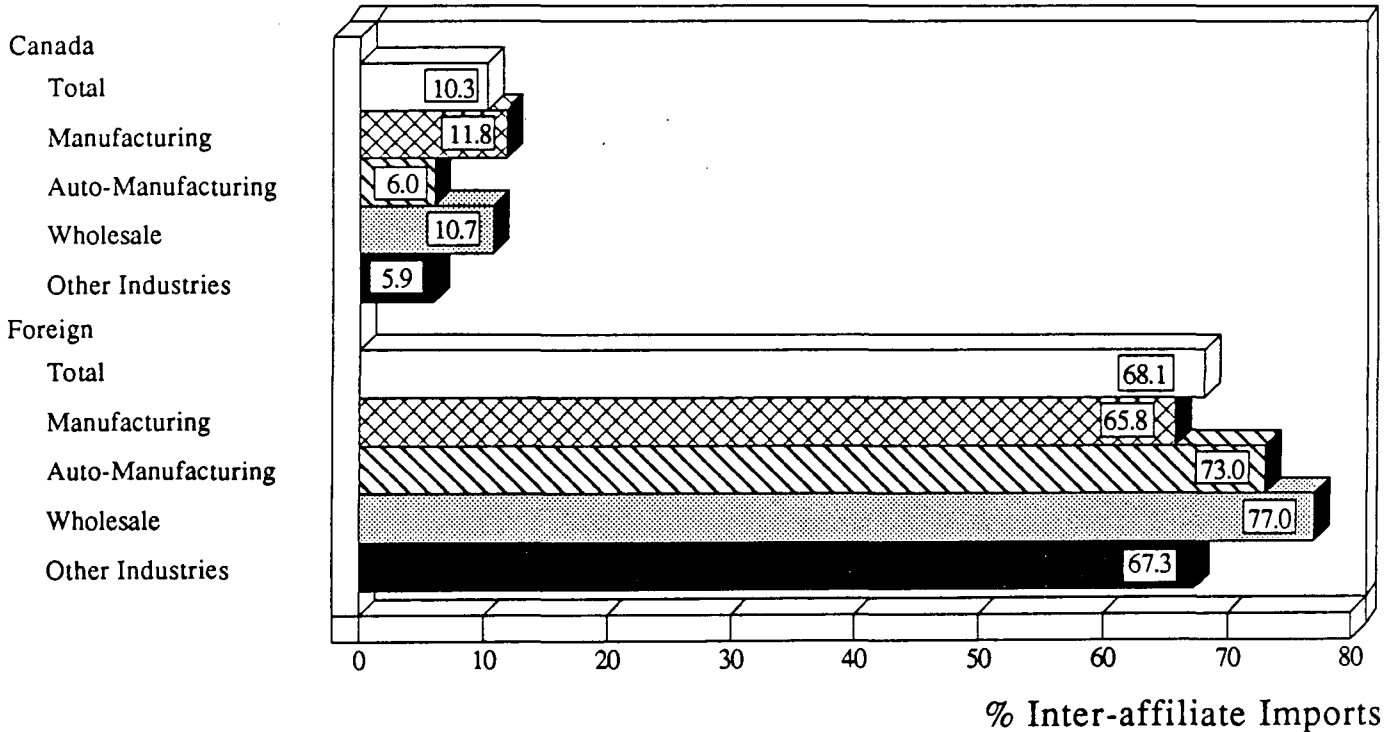


Chart 3.2 Extent of Inter-Affiliate Trade By Country of Control and Industry, 1986

Control and Industry



Part III: ANALYSIS OF INTER-AFFILIATE IMPORTS, 1986

Until 1985, very little information existed on the extent to which Canadian imports were 'tied' between affiliates rather than arm's-length in nature.¹¹ To the extent that trade is tied, there is greater scope for transfer-pricing and less sensitivity to exchange rate changes, both factors of considerable consequence for economic policy.

Special tabulations on tied and untied imports were prepared for 1986 (the first full year such a breakdown existed), which covered 99% of all imports linked to companies classified by country of control.¹² They indicate that:

- 1- Fully half of all imports classified by affiliation status are tied (\$47.4 billion out of a total \$92.4 billion);
- 2- About two-thirds of imports by all foreign controlled firms were tied, compared to only about 10% for Canadian controlled firms (see Chart 3.1);
- 3- Tied imports represented two-thirds of total imports, both for firms controlled in the United States and for those controlled in other foreign countries (Chart 3.1);
- 4- Tied imports for Canadian controlled TNEs were only marginally higher than those for other Canadian controlled companies: 12.3% versus 9.0%, (Chart 3.1);
- 5- About 70% of U.S. controlled firms' total imports sourced from the United States were tied, compared to 77% of imports originating in the rest of the world for firms controlled in other foreign countries;
- 6- The results with respect to inter-affiliate trade by country of control also hold true for the broader industry groupings (total manufacturing, automobile manufacturing, wholesale trade and other industries - Chart 3.2);
- 7- The most notable sectoral finding related to wholesale trade by "other foreign controlled firms", 83% of whose imports originating outside the United States were tied. This largely represented

¹¹ An exception was the FOS data (see footnote 1).

¹² These tabulations formed a component of a larger cost-recovery initiative conducted on behalf of the Departments of External Affairs and Industry, Science and Technology Canada. This work was used in an internal study entitled "Analysis of Performance of Multinational Enterprises" authored by J. Alam, S. Li and R. Oldenburg, 1989.

automotive imports by Japanese and Korean controlled auto wholesalers.

CONCLUSIONS AND FUTURE PLANS

This study has had as its objective the development of import statistics classified cross-sectionally and longitudinally. The data indicate that importers classified to the manufacturing industry conduct most of this trade, followed by wholesalers. Together, the two sectors account for 90% of total imports. Foreign controlled firms are the conduit for about 70% of Canada's imports. Foreign controlled firms are more import-intensive than importers controlled in Canada. The difference in import-intensity between Canadian and foreign controlled firms has widened significantly between 1979 and 1986. Furthermore, there is a highly positive correlation between the country of control and the country of origin of imports. This appears, in part, to be the result of inter-affiliate trade.

The larger firms (those with \$50+ million sales) are responsible for most of Canada's import trade, averaging about 72% of the total over the 1978-86 period. Size, however, does not seem to be a factor in import-intensity. The ratio of imports to sales is higher for smaller and medium-sized firms than for larger ones. This characteristic appears to be more closely related to industry mix than to size.

The longitudinal component of this paper provided insights into the life status of importing businesses. It revealed that there was a large and growing difference in import-intensity by country of control. By 1986, foreign controlled firms were four times as import-intensive as domestically controlled ones, compared to a factor of three times in 1979. This analysis was conducted on a weighted-average basis using imports and sales aggregates. Firms further categorized on the basis of increasing or decreasing import-propensities shed new light on the distributions underlying the overall averages. For instance, the import propensity of 1,058 foreign controlled firms grew from 27% in 1979 to 37% in 1986 (Appendix II, Table 2). However, these results say nothing about the fact that more than one-half of the foreign controlled panel, some 1,268 firms, have decreasing import-propensities.

A number of enhancements coming on stream or planned should further enrich the study of trade data from a business perspective. Beginning in January 1987, Canadian exporters were required to provide a company identification code on the B-13 export form. Although compliance with this administrative requirement has not been monitored to this point, this innovation should allow the identification of Canadian exporters and permit linkage of the records with other files.

Beginning in January 1990, a data exchange agreement took effect between the United States and Canada in an effort to pare costs and provide more accurate trade data. Canadian exports to the United States will be derived from U.S. import documents, which will include both the exporter's name and affiliation

status. It should therefore be possible to construct a truly comprehensive micro-database that integrates imports, exports, financial variables, production statistics and employment characteristics.

Another important development is the conversion of product classifications to the international Harmonized System. Not only will this permit greater and more accurate international comparisons, but it will also foster the integration of trade data with other domestic survey and administrative data sources. Other analytical possibilities include the province of origin/U.S. state of destination for exports, and counterpart information for imports.

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APPENDIX 1 TABLE 1. CANADIAN IMPORTS BY INDUSTRY AND COUNTRY OF CONTROL, SELECTED YEARS, 1978-86

Country of control	1978			1980			1982			1984			1986		
	NO. OF FIRMS	Import Value		NO. OF FIRMS	Import Value		NO. OF FIRMS	Import Value		NO. OF FIRMS	Import Value		NO. OF FIRMS	Import Value	
		\$ Million	%		\$ Million	%		\$ Million	%		\$ Million	%		\$ Million	%
TOTAL, ALL INDUSTRIES (SIC 000-899)															
TOTAL, ALL COUNTRIES OF CONTROL.....	28,164	44,914	100.0	31,017	60,851	100.0	34,395	60,945	100.0	34,526	85,280	100.0	32,338	97,464	100.0
TOTAL FOREIGN.....	4,460	31,886	71.0	4,333	40,669	66.8	4,276	41,702	68.4	3,904	58,838	69.0	3,562	67,566	69.3
U.S.A.....	3,240	25,531	56.8	3,023	30,815	50.6	2,926	31,416	51.5	2,668	46,369	54.4	2,407	51,877	53.2
OTHER FOREIGN.....	1,220	6,356	14.2	1,310	9,854	16.2	1,350	10,286	16.9	1,236	12,468	14.6	1,155	15,689	16.1
TOTAL CANADIAN.....	23,704	13,028	29.0	26,684	20,182	33.2	30,119	19,243	31.6	30,622	26,442	31.0	28,776	29,898	30.7
TOTAL, CLASSIFIED BY INDUSTRY OF IMPORTER (SIC 011-899)															
TOTAL, ALL COUNTRIES OF CONTROL.....	27,708	44,364	100.0	30,655	59,636	100.0	32,633	59,014	100.0	32,015	82,599	100.0	28,591	93,294	100.0
TOTAL FOREIGN.....	4,072	31,472	70.9	4,063	40,052	67.2	3,814	40,710	69.0	3,433	57,891	70.1	2,959	66,260	71.0
U.S.A.....	2,902	25,158	56.7	2,805	30,387	51.0	2,583	30,713	52.0	2,332	45,690	55.3	1,975	50,964	54.6
OTHER FOREIGN.....	1,170	6,314	14.2	1,258	9,665	16.2	1,231	9,997	16.9	1,101	12,201	14.8	984	15,296	16.4
TOTAL CANADIAN.....	23,636	12,892	29.1	26,592	19,583	32.8	28,819	18,304	31.0	28,582	24,709	29.9	25,632	27,035	29.0
TOTAL, ALL MANUFACTURING INDUSTRIES (SIC 101-399)															
TOTAL, ALL COUNTRIES OF CONTROL.....	9,695	29,333	100.0	10,581	38,917	100.0	11,056	37,582	100.0	11,333	54,007	100.0	10,051	61,518	100.0
TOTAL FOREIGN.....	2,045	24,207	82.5	1,976	29,920	76.9	1,889	30,220	80.4	1,703	43,316	80.2	1,447	49,682	80.8
U.S.A.....	1,568	21,219	72.3	1,469	24,553	63.1	1,379	24,754	65.9	1,254	37,750	69.9	1,052	43,754	71.1
OTHER FOREIGN.....	477	2,989	10.2	507	5,368	13.8	510	5,465	14.5	449	5,565	10.3	395	5,928	9.6
TOTAL CANADIAN.....	7,650	5,125	17.5	8,605	8,997	23.1	9,167	7,363	19.6	9,630	10,691	19.8	8,604	11,836	19.2
AUTOMOBILE MANUFACTURING INDUSTRIES (SIC 323-325)															
TOTAL, ALL COUNTRIES OF CONTROL.....	304	12,598	100.0	344	12,494	100.0	354	14,711	100.0	391	25,925	100.0	375	32,233	100.0
TOTAL FOREIGN.....	105	12,512	99.3	107	12,369	99.0	110	14,512	98.7	106	25,521	98.4	97	31,593	98.0
U.S.A.....	95	12,413	98.5	93	11,970	95.8	97	13,991	95.1	87	24,622	95.0	80	30,471	94.5
OTHER FOREIGN.....	10	98	.8	14	399	3.2	13	521	3.5	19	899	3.5	17	1,122	3.5
TOTAL CANADIAN.....	199	87	.7	237	125	1.0	244	199	1.3	285	404	1.6	278	639	2.0
OTHER MANUFACTURING INDUSTRIES (SIC 101-321 & 326-399)															
TOTAL, ALL COUNTRIES OF CONTROL.....	9,391	16,734	100.0	10,237	26,424	100.0	10,702	22,871	100.0	10,942	28,082	100.0	9,676	29,285	100.0
TOTAL FOREIGN.....	1,940	11,696	69.9	1,869	17,551	66.4	1,779	15,707	68.7	1,597	17,795	63.4	1,350	18,088	61.8
U.S.A.....	1,473	8,805	52.6	1,376	12,583	47.6	1,282	10,764	47.1	1,167	13,128	46.8	972	13,282	45.4
OTHER FOREIGN.....	467	2,890	17.3	493	4,969	18.8	497	4,944	21.6	430	4,666	16.6	378	4,806	16.4
TOTAL CANADIAN.....	7,451	5,039	30.1	8,368	8,872	33.6	8,923	7,164	31.3	9,345	10,287	36.6	8,326	11,197	38.2
WHOLESALE TRADE (SIC 602-629)															
TOTAL, ALL COUNTRIES OF CONTROL.....	9,682	10,704	100.0	10,563	14,024	100.0	10,774	13,474	100.0	10,786	19,533	100.0	9,725	23,512	100.0
TOTAL FOREIGN.....	1,285	5,426	50.7	1,306	7,486	53.4	1,182	7,271	54.0	1,096	10,599	54.3	974	13,430	57.1
U.S.A.....	783	2,406	22.5	781	3,464	24.7	681	3,078	22.8	628	4,233	21.7	543	4,520	19.2
OTHER FOREIGN.....	502	3,020	28.2	525	4,022	28.7	501	4,193	31.1	468	6,366	32.6	431	8,910	37.9
TOTAL CANADIAN.....	8,397	5,278	49.3	9,257	6,538	46.6	9,592	6,204	46.0	9,690	8,934	45.7	8,751	10,082	42.9
ALL OTHER INDUSTRIES															
TOTAL, ALL COUNTRIES OF CONTROL.....	8,331	4,328	100.0	9,511	6,694	100.0	10,803	7,957	100.0	9,896	9,060	100.0	8,815	8,265	100.0
TOTAL FOREIGN.....	742	1,839	42.5	781	2,646	39.5	743	3,220	40.5	634	3,976	43.9	538	3,148	38.1
U.S.A.....	551	1,534	35.4	555	2,370	35.4	523	2,881	36.2	450	3,707	40.9	380	2,690	32.5
OTHER FOREIGN.....	191	305	7.0	226	276	4.1	220	339	4.3	184	269	3.0	158	458	5.5
TOTAL CANADIAN.....	7,589	2,489	57.5	8,730	4,048	60.5	10,060	4,738	59.5	9,262	5,084	56.1	8,277	5,116	61.9
UNCLASSIFIED (SIC 000)															
TOTAL, ALL COUNTRIES OF CONTROL.....	456	550	100.0	362	1,215	100.0	1,762	1,931	100.0	2,511	2,680	100.0	3,747	4,170	100.0
TOTAL FOREIGN.....	388	414	75.2	270	616	50.7	462	992	51.4	471	947	35.3	603	1,307	31.3
U.S.A.....	338	372	67.6	218	428	35.2	343	703	36.4	336	680	25.4	432	914	21.9
OTHER FOREIGN.....	50	42	7.6	52	189	15.5	119	289	15.0	135	267	10.0	171	393	9.4
TOTAL CANADIAN.....	68	136	24.8	92	598	49.3	1,300	939	48.6	2,040	1,734	64.7	3,144	2,863	68.7

Appendix 1 Table 2
Changes In Home Sourcing
1980-86

Country of Control	% of Imports Home Sourced By Country Group			
	1980	1982	1984	1986
USA				
Total	85.5	86.7	88.7	88.6
Food, Feed, Beverages, and Tobacco	68.8	68.4	72.0	68.4
Crude Materials, inedible	33.3	21.4	34.3	36.5
Fabricated Materials	87.6	86.9	85.7	88.2
End Products, inedible	94.2	94.1	92.0	90.8
Japan				
Total	87.2	89.3	88.3	89.0
Food, Feed, Beverages, and Tobacco	58.3	68.8	58.9	45.1
Crude Materials, inedible	99.5	99.7	99.6	82.6
Fabricated Materials	87.7	85.2	75.1	75.2
End Products, inedible	87.3	89.8	89.7	90.4
Western Europe				
Total	33.8	32.5	36.4	49.5
Food, Feed, Beverages, and Tobacco	23.4	23.4	20.3	23.2
Crude Materials, inedible	3.2	8.1	9.9	48.9
Fabricated Materials	41.1	43.6	40.2	43.9
End Products, inedible	55.9	48.2	48.3	55.2
Other Foreign Countries				
Total	50.2	45.7	52.9	71.0
Food, Feed, Beverages, and Tobacco	78.6	78.3	59.6	82.9
Crude Materials, inedible	42.9	51.1	26.2	65.2
Fabricated Materials	37.5	25.6	25.3	29.0
End Products, inedible	43.2	37.4	57.6	76.4

APPENDIX TO SECTION II: TABLE 4. LONGITUDINAL CANADIAN IMPORTS BY INDUSTRY, COUNTRY OF CONTROL AND LIFE STATUS, 1979 AND 1986

INDUSTRY DIVISION, COUNTRY OF CONTROL LIFE STATUS	1979				1986			
	NO. OF FIRMS	COUNTRY SOURCE OF IMPORTS		IMPORT VALUE \$MILLIONS	NO. OF FIRMS	COUNTRY SOURCE OF IMPORTS		IMPORT VALUE \$MILLIONS
		U.S.A. % →	OTHER % →			U.S.A. % →	OTHER % →	
TOTAL, CLASSIFIED BY INDUSTRY OF IMPORTER (SIC 011-899)								
TOTAL, ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	28,586	72	28	55,076.5	28,555	69	31	93,290.0
CONTINUOUSLY IDENTIFIED.....	14,882	73	27	46,998.1	14,882	71	29	82,846.1
NON-CONTINUOUS.....	13,704	67	33	8,078.4	13,673	55	45	10,443.9
CANADIAN								
TOTAL - ALL STATUSES.....	24,779	63	37	18,044.0	25,597	56	44	27,034.7
CONTINUOUSLY IDENTIFIED.....	12,556	62	38	14,504.1	12,556	56	44	20,974.6
NON-CONTINUOUS.....	12,223	64	36	3,539.8	13,041	58	42	6,060.1
FOREIGN								
TOTAL - ALL STATUSES.....	3,807	77	23	37,032.6	2,958	74	26	66,255.2
CONTINUOUSLY IDENTIFIED.....	2,326	78	22	32,493.9	2,326	76	24	61,871.5
NON-CONTINUOUS.....	1,481	70	30	4,538.6	632	50	50	4,383.8
TOTAL, ALL MANUFACTURING INDUSTRIES (SIC 101-399)								
TOTAL, ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	10,191	79	21	36,763.3	10,042	80	20	61,517.7
CONTINUOUSLY IDENTIFIED.....	5,789	80	20	32,385.9	5,789	82	18	56,297.8
NON-CONTINUOUS.....	4,402	70	30	4,377.4	4,253	62	38	5,219.8
CANADIAN								
TOTAL - ALL STATUSES.....	8,278	60	40	8,259.1	8,595	61	39	11,835.9
CONTINUOUSLY IDENTIFIED.....	4,568	60	40	6,974.3	4,568	61	39	9,230.9
NON-CONTINUOUS.....	3,710	63	37	1,284.8	4,027	65	35	2,605.0
FOREIGN								
TOTAL - ALL STATUSES.....	1,913	84	16	28,504.2	1,447	84	16	49,681.7
CONTINUOUSLY IDENTIFIED.....	1,221	86	14	25,411.6	1,221	86	14	47,066.9
NON-CONTINUOUS.....	692	72	28	3,092.6	226	60	40	2,614.8
AUTOMOBILE MANUFACTURING INDUSTRIES (SIC 323-325)								
TOTAL, ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	384	98	2	15,334.4	374	93	7	32,232.6
CONTINUOUSLY IDENTIFIED.....	227	98	2	15,080.4	227	94	6	31,287.4
NON-CONTINUOUS.....	157	95	5	254.0	147	85	15	945.2
CANADIAN								
TOTAL - ALL STATUSES.....	266	90	10	139.9	277	83	17	639.1
CONTINUOUSLY IDENTIFIED.....	142	89	11	105.4	142	89	11	282.6
NON-CONTINUOUS.....	124	93	7	34.5	135	77	23	356.5
FOREIGN								
TOTAL - ALL STATUSES.....	118	98	2	15,194.5	97	94	6	31,593.4
CONTINUOUSLY IDENTIFIED.....	85	98	2	14,975.0	85	94	6	31,004.8
NON-CONTINUOUS.....	33	95	5	219.5	12	90	10	588.6
OTHER MANUFACTURING INDUSTRIES (SIC 101-321 & 326-399)								
TOTAL, ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	9,807	65	35	21,429.0	9,668	65	35	29,285.1
CONTINUOUSLY IDENTIFIED.....	5,562	65	35	17,305.6	5,562	67	33	25,010.4
NON-CONTINUOUS.....	4,245	68	32	4,123.4	4,106	57	43	4,274.7
CANADIAN								
TOTAL - ALL STATUSES.....	8,012	60	40	8,119.2	8,318	60	40	11,196.8
CONTINUOUSLY IDENTIFIED.....	4,426	59	41	6,869.0	4,426	60	40	8,948.3
NON-CONTINUOUS.....	3,586	63	37	1,250.2	3,892	63	37	2,248.5
FOREIGN								
TOTAL - ALL STATUSES.....	1,795	68	32	13,309.8	1,350	68	32	18,088.3
CONTINUOUSLY IDENTIFIED.....	1,136	68	32	10,436.6	1,136	70	30	16,062.1
NON-CONTINUOUS.....	659	71	29	2,873.1	214	52	48	2,026.2
WHOLESALE TRADE (SIC 602-629)								
TOTAL, ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	9,946	54	46	13,098.4	9,704	42	58	23,512.0
CONTINUOUSLY IDENTIFIED.....	5,574	52	48	10,243.4	5,574	42	58	19,512.5
NON-CONTINUOUS.....	4,372	61	39	2,854.9	4,130	45	55	3,999.6
CANADIAN								
TOTAL - ALL STATUSES.....	8,721	61	39	6,285.3	8,730	51	49	10,082.4
CONTINUOUSLY IDENTIFIED.....	4,803	60	40	4,624.6	4,803	50	50	7,626.3
NON-CONTINUOUS.....	3,918	61	39	1,660.7	3,927	52	48	2,456.1
FOREIGN								
TOTAL - ALL STATUSES.....	1,225	48	52	6,813.0	974	36	64	13,429.7
CONTINUOUSLY IDENTIFIED.....	771	45	55	5,618.8	771	36	64	11,886.1
NON-CONTINUOUS.....	454	61	39	1,194.2	203	35	65	1,543.5
OTHER INDUSTRIES								
TOTAL, ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	8,445	73	27	5,175.2	8,809	63	37	8,260.3
CONTINUOUSLY IDENTIFIED.....	3,519	73	27	4,368.7	3,519	65	35	7,035.8
NON-CONTINUOUS.....	4,926	72	28	806.5	5,290	52	48	1,224.5
CANADIAN								
TOTAL - ALL STATUSES.....	7,776	71	29	3,459.9	8,272	54	46	5,116.4
CONTINUOUSLY IDENTIFIED.....	3,185	71	29	2,905.2	3,185	54	46	4,117.4
NON-CONTINUOUS.....	4,591	69	31	554.7	5,087	55	45	999.1
FOREIGN								
TOTAL - ALL STATUSES.....	669	77	23	1,715.3	537	77	23	3,143.9
CONTINUOUSLY IDENTIFIED.....	334	76	24	1,463.5	334	80	20	2,918.4
NON-CONTINUOUS.....	335	81	19	251.8	203	40	60	225.4

APPENDIX TO SECTION II: TABLE 5. LONGITUDINAL CANADIAN IMPORTS SALES SIZE, COUNTRY OF CONTROL AND LIFE STATUS, 1979 AND 1986

SALES SIZE COUNTRY OF CONTROL LIFE STATUS	1979				1986			
	NO. OF FIRMS	COUNTRY SOURCE OF IMPORTS		IMPORT VALUE \$MILLIONS	NO. OF FIRMS	COUNTRY SOURCE OF IMPORTS		IMPORT VALUE \$MILLIONS
		U.S.A. % →	OTHER % →			U.S.A. % →	OTHER % →	
TOTAL, CLASSIFIED BY INDUSTRY OF IMPORTER								
TOTAL - ALL SIZES								
TOTAL - ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	28,586	72	28	55,076.5	28,555	69	31	93,290.0
CONTINUOUSLY IDENTIFIED.....	14,882	73	27	46,998.1	14,882	71	29	82,846.1
NON-CONTINUOUS.....	13,704	67	33	8,078.4	13,673	55	45	10,443.9
TOTAL CANADIAN								
TOTAL - ALL STATUSES.....	24,779	63	37	18,044.0	25,597	56	44	27,034.7
CONTINUOUSLY IDENTIFIED.....	12,556	62	38	14,504.1	12,556	56	44	20,974.6
NON-CONTINUOUS.....	12,223	64	36	3,539.8	13,041	58	42	6,060.1
T.N.E. CANADIAN								
TOTAL - ALL STATUSES.....	1,009	62	38	7,775.3	831	57	43	10,219.4
CONTINUOUSLY IDENTIFIED.....	544	62	38	7,163.9	544	58	42	8,691.2
NON-CONTINUOUS.....	465	66	34	611.4	287	55	45	1,528.2
OTHER CANADIAN								
TOTAL - ALL STATUSES.....	23,770	63	37	10,268.7	24,766	55	45	16,815.4
CONTINUOUSLY IDENTIFIED.....	12,012	63	37	7,340.2	12,012	54	46	12,283.4
NON-CONTINUOUS.....	11,758	63	37	2,928.5	12,754	59	41	4,531.9
TOTAL FOREIGN								
TOTAL - ALL STATUSES.....	3,807	77	23	37,032.6	2,958	74	26	66,255.2
CONTINUOUSLY IDENTIFIED.....	2,326	78	22	32,493.9	2,326	76	24	61,871.5
NON-CONTINUOUS.....	1,481	70	30	4,538.6	632	50	50	4,383.8
U.S.A.								
TOTAL - ALL STATUSES.....	2,612	89	11	28,541.0	1,975	89	11	50,963.7
CONTINUOUSLY IDENTIFIED.....	1,597	90	10	26,096.7	1,597	89	11	48,942.1
NON-CONTINUOUS.....	1,015	83	17	2,444.3	378	83	17	2,021.5
OTHER FOREIGN								
TOTAL - ALL STATUSES.....	1,195	37	63	8,491.5	983	26	74	15,291.6
CONTINUOUSLY IDENTIFIED.....	729	31	69	6,397.2	729	27	73	12,929.3
NON-CONTINUOUS.....	466	55	45	2,094.3	254	22	78	2,362.2
< \$50 MILLION SALES								
TOTAL - ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	27,369	64	36	15,556.6	27,234	58	42	21,381.6
CONTINUOUSLY IDENTIFIED.....	13,863	62	38	10,156.5	13,863	58	42	15,930.7
NON-CONTINUOUS.....	13,506	67	33	5,400.1	13,371	58	42	5,450.9
TOTAL CANADIAN								
TOTAL - ALL STATUSES.....	24,147	62	38	8,766.0	24,853	55	45	13,620.0
CONTINUOUSLY IDENTIFIED.....	12,024	61	39	5,590.6	12,024	54	46	9,434.4
NON-CONTINUOUS.....	12,123	64	36	3,175.4	12,829	58	42	4,185.6
T.N.E. CANADIAN								
TOTAL - ALL STATUSES.....	679	70	30	871.6	459	66	34	803.9
CONTINUOUSLY IDENTIFIED.....	279	73	27	501.8	279	64	36	593.8
NON-CONTINUOUS.....	400	65	35	369.8	180	70	30	210.1
OTHER CANADIAN								
TOTAL - ALL STATUSES.....	23,468	61	39	7,894.4	24,394	54	46	12,816.1
CONTINUOUSLY IDENTIFIED.....	11,745	60	40	5,088.8	11,745	53	47	8,840.6
NON-CONTINUOUS.....	11,723	64	36	2,805.6	12,649	57	43	3,975.5
TOTAL FOREIGN								
TOTAL - ALL STATUSES.....	3,222	66	34	6,790.6	2,381	63	37	7,761.6
CONTINUOUSLY IDENTIFIED.....	1,839	65	35	4,565.9	1,839	64	36	6,496.3
NON-CONTINUOUS.....	1,383	73	27	2,224.7	542	58	42	1,265.4
U.S.A.								
TOTAL - ALL STATUSES.....	2,207	84	16	4,466.0	1,589	83	17	4,833.1
CONTINUOUSLY IDENTIFIED.....	1,259	83	17	2,847.7	1,259	83	17	4,103.5
NON-CONTINUOUS.....	948	84	16	1,618.3	330	84	16	729.6
OTHER FOREIGN								
TOTAL - ALL STATUSES.....	1,015	32	68	2,324.6	792	30	70	2,928.5
CONTINUOUSLY IDENTIFIED.....	580	29	71	1,718.2	580	32	68	2,392.8
NON-CONTINUOUS.....	435	41	59	606.4	212	22	78	535.8
\$50 + MILLION SALES								
TOTAL - ALL COUNTRIES OF CONTROL								
TOTAL - ALL STATUSES.....	1,217	76	24	39,519.9	1,321	72	28	71,908.4
CONTINUOUSLY IDENTIFIED.....	1,019	76	24	36,841.6	1,019	74	26	66,915.4
NON-CONTINUOUS.....	198	67	33	2,678.3	302	51	49	4,993.0
TOTAL CANADIAN								
TOTAL - ALL STATUSES.....	632	63	37	9,278.0	744	57	43	13,414.8
CONTINUOUSLY IDENTIFIED.....	532	63	37	8,913.6	532	57	43	11,540.2
NON-CONTINUOUS.....	100	62	38	364.4	212	58	42	1,874.6
T.N.E. CANADIAN								
TOTAL - ALL STATUSES.....	330	61	39	6,903.7	372	57	43	9,415.5
CONTINUOUSLY IDENTIFIED.....	265	61	39	6,662.2	265	57	43	8,097.3
NON-CONTINUOUS.....	65	67	33	241.5	107	53	47	1,318.1
OTHER CANADIAN								
TOTAL - ALL STATUSES.....	302	68	32	2,374.3	372	59	41	3,999.3
CONTINUOUSLY IDENTIFIED.....	267	69	31	2,251.4	267	57	43	3,442.8
NON-CONTINUOUS.....	35	51	49	122.9	105	70	30	556.5
TOTAL FOREIGN								
TOTAL - ALL STATUSES.....	585	80	20	30,241.9	577	76	24	58,493.6
CONTINUOUSLY IDENTIFIED.....	487	81	19	27,928.1	487	77	23	55,375.2
NON-CONTINUOUS.....	98	67	33	2,313.9	90	47	53	3,118.4
U.S.A.								
TOTAL - ALL STATUSES.....	405	90	10	24,075.0	386	89	11	46,130.6
CONTINUOUSLY IDENTIFIED.....	338	90	10	23,249.0	338	90	10	44,838.6
NON-CONTINUOUS.....	67	80	20	826.0	48	82	18	1,291.9
OTHER FOREIGN								
TOTAL - ALL STATUSES.....	180	39	61	6,166.9	191	25	75	12,363.1
CONTINUOUSLY IDENTIFIED.....	149	32	68	4,679.1	149	26	74	10,536.6
NON-CONTINUOUS.....	31	61	39	1,487.9	42	22	78	1,826.5

Appendix IV: Coverage and Data Quality

The source of import trade data is the Revenue Canada Customs and Excise administrative record used to measure Canada's imports. The file is complete and comprehensive with two exceptions: special transactions, representing less than 1% of total import value, are omitted, as are several precious metals categories, comprised mainly of gold imports. For the most part, gold imports are refined and then re-exported, the refining process normally counting as a service receipt in the Balance of Payments accounts. This adjustment ranges from 0% to 2% in any particular year.

In this study, imports were linked on a legal entity basis to the hybrid file of corporate income tax filers or, if no tax link was found, to an inter-corporate ownership file. However, where importers are individuals or unincorporated businesses, linkage to either file was impossible. Nevertheless, the ability to identify importers by country of control was high, ranging between 90% and 93%.

Imports have been identified as to their first destination. The documentation makes it clear that the importer of record refers to the beneficial owner of the merchandise traded. The invoice accompanying the import document has separate descriptions for firms transporting the goods and for brokers. There is little evidence that either brokers or transport firms were registered incorrectly as the actual importer.

Importers have been classified to an industry on a company basis rather than by plant or establishment. A company that operates in more than one industry is assigned to its leading industry. The classification employed is the 1960 Standard Industrial Classification.

Each import entry includes a company identification number. This number is generally one of a firm's payroll deduction numbers (PD or PAYDAC) assigned by Revenue Canada for collecting employer monetary remittances. However, it can be a number specially assigned to the importer by Customs. Where a firm is part of a commonly controlled multi-company enterprise, some looseness was detected in the assignment. There were some cases where enterprise affiliation was accurate but the actual company linkage within the enterprise was not. Several edit checks were devised and corrections were applied to validate the assignments.

1986 was the second year in which inter-affiliate import trade was available on a micro-basis. Most import records had valid responses to this question. The four U.S. majors in the automotive industry required adjustment due to their unique reporting arrangements. For the most part, this adjustment was resolved satisfactorily, but only partially at the micro-level. Edits were designed to validate the quality of response for non-automotive sectors. That process turned up some questionable responses which included biases in both directions; however, it was not possible to make adjustments to this category of response. The decision was made to summarize the data without adjustment since altering the response, with incomplete information, would have been totally arbitrary.

Appendix 4 Table 1
Part A: Canadian Import Data, 1978-86

Coverage Provided By Data

Year	Published Results in Catalogue 65-001 (A)	Special Transactions and Precious Metals (B)	Data used in Study (C)	% Coverage (C) of (A)
	\$ Millions			
1978	50,102	839	49,263	98
1979	62,871	1,910	60,961	97
1980	69,274	3,569	65,705	95
1982	67,856	2,234	65,622	97
1984	95,460	3,173	92,287	97
1986	112,511	4,195	108,316	96

Part B: Breakdown of Data Used in Study

Year	Data used in Study (C)	Not Allocated By Country of Control (D)	Identified By Country of Control (E)	% Coverage (E) of (C)
	\$ Millions			
1978	49,263	4,349	44,914	91
1979	60,961	5,884	55,077	90
1980	65,705	4,852	60,854	93
1982	65,622	4,677	60,945	93
1984	92,287	7,007	85,280	92
1986	108,316	10,852	97,464	90

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