

The Canadian International Merchandise Trade Statistical Program - Customs-Basis

DATA QUALITY STATEMENTS

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I Introduction

These notes provide an overview of the basic concepts and definitions that are applicable to merchandise trade data. More technical details or information not contained in these notes may be obtained by contacting the Marketing and Client Services Section of the International Trade Division at 1-800-294-5583.

II Conceptual Framework

Objectives and Coverage

The primary objective of the **Canadian International Merchandise Trade Statistical Program** is to measure the change in Canada's stock of material resources that results from the movement of merchandise into or out of the country. Information on imports and exports are inputs into the System of National Accounts, particularly in the balance of payments and gross domestic product. These data are used in the formulation of trade and budgetary policies. Governments, importers, exporters, manufacturers and shipping companies use trade statistics to:

- monitor import penetration and export performance
- monitor commodity price and volume changes
- examine transport implications

Trade Statistics - Customs & Balance of Payments Basis

Merchandise trade statistics are reported and presented on two different bases: Customs basis and Balance of Payments basis (BoP basis).

When goods are imported into or exported from Canada, declarations must be filed with the **Canadian Border Services Agency [CBSA or Customs]** giving such information as description and value of the goods, origin and port of clearance of commodities and the mode of transport. Most of this information is required for the purposes of Customs administration. Statistics derived from administrative records furnished by the CBSA are commonly referred to as Customs-based trade statistics.

On January 1, 1990, Canada entered into a Memorandum of Understanding [MOU] with the United States concerning the exchange of import data. As a consequence, each administration is using the other's import data to replace its own export data. Canada's international merchandise trade statistics are, therefore, no longer derived exclusively from the administrative records of CBSA, Customs and Excise, but from the United States Bureau of Customs and Border Protection [USBC&BP*] records as well.

Customs-based trade statistics more accurately measure imports than exports. This occurs because Customs agents are typically more vigilant with respect to goods entering the country than they are with those leaving the country.

It is not unusual for the accuracy of export statistics to be adversely affected by undercoverage and/or country misallocation. Undercoverage occurs when the proper documentation is not filed with Customs. While Statistics Canada does not have a direct measure of undercoverage, a monthly estimated adjustment is included within BoP based data. Country misallocation occurs when the country of final destination is inaccurately reported on the Customs documentation. This occurs most frequently when goods are routed through an intermediary country before continuing to their final destination with the intermediary country being reported as the final destination of the goods.

Customs-based information is adjusted to conform to the concepts and definitions of the Canadian System of National Accounts. The adjustments to derive balance of payments based trade data include

* The U.S. Bureau of Customs and Border Protection Agency was previously called United States Customs.

trade definition, valuation and timing. In addition, since BoP-based data is not produced at the detailed country and commodity level, quality adjustments are made to improve the aggregate BoP estimates. An example, as noted above, is for undercoverage where no attempt is made to allocate an aggregate figure to any of the data at the detailed level. The principal difference between the two trade concepts is that customs-based merchandise trade statistics cover the physical movement of goods as they are reflected on customs documents, while balance of payments adjusted data are intended to cover all economic transactions between residents and non-residents which involve merchandise trade. This section describes the concepts and processes pertaining to the customs-based trade statistics only. For further information on balance of payments adjusted data see the publication “Canada’s Balance of International Payments” (*Catalogue no. 67-001-XPB*) or the Statistical Data Documentation System #2202 document within the Integrated Metadata base [IMDB] maintained by Standards Division.

System of Trade

The United Nations publications “International Merchandise Trade Statistics: Concepts and Definitions” (ISBN 92-1-161410-4) and “International Merchandise Trade Statistics: Compilers Manual” (ISBN 92-1-161454-6) offer very detailed explanations and definitions of what differentiates the “general” and “special” systems of trade.

Canadian trade statistics are compiled according to the “general” system of trade as defined by the Statistics Division of the Department of Economic and Social Affairs of the United Nations. Goods that are simply in transit to a third country are not considered to be part of Canada’s trade and, therefore, are not included in its trade statistics. Under the “general” system of trade the following definitions apply:

- **Imports** include all goods that have crossed Canada’s territorial boundary whether for immediate consumption in Canada or stored in customs bonded warehouses.
- **Domestic exports** include goods grown, extracted or manufactured in Canada. These include goods of foreign origin that have been materially transformed in Canada.
- **Re-exports** are exports of goods of foreign origin that have been imported but have not been materially transformed in Canada. These include foreign goods withdrawn for export from customs bonded warehouses.
- **Total exports** are the sum of Domestic exports and Re-exports.

The principle difference between the General and Special systems lies in the recording of goods entering or leaving Customs warehouses or commercial free zones. As noted above, under the ‘general’ system, goods entering a warehouse or free zone are considered as imports, whereas under the ‘special’ system, such goods (entered into a warehouse or free zone and subsequently withdrawn) would only be considered as an import at the time that the goods enter the ‘free circulation area’ (i.e. entered for home country consumption).

In the reverse flow, goods entering a Customs warehouse are considered as exports under the ‘special’ system, whereas under the ‘general’ system, such goods are only considered as an export when they leave the warehouse for export to the rest of the world.

The above is a simplified description of the differences between the ‘general’ and ‘special’ systems. A complete description of the two systems can be found in the United Nations publication entitled *“International Merchandise Trade Statistics: Concepts and Definitions”* (United Nations, New York, 1998).

A country’s geographical boundary is not necessarily the same as its Customs boundary. Conceptually, under the “general” system, the statistical frontier coincides with the geographical boundary. Under the “special” system, it coincides with the Customs boundary. Refer to the “Country Classification” section of this document for further information regarding customs boundaries.

Valuation

For Customs purposes, imports are recorded at values established according to the provisions of the Customs Act, which, since January 1, 1985, reflects valuation methods based on the General

Agreement on Tariffs and Trade [GATT] Valuation Code System (now called the World Trade Organization Valuation Agreement). A general requirement of this system is that the value for duty of imported goods must be equivalent to the transaction value or the price actually paid (or payable) provided that a number of conditions are met. One of the important conditions is that the buyer and seller must be independent of each other. If the conditions are not met, practical rules are used to equal or approximate the transaction value.

To determine the transaction value of imported goods, all transportation and associated costs that arise in respect of the goods being appraised prior to and at the place of direct shipment to Canada, must be added to the price of the goods. Therefore, Canadian imports are valued F.O.B. (Free On Board), place of direct shipment to Canada. It excludes freight and insurance costs in bringing the goods to Canada from the place of direct shipment. The place of direct shipment is determined by Customs and a complete description of the place of direct shipment may be found in Customs Departmental Memorandum D-13-3-4.

With the exception of exports to the United States, exports are, in principle, valued or recorded at the values declared on the export documents. These usually reflect the transaction value, i.e. actual selling price. Canadian exports to overseas countries are valued F.O.B. port of exit, including domestic freight charges to that point but net of discounts and allowances. As of January, 1990, Canadian exports to the U.S. are valued F.O.B. point of exit from Canada. Prior to 1990, they were valued F.O.B. place of lading net of freight charges, discounts and allowances.

Commodity Classification

The Harmonized Commodity Description and Coding System (known as the Harmonized System or the HS) is a multipurpose goods nomenclature used today by more than 200 countries, territories, and economic unions as the basis for their Customs tariffs and for the compilation of international trade statistics. All traded commodities are classified using the HS.

By the 1950s, there was a growing awareness among Customs authorities, trade statisticians, and others of the need for the development of a standard, internationally recognized system of classifying and coding goods involved in international trade. There needed to be a common "language" of trade readily understood by importers, exporters, and everyone else involved in trade. The Customs Co-operation Council (now known as the **World Customs Organization [WCO]**) undertook the task of developing such a nomenclature. On January 1, 1988, the **International Convention on The Harmonized Commodity Description and Coding System** [a.k.a. the **Convention**] came into being. Most of the world's major trading nations became signatories to the Convention on that date and began to use the HS in their Customs tariffs.

The HS is a highly structured nomenclature comprising a series of 4-digit headings, most of which are subdivided into 6-digit subheadings. The headings are grouped into 96 Chapters which are themselves arranged into 21 Sections. Most of the sections and chapters contain Notes which form an integral part of the HS and have the same legal force. These notes serve to define the precise scope and limits of each unit. In an effort to ensure that any commodity can always be simply and clearly assigned to a specific heading, to the exclusion of all others, the HS incorporates a series of rules upon which all classification decisions must be based.

As an official guide to the interpretation of the HS, the WCO has produced a four-volume set of Explanatory Notes. They follow the same systematic order as the HS and provide commentary on the scope of each heading together with technical descriptions of the goods concerned.

Canada and most other users of the HS further subdivide the HS headings and subheadings to meet their own requirements for increased detail and specificity. Under the terms of the Convention, users are free to do this as long as the scope of the HS headings and subheadings remains unchanged. In the Canadian context, imports are classified using a 10 digit, HS-based commodity code whereas exports are classified using an 8 digit code. Both structures' first 6 digits match the HS Heading/Sub-heading coding standard set forth by the WCO. There is a 2-digit statistical annotation component that appears as the last 2 digits of the most detailed level of the HS. The meaning of the statistical annotation digits

differs between imports and exports. In the case of imports, there is also a 2-digit tariff item annotation code that is located between the 6th digit and the statistical annotation suffix. Export classification, for which there is no tariff item identification requirement, uses the HS-8 which is structurally analogous to the import classification's HS-10 without the 7th and 8th digits.

Statistical Period

The reference period is the calendar month and the calendar year. The closing of the statistical month for imports and Canadian exports to the United States is defined as the last calendar day of the month, based as closely as practicable on the date of clearance from Customs.

The closing of the statistical month for exports to countries other than the United States is also defined as the last calendar day of the month. Export documents that are received too late for incorporation in the current month are subsequently assigned to the month in which the transaction took place when the data are revised. High volume exporters may be granted permission to report all their monthly export transactions in a single "summary report". If a monthly summary report from a high volume exporter is not received on time, the data are imputed for the current month and revised with the trade value in the following statistical month.

Country Classification

The statistical definitions of individual country entities used for merchandise trade data dissemination purposes are in accordance with the country self-definitions as reported to the United Nations and published in the United Nations publication "*Statistical Territories of the World for Use in International Merchandise Trade Statistics*."

As of January, 1990, trade data with the United States includes those imports and exports associated with Puerto Rico and the U.S. Virgin Islands.

The country classification employed by the International Trade Division of Statistics Canada is designed for purposes of economic geography and does not necessarily reflect the views or intentions of the Government of Canada on international issues of recognition, sovereignty or jurisdiction. The country classifications used and their associated codes resemble those developed by the **International Organization for Standardization [ISO]** and are adopted by most of the trading countries for Customs purposes.

A classification of countries with a statement of territorial limits used for statistical purposes is shown in the December issues of the publications "Exports by Commodity" (*catalogue no. 65-004-XPB*) and "Imports by Commodity" (*catalogue no. 65-007-XPB*).

Country of origin and Country of destination Attribution

Imports are attributed to their country of origin, that is, the country in which the goods were grown, extracted or manufactured in accordance with the rules of origin administered by the **Canada Border Services Agency [CBSA]**. Imports from the United States are attributed to the state of origin. Prior to 1988, most imports were attributed to the country of export/consignment with the exception of imports from Central and South America.

Exports are attributed to the country that is the last known destination of the goods at the time of export. Exports to the United States are attributed to the state of destination.

Principal Trading Areas [PTA]

The principal trading areas are countries and country groupings that are used to segment Canada's trade with the rest of the world. Conceptually, the structure may be visualized as follows:

- Canada's total trade with the world
 - Canada's trade with the members of the Organization for Economic Co-operation and Development*
 - Canada's trade with the United States of America ("U.S.")
 - Canada's trade with the members of the European Union*
 - Canada's trade with the United Kingdom ("U.K.")
 - Canada's trade with the other members of the European Union ("**Other EU**")
 - Canada's trade with **Japan**
 - Canada's trade with the other members of the Organization for Economic Co-operation and Development ("**Other O.E.C.D.**")
 - Canada's trade with other countries, not elsewhere specified ("**Other Countries**")

Although the composition of a principal trading area may change in the middle of a year, once it occurs, the International Trade Division re-aggregates the data backwards as if the change took place on January 1st of that year. This is done to ensure that month-to-month and quarter-to-quarter comparisons reference the same groups of countries. For example, Canada's trade with the countries that joined the European Union in May 2004 was not included in the **Other EU** totals as published by the division in *January through April of 2004*. However, on publishing the May 2004 figures, the "**Other EU**" totals and the totals for the P.T.A.s to which they previously belonged were re-calculated as if the new countries had joined the "**Other EU**" on January 1, 2004.

The PTAs are defined as follows:

1. United States of America [U.S.]

Since January 1990, our trade with the following countries is attributed to this P.T.A.:

- The United States of America
- Puerto Rico
- The U. S. Virgin Islands

2. United Kingdom [U.K.]

The United Kingdom continues to be accorded P.T.A. status even though it has become part of the European Union.

* This subtotal is *NOT* provided directly on CANSIM but may easily be calculated by the user.

3. Other European Union [Other EU]

This P.T.A. was originally known as the European Economic Community [EEC]. When Denmark, Ireland and the United Kingdom joined the EEC in 1973, the name of this entity was changed to “**Other EEC**”. This new name reflected the fact that Canada’s aggregate trade with the members of the European Economic Community *excluding the United Kingdom* would henceforth comprise this principal trading area. In this way, the United Kingdom continued to be accorded its principal trading area status.

Reference Period	PTA Name during Reference Period	Abbreviation(s)	PTA Member Countries
1971 ~ 1972	European Economic Community	EEC or EEC ₇₁	Belgium, France, Germany, Italy, Luxembourg and the Netherlands
1973 ~ 1980	Other European Economic Community	Other EEC or Other EEC ₇₃	Belgium, Denmark , France, Germany, Ireland , Italy, Luxembourg and the Netherlands
1981 ~ 1985	Other European Economic Community	Other EEC ₈₁	Belgium, Denmark, France, Germany, Greece , Ireland, Italy, Luxembourg and the Netherlands
1986 ~ 1994	Other European Economic Community	Other EEC ₈₆	Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain
1995 ~ 2003	Other European Union	Other EU ₉₅	Austria , Belgium, Denmark, Finland , France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and Sweden
2004 ~ Present	Other European Union	Other EU ₀₄	Austria, Belgium, Cyprus , Czech Republic , Denmark, Estonia , Finland, France, Germany, Greece, Hungary , Ireland, Italy, Latvia , Lithuania , Luxembourg, Malta , the Netherlands, Poland , Portugal, Slovakia , Slovenia , Spain and Sweden

4. Japan

5. Other Organization for Economic Co-operation and Development Countries [Other O.E.C.D.]

The O.E.C.D. has grown to include the following countries and country groups:

- Australia
- Canada
- Czech Republic (Jan. 1996 ~ Dec. 2003)
- Countries of the European Union which, beginning with Jan. 2004, includes the Czech Republic, Hungary and Poland.
- Hungary (Jan. 1997 ~ Dec. 2003)
- Iceland
- Japan
- Mexico
- New Zealand
- Norway
- Poland (Jan. 1997 ~ Dec. 2003)
- South Korea (joined Jan. 1997)
- Switzerland
- Turkey
- United States of America

The “**Other O.E.C.D.**” principal trading area was developed to report Canada’s aggregate trade with all of the members of the O.E.C.D. *that are not reported elsewhere*. Therefore the U.S., the U.K., the countries of the Other EU, and Japan are excluded.

6. Other Countries

This P.T.A. includes all countries and territories other than the U.S., the U.K., the Other EU, Japan and the Other O.E.C.D.

Province of Origin/Clearance

Prior to April 1984, export statistics were presented by province of lading, indicating the province in which the goods were last laden aboard a carrier for export. Since April 1984, trade data are presented by province of origin, which represents the province in which the goods were grown, extracted or manufactured.

Import statistics by province of clearance indicate the province in which goods were cleared by Customs either for immediate consumption or for entry into a customs bonded warehouse or for furtherance to a different province/territory. Consequently, the provincial data shown in these tables may not always coincide with the province in which the goods are consumed.

Mode of Transport

This information, not always provided on the exports documents, is sometimes imputed or estimated on the basis of other information such as the name of the exporting carrier. For exports, mode of transport information represents the mode of transport by which the international boundary is crossed. This may be different from the mode of transport within Canada.

For imports, the mode of transport information represents the last mode of transport by which the cargo was transported to the port of clearance in Canada. In the case of inland clearance, this may not be the mode of transport by which the cargo arrived at the Canadian port of entry. This may, therefore, lead to some underestimation of Canadian imports by the marine and air transport modes.

Legal Framework

Import and export statistics for trade with countries other than the United States are derived from information contained on administrative records collected by Canada Border Services Agency [CBSA], under the Customs Act. Copies of these documents (or information therefrom) are sent to Statistics Canada in accordance with Section 25 of the Statistics Act. It follows that the disclosure of trade statistics is governed by both the Customs Act and the Statistics Act and is subject to the provisions of Section 17.(2)(a) of the latter. The exchange of import data between Statistics Canada and the United States Census Bureau [USCB] is governed by a Memorandum of Understanding [MOU] and the Statistics Act. Thus, U.S. import data supplied to Statistics Canada under the terms of the MOU to form the basis of Canada's exports to the U.S. are subjected to U.S. confidentiality requirements prior to transmission to Canada. These data are further subjected to Canadian confidentiality provisions prior to dissemination.

III Other Subjects

Seasonal Adjustment

Trade statistics show large monthly fluctuations. In order to isolate turning points or trends in the basic data, it is necessary to eliminate the effect of seasonal movement wherever it is detected. Customs based, seasonally adjusted data is not currently available in any of ITD's publications. However, seasonally adjusted, Customs based data series are available on the CANSIM network. "Canadian International Merchandise Trade" (*catalogue no. 65-001-XPB*) contains seasonally adjusted data on a BoP basis in Tables 1, 2 and 8.

Abbreviations

Names of countries, descriptions of units of measure and HS class descriptors used in trade publications are often abbreviated or shortened for publication purposes. A key to these abbreviations appears in the December issues of the following monthly publications:

- “Exports by Country” *(catalogue no. 65-003-XPB)*
- “Exports by Commodity” *(catalogue no. 65-004-XPB)*
- “Imports by Country” *(catalogue no. 65-006-XPB)*
- “Imports by Commodity” *(catalogue no. 65-007-XPB)*

In order to learn the exact content of a particular HS number, reference must be made to either the “Customs Tariff” which is available from the Canadian Government Publishing Centre or the “Canadian Export Classification” (*International Trade Division*).

Quantities

Quantity information is not available on CANSIM but may be obtained from the following publications:

- “Exports by Commodity” *(catalogue no. 65-004-XPB)*
- “Imports by Commodity” *(catalogue no. 65-007-XPB)*

A definition of each unit is provided at the beginning of these publications. The unit “number” refers to complete (or substantially complete) units exported or imported, excluding parts. Measures of weight and volume generally exclude any packaging required for shipment. Units of measure are represented by three-character, alphabetic abbreviations which were developed by the **International Organization for Standardization [ISO]**.

Values and Currency Conversions

Data are disseminated in Canadian dollars and are converted from foreign currencies using a number of methods depending on the data type and source. These data types and sources are:

- Imports
- Exports to U.S. destinations,
- Exports to non-U.S. destinations that are reported electronically
- Exports to non-U.S. destinations that are reported non-electronically (i.e. ‘paper’ export declarations)

The conversion methods are as follows:

Imports:

Imports may be transacted in any currency but must be converted to Canadian dollars for Customs accounting purposes. Foreign currencies are converted using the Bank of Canada daily exchange rate (noon average) for the date on which the goods were shipped to Canada.

Exports to U.S. destinations:

Since 1990, Canada and the United States have exchanged import data under an agreement entitled ‘Memorandum of Agreement on the Exchange of Import Data between the United States and Canada’ [MOU]. Under this agreement, the import data of one partner country are used to derive the export data of the other. In the case of Canadian exports to the United States, Canadian export data are based on the import information collected by the United States Bureau of Customs and Border Protection which is transmitted to Statistics Canada via the Foreign Trade Division of the United States Census Bureau. Therefore, there are two currency conversion processes involved in Canadian export transactions to the U.S. Imports must be reported to the U.S. Customs agency in U.S. dollars for accounting purposes. In turn, these data (in U.S. dollars) are transmitted to the USCB which converts them to Canadian dollars prior to transmitting to Statistics Canada. The following paragraphs describe the conversion processes used by the U.S. Bureau of Customs and Border Protection [USBC&BP] and the USCB.

U.S. Customs and Border Protection Conversion

- extracted from “*Importing into the United States – A Guide for Commercial Importers*”, published by the U.S. Customs Service:

“The conversion of foreign currency for customs purposes must be made in accordance with the provisions of “31 U.S.C. 5151” which states that U.S. Customs is to use rates of exchange determined and certified by the Federal Reserve Bank of New York. These certified rates are based on the New York market buying rates for the foreign currencies involved. In the case of Canadian and other widely used currencies, rates of exchange are certified each day.

The rates certified on the first business day of each calendar quarter are used throughout the quarter except on days when fluctuations of 5% or more occur. When this happens, the actual certified rates for those days are used.

For Customs purposes, the date of exportation of the goods is the date used to determine the applicable certified rate of exchange. This remains true even though a different rate may have been used in payment of the goods. Information as to the applicable rate of exchange in converting currency for customs purposes in the case of a given shipment may be obtained from a port director of U.S. Customs.”

U.S. Census Bureau Conversion:

The USCB receives U.S. import data from the U.S. Bureau of Customs and Border Protection and edits and prepares the data for transmission to Statistics Canada. U.S. dollars are converted to Canadian dollars using an average monthly exchange rate established by the Bank of Canada. These values in Canadian dollars are then used as Canadian exports to the United States.

Exports to non-U.S. destinations – electronic reporting

Exports to non-U.S. destinations may also be reported electronically using either international Trade Division’s Canadian Automated Export Declaration product [**CAED**] or CBSA’s Electronic Data Interchange product [**EDI**]. In the case of EDI, CBSA forwards the collected data to ITD on a weekly basis. Values not reported in Canadian dollars are converted using a daily Bank of Canada (noon) rate based on the date of export of the shipment.

Exports to non-U.S. destinations – non-electronic reporting

Exports to non-U.S. destinations may be reported to the Canada Border Services Agency using paper B-13A Export Declarations, or for large volume exporters of bulk goods via monthly (paper) summary reports. Values declared in currencies other than Canadian dollars are converted using a monthly average based on the daily noon rates of the Bank of Canada.

Rounding

Trade statistics are generally presented in thousands of dollars. However, all values appearing in CANSIM tables 228-0001, 228-0002, 228-0003, 228-0041, 228-0042 and 228-0043 are presented in millions of dollars rounded to one decimal place of accuracy. All totals and their components (e.g. countries) are calculated from full dollar figures. Simple rounding is applied to each component and total independently in order to retain the highest degree of accuracy for each figure. Consequently, the published, rounded totals may not be equal to the value derived by summing their published, rounded components.

Revisions

In general, merchandise trade data are revised on an ongoing basis for each month of the current year. Customs basis data are revised for the previous data year each quarter.

Factors influencing revisions include late receipt of import and export documentation, incorrect information on customs forms, replacement of estimates with actual figures, changes in classification of merchandise based on more current information, and changes to seasonal adjustment factors.

Revised data are available in the appropriate CANSIM tables.

Data for the previous months of the current year

Figures for previous months of the current year remain subject to revision until the release of the December data.

Data for previous years

Concurrent with the release of the March, June and September trade figures, the Customs basis data are revised for the previous data year. At the time of the release of December's trade figures, the Customs basis data for the three preceding years may be revised.

Cumulative Totals

Cumulative totals in all reports reflect the revisions applied up to the date of release.

Indices of Price and Volume

The International Merchandise Trade Price Index [IMTPI] reflects the changes in import and export prices. The IMTPI measures price change by comparing, through time, the weighted average cost of a selection of traded commodities. The price indices are based, in part, on actual unit values processed by the International Trade Division. When the unit values are inaccurate or unavailable, the price indices are based on price relatives provided by other sources.

To better aid in the analysis of data, these price indices are calculated on both a Paasche (current weighted) and a Laspeyres (fixed/base weighted) basis. Weights are based on the volume of traded goods in the base year and are contrasted with data from the current month or quarter or year. This allows the price index to reflect pure price movements in the Laspeyres model and price/quantity movements as provided by the Paasche index. The indices are also calculated at various levels of aggregation at both the "All Countries" level and the "United States Only" level. This procedure allows our trade with the United States to be analysed in isolation from the rest of the trade data - a reflection of the relative importance of the United States as Canada's major trading partner. The main use of the import and export price index is to deflate to constant dollars Canadian merchandise trade. The constant dollars are input to the Canadian System of National Accounts' calculation of Gross Domestic Product [GDP].

Price and volume indices are published within the CANSIM database as well as in "Canadian International Merchandise Trade" (*catalogue no. 65-001-XPB*). In the past, indices have been calculated using 1971, 1981, 1986 and 1992 as base year periods.

The April 2001 release marked the implementation of three major changes to the IMTPI:

- The base year became 1997,
- An up-to-date price structure was introduced
- Conceptual and procedural improvements were made.

These changes have resulted in a more accurate representation of trade data. Currently, the Paasche price indices, which are current-weighted, are calculated from price relatives based on the average prices in 1997. The weights reflect trade values for the month, quarter or year to which the index refers and hence change from period to period. The Laspeyres volume index is derived by dividing a value index by the corresponding Paasche price index and is, therefore, weighted with fixed 1997 price weights.

Rebasing of Index Series and Updating the Basket

As a matter of policy, the base year of the International Merchandise Trade Price Index series is periodically changed, to coincide with that of other major series produced by Statistics Canada. As mentioned above, with the release of the April 2001 trade indices, the base period of the IMTPI series

was changed to 1997, replacing the 1992 base period. The IMTPI is available for the 1997 base period starting January 1997. March 2001 is the last month that the IMTPI was calculated with 1992 as the base year.

Rebasing an index series (i.e. converting it from one time base to another) is simply an arithmetic operation that neither affects the nature of the series nor alters the rate of price change measured by the series between any two periods. However, the move to a new base year involves more than an arithmetic rebasing. In order to reflect the changes in the structure of international trade, the basket of goods used for the old base year has to be updated. These changes cause a modification in the very nature of many series and, as a consequence, the rate of price change. With the most recent IMTPI update, the 1997 basket of exported and imported commodities replaced the 1992 basket in the calculation of the Laspeyres and Paasche Indices.

Selection of the Commodities and their Estimation Method

The IMTPI is a composite price index designed to express, in a single index, price changes that involve a wide range of commodities. In order to accurately reflect the realities of the price movement, a fixed basket of goods is chosen that contains representative commodities. These, in turn, are correlated to the rest of the commodities in the trade universe. All commodities in the 1997 basket have been divided into Groups where criteria, such as value, were used to select those that were most significant.

Once the basket is fixed, the appropriate method for measuring the price of each commodity must be determined. As mentioned earlier, the calculation of aggregated trade indices blend unit value indices with specified indices. The indices are based on a non-random sample of import and domestic export commodity classes for which either a meaningful unit value can be calculated or for which a representative proxy index can be found. As a general rule, unit values are retained for relatively homogeneous commodities such as primary and semi-manufactured goods (approximately 15% of the commodities) while proxies are used for heterogeneous commodities, particularly manufactured goods ready for final use.

Where a unit value is not sufficiently indicative, such as those commodities in the End Products section, a substitute or “proxy” index from an outside source is substituted. Once it is determined that a proxy is needed, a suitable foreign proxy is identified and assigned. Several organisations provide the International Trade Division with proxies that are used as price relatives in the calculation of the Laspeyres and Paasche price indices.

The proxy indices used are as follows:

- *Producer Price Indices [PPI]*

The PPI is provided by the United States Bureau of Labor Statistics [USBLS] and includes approximately 2000 indices at various levels of aggregation. The index is converted to Canadian dollars using the USA monthly, unadjusted noon spot rate and re-scaled so that all indices have a common base year of 1997=100. Most of the specified price indices taken from the PPI are used to calculate the import price indices. This is a reasonable choice since the United States accounts for most of the imports of the commodities concerned.
- *Industrial Product Price Indices [IPPI]*

Statistics Canada publishes these indices that include approximately 1000 indices by various commodity groupings. Most of the specified price indices taken from the IPPI are used to calculate the export price indices. The IPPI for certain groups are assumed to exhibit the same characteristics of an export price index where one does not exist. No transformation of the data is needed as they are already in Canadian funds.
- *Bank of Japan Export Price Index*

The Bank of Japan provides the Japanese Wholesale Price Indices. About 75 indices are used. The index is converted to Canadian dollars using the Japan monthly, unadjusted noon spot

rate. These indices are generally used for Japanese imports and any country of origin that is of greater similarity to Japan than the United States.

- *The National Energy Board [NEB]*
The NEB provides price data on electricity.
- *The Manufacturing, Construction and Energy Division of Statistics Canada [MCED]*
MCED provides data on exports of crude petroleum and natural gas (by pipeline).
- *Computer Price Index by Component*
Seven indices that originate from the United States Bureau of Economic Analysis [BEA] are supplied by the Prices Division of STC.
- *Automotive Price Index*
This is an index based on monthly data collected by Prices Division of Statistics Canada. It contains car and truck price indices for individual car models. International Trade Division has developed and maintains a concordance file.

Revisions to Concepts and Procedures

The major improvement upon moving to the 1997 base is that price indices are chained in order to deal with changes in the definition of merchandise classification codes through time. Canada adopted the Harmonized Commodity Description and Coding System (HS) for classifying its imports and exports on January 1, 1988.

The elementary index level is the most descriptive level for which unit values can be calculated. This level is composed of an HS code, a trading area, a unit of measure, a method of computation and a designation as an aggregation component to one or more specific summary groups.

Changes in HS codes can occur in different ways. When an HS code changes, its elementary index level is also susceptible to change. The most common HS code changes involve:

- **Re-coding** (one HS code is changed but the content does not change)
Approximately 65% of HS changes involve a change to the code but not the content. These new codes are simply "added" to form a continuously priced line.
- **Merging** (more than one HS codes are combined into one new HS code)
This situation is relatively common and reduces the overall number of codes. If the attributes of all old codes are the same, the source for the new HS code is made the same as the old ones. However, if an HS code merger is not straightforward, i.e. multiple choices exist among the old codes, then the price analyst must make a choice based on the attributes of the merged codes.
- **Splitting** (one HS is split into at least two new HS codes)
This usually occurs as a result of requests for more detailed information on commodities. The new HS codes generally take the same attributes as the source code.

Some improvements were made to deal with changes in the HS code attributes, such as a change in the estimation method or a change in the unit of measure. Several less obvious changes have been implemented. For example: the weights are now fixed at the elementary index level instead of the Summary Group level, the true current weighted (i.e.: constant dollar weighted Paasche¹) and fixed weighted (Laspeyres) prices are now used, an improved unit value calculation procedure¹ where both geometric and arithmetic means are used at the first-stage of aggregation of collected price data. The aim of these changes and other less visible changes is to enhance the efficiency of processing price

¹ The Hidiroglou-Berthelot Historical Trend Method is adapted and used to identify transactions within an aggregation that are "abnormal" for a given period.

data in the context of limited resources, and to reduce the risk of biases in price indices at all levels of aggregation starting at the elementary index level.

Sources of Further Information

Monthly and quarterly trade statistics are published in the 65-xxx series of Statistics Canada publications. Detailed descriptions and reference manuals of the commodity classification are also available. See the Statistics Canada publications catalogue for descriptions of the contents of the various publications.

In addition, merchandise trade statistics are also available from the International Trade Division, the CANSIM network and Statistics Canada Regional Offices. International Trade Division uses several delivery mechanisms to provide data to users. These include catalogued publications, CANSIM, FAX services, CD-ROMs, off-the-shelf printouts, custom tabulations on user defined media and the internet. With respect to the internet, the division utilizes Statistics Canada's commercial site to disseminate detailed 10-digit HS import and 8-digit export data and, through an inter-departmental agreement with Industry Canada, their "STRATEGIS" site to disseminate 6-digit HS import and export data. With the exception of its regular publications and the tables maintained on CANSIM, all of the division's products and services fall within a cost-recovery domain.

For more information concerning details of methods that are not covered by these notes, contact International Trade Division:

- By mail: International Trade Division,
Marketing and Client Services Section,
Statistics Canada,
Jean Talon Building, 9th Floor,
Ottawa, Ontario,
K1A 0T6
- By telephone:
Toll free: 1-800-294-5583 Within area code 613: 951-9647
- By fax:
Toll free: 1-800-664-0055 Within area code 613: 951-0117
- Via the internet: trade@statcan.ca

Active CANSIM Tables

The CANSIM network has both active and terminated tables. The tables that are currently being updated on a regular basis are as follows:

Table Number	Table Description
228-0001	Merchandise import & export values, on both Customs & BoP basis, Unadjusted & Seasonally Adjusted, showing World, Section & Major Group level totals at the “All Countries” level as well as Principal Trading Area level totals, <u>monthly</u> (\$Millions rounded to 1 decimal), Jan 1971 - the present.
228-0002	Merchandise import & export values, on both Customs & BoP basis, Unadjusted & Seasonally Adjusted, showing World, Section & Major Group level totals at the “All Countries” level as well as Principal Trading Area level totals, <u>quarterly</u> (\$Millions rounded to 1 decimal), Mar 1971 - the present.
228-0003	Merchandise import & export values, on both Customs & BoP basis, Unadjusted, showing World, Section & Major Group level totals at the “All Countries” level as well as Principal Trading Area level totals, <u>annually</u> (\$Millions rounded to 1 decimal), 1971 - the last full year.
228-0033	Import values, Customs basis, Unadjusted, by Province of Clearance , showing World & Sector level totals, <u>monthly</u> (\$Millions rounded to 1 decimal), Jan 1990 - the present.
228-0034	Domestic export values, Customs basis, Unadjusted, by Province of Origin , showing World & Sector level totals, <u>monthly</u> (\$Millions rounded to 1 decimal), Jan 1990 - the present.
228-0035	Merchandise import & export indices, on both Customs & BoP basis, for Paasche & Laspeyres type price indices and fixed weight volume indices, Unadjusted & Seasonally Adjusted, showing World, Section & Major Group level indices, at the “All Countries” level, <u>monthly</u> (Index, 1997=100), Jan 1997 - the present.
228-0036	Merchandise import & export indices, on both Customs & BoP basis, for Paasche & Laspeyres type price indices and fixed weight volume indices, Unadjusted & Seasonally Adjusted, showing World, Section & Major Group level indices, at the “All Countries” level, <u>quarterly</u> (Index, 1997=100), Mar 1997 - the last full quarter.
228-0037	Merchandise import & export indices, on both Customs & BoP basis, for Paasche & Laspeyres type price indices and fixed weight volume indices, Unadjusted, showing World, Section & Major Group level indices, at the “All Countries” level, <u>annually</u> (Index, 1997=100), 1997 - the last full year.

Table Number	Table Description
228-0038	Merchandise import & export, Paasche & Laspeyres, Total, Section & Major Group level price indices for Canada's unadjusted, Custom's-based trade with the "United States Only" P.T.A. and Standard International Trade Classification (SITC revision 3), Paasche & Laspeyres, Total & SITC Section level, Unadjusted, Custom's-based price indices for Canada's trade with "All countries" and the "United States Only" P.T.A., <u>monthly</u> (Index, 1997=100), Jan 1997 - the present.
228-0039	Merchandise import & export, Paasche & Laspeyres, Total, Section & Major Group level price indices for Canada's unadjusted, Custom's-based trade with the "United States Only" P.T.A. and Standard International Trade Classification (SITC revision 3), Paasche & Laspeyres, Total & SITC Section level, Unadjusted, Custom's-based price indices for Canada's trade with "All countries" and the "United States Only" P.T.A., <u>quarterly</u> (Index, 1997=100), Mar 1997 - the last full quarter.
228-0040	Merchandise import & export, Paasche & Laspeyres, Total, Section & Major Group level price indices for Canada's unadjusted, Custom's-based, unadjusted, trade with the "United States Only" P.T.A. and Standard International Trade Classification (SITC revision 3), Paasche & Laspeyres, Total & SITC Section level, Unadjusted, Custom's-based price indices for Canada's trade with "All countries" and the "United States Only" P.T.A., <u>annually</u> (Index, 1997=100), 1997 - the last full year.
228-0041	Merchandise import & export values, on both Customs & BoP basis, Unadjusted & Seasonally Adjusted, showing World, Sector & Sub-sector level totals at the "All Countries" level, <u>monthly</u> (\$Millions rounded to 1 decimal), Jan 1971 - the present.
228-0042	Merchandise import & export values, on both Customs & BoP basis, Unadjusted & Seasonally Adjusted, showing World, Sector & Sub-sector level totals at the "All Countries" level, <u>quarterly</u> (\$Millions rounded to 1 decimal), Mar 1971 - the last full quarter.
228-0043	Merchandise import & export values, on both Customs & BoP basis, Unadjusted, showing World, Sector & Sub-sector level totals at the "All Countries" level, <u>annually</u> (\$Millions rounded to 1 decimal), 1971 - the last full year.
228-0044	Merchandise import & export indices, on both Customs & BoP basis, for Paasche & Laspeyres type price indices and fixed weight volume indices, Unadjusted & Seasonally Adjusted, showing World, Sector & Sub-sector level indices, at the "All Countries" level, <u>monthly</u> (Index, 1997=100), Jan 1997 - the present.
228-0045	Merchandise import & export indices, on both Customs & BoP basis, for Paasche & Laspeyres type price indices and fixed weight volume indices, Unadjusted & Seasonally Adjusted, showing World, Sector & Sub-sector level indices, at the "All Countries" level, <u>quarterly</u> (Index, 1997=100), Mar 1997 - the last full quarter.
228-0046	Merchandise import & export indices, on both Customs & BoP basis, for Paasche & Laspeyres type price indices and fixed weight volume indices, Unadjusted, showing World, Sector & Sub-sector level indices, at the "All Countries" level, <u>annually</u> (Index, 1997=100), 1997 - the last full year.