

Canada's International Trade in Services

Data quality, concepts and methodology

1. Concepts

International transactions in services are a major component of the Current account of the Balance of payments. Services are grouped under four major categories: travel, transportation, commercial services and government services.¹ Such services, together with goods, investment income and current transfers make up the Current account of the Balance of payments (BOP).² The Balance of payments of Canada measures the economic transactions of Canadian residents with the residents of other countries.

Services covers a wide and complex variety of transactions on products that are generally intangible in nature.

Unlike goods, services are not separate entities over which ownership rights can be established. They cannot be traded separately from their production. Services are heterogeneous outputs produced to order and typically consist of changes in the conditions of the consuming units realized by the activities of producers at the demand of the consumers. By the time their production is completed they must have been provided to the consumers.³

Since, by nature, most services are not traded separately from their production, these transactions usually require the simultaneous presence of the producer and the consumer of the services. This simultaneity is not easily realized between countries where distance and political boundaries separate the supplier and client. This largely explains the lower volume of trade in services when compared with goods, where both the seller and buyer of goods remain in their respective domestic economies, while the goods they trade move across the border.

International trade negotiations which extended in recent years to cover services and which have resumed at the World Trade Organization (WTO) have increased the demand to provide detailed breakdowns of service categories as well as data for individual countries. Canadian statistics on crossborder services are produced for over 40 categories based on the international standards initially set out by the International Monetary Fund in 1993 and subsequently extended by the OECD and Eurostat (the statistical arm of the European Union).⁴ This breakdown is based to a significant extent in the Central Product Classification (CPC),⁵ whose main objective "is to provide a framework for international comparison of various kinds of statistics dealing with goods, services and assets."⁶ Since the CPC is also used by trade negotiators to classify services, a formal development of the link between the balance of payments classification and the CPC has various implications for data specification and development, which is driven, in part, by the requirements of the WTO.

The definitions and breakouts now form a key chapter in a new manual on services trade data, approved by the United Nations Statistical Commission in March 2001 for international use.⁷ Some 60 types of services are provided

1. The term "commercial services" is a grouping of convenience in the Canadian series and comprises all other services than travel, transportation and government.
2. For a further description of the Current account statement, please refer to *Descriptions and Definitions in Canada's Balance of International Payments, First Quarter 2004*, Statistics Canada, Catalogue 67-001-X.
3. Eurostat, *International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank, System of National Accounts 1993*, (prepared under the auspices of the Inter-Secretariat Working Group on National Accounts, Commission of the European Communities, Brussels/Luxembourg, New York, Paris, Washington, D.C., 1993), paragraph 6.8, 123.
4. In 1996 the services data were converted to international reporting standards in order to improve the comparability of data among countries. The main changes for Canada are described in *Canada's International Transactions in Services, 1994 and 1995*, Statistics Canada, Catalogue 67-203-X.
5. United Nations, *Central Product Classification (CPC) Version 1.0*, Statistical Papers, (Series M, No. 77, 1998).
6. International Monetary Fund, *Balance of Payments Manual*, (Fifth edition, IMF Publication Services, 700 19th Street NW, Washington DC 20431 USA, 1993), paragraphs 521, 146.
7. *Manual on Statistics of International Trade in Services*, United Nations Statistical Office, 2002 for the European Commission, International Monetary Fund, Organization for Economic Cooperation and Development, United Nations Conference on Trade and Development and the World Trade Organization.

for in what is known as the Extended Balance of Payments classification. These breakouts are linked more fully than earlier norms to the UN's Central Product Classification.⁸

Services are largely traded by Canadian business corporations. A small portion is also traded by Canadian governments and their enterprises. Moreover, because Canada's balance of payments does not include a distinct account for labour income as called for by international standards, income from compensation of employees is treated as commercial services as if the employees were self-employed service providers. Data limitations restrict their identification.

Special care needs to be taken in establishing the residency of the Canadian transactors involved for services, since it is not always clear if the services are provided by a resident or by a non-resident entity. For example, if a Canadian company has a subsidiary located in the United States, sales of services by the U.S. subsidiary to clients outside Canada are not to be recorded in Canada's balance of payments statistics, since such sales are considered as non-resident to non-resident transactions and, hence, beyond the balance of payments framework. Although this treatment also applies to goods and other accounts, corporations are often motivated to set up foreign concerns for the sole purpose of trading services. Sales outside the domestic economy are referred to as 'establishment trade' (that is, trade arising from a business established abroad) or 'foreign affiliate trade in services' (FATS).⁹ 'Commercial presence' trade (named after the third of four main channels for supplying services in the multilateral WTO General Agreement on Trade in Services [GATS]) is more narrowly defined, referring only to sales within the host market. The net profits of such foreign subsidiaries accruing to Canada are, however, recorded as direct investment income in the current account. This treatment is in keeping with the balance of payments and other national accounting principles that focus on cross-border activities of Canadian residents.

A full discussion of the concepts and measurement of foreign affiliate trade statistics is also found in the new UN manual on services trade statistics noted above.

2. Sources

Services can take numerous forms and thus entail a wide range of data sources. Significant portions of the data on services, particularly travel and commercial services, are derived from surveys. In addition, 40% of all receipts and about 30% of payments are based directly or indirectly on administrative records. For travel estimates, expenditure factors from survey sources are synthesized with administrative data on the number of travellers; from time to time, administrative data are also used in the verification of travel data. For commercial services and transportation services, survey data are the main source, with annual administrative data used to assess and improve survey results. Administrative data are largely used for government services. Benchmark indicators are used to derive certain service estimates for which current direct measures are not available. Finally, long established reconciliations of current account statistics with the U.S. Bureau of Economic Analysis has now led to some 13% of bilateral services data for Canada being supplied by the United States.

3. Methods

Travel series are compiled by the Culture, Tourism and Centre for Education Statistics Division of Statistics Canada. All other services are compiled by the Balance of Payments Division drawing on diverse surveys and other sources from within and outside the Division. Details follow in the sections below for each major services account.

8. For a fuller discussion of these linkages please refer to Hugh Henderson, *A Canadian Perspective of Linking Services Categories of the World Trade Organization and Balance of Payments Compilers*, (lecture first presented at the Tenth Meeting of the International Monetary Fund Committee on Balance of Payment Statistics, Washington, D.C., Statistics Canada, Ottawa, October 1997). An updated version was presented at Statistics Canada, Economic Conference 2000, May 2000 under the title, *On Building Bridges, A Canadian Perspective of Linking Services Categories of the World Trade Organization and the Balance of Payments Compilers*.

9. For an illustration see Colleen Cardillo, *Foreign Sales of Canadian Enterprises*, (unpublished research paper, Statistics Canada, Ottawa, 1997).

4. Products

4.1 Data accuracy and quality

The quality of the data varies, from reliable in the case of commercial and government services to acceptable in the case of travel and transportation series. (For each of the accounts, a qualitative indicator has been adopted: most reliable, reliable and acceptable. By its very nature, this assessment is subjective in that it represents the professional judgement of statisticians as to the degree of error and bias, taking into account the available sources of information and the methodology used).

4.2 Data accessibility

The quarterly and annual series on commercial services are published as total receipts, payments and balances in the quarterly publication Canada's Balance of International Payments (available in electronic format on the Internet) and in CANSIM.

In the present annual publication Canada's International Trade in Services (available in electronic format on the Internet) and in CANSIM, the annual series for services are published for the six geographical groupings: United States, United Kingdom, Other European Union, Japan, Other OECD and Other Countries. The annual services series are broken down among four major categories of services: travel, transportation, commercial and government, with a maximum detail of 42 categories for all countries in total.

Total services are available for 59 countries (from 1990 through 2002 on CANSIM), as well as for 19 global trading areas. Each country and area has a breakout of travel; commercial services; and transportation and government services combined.

The total for all services is also summarized by country and broad geographic regions of the world in Table 17-1 of this publication. In the past, the listing of world areas largely paralleled those in the presentation of trade data on goods on a customs basis, with which many users are already familiar. User preferences and the development of partner country compilations at the Organization for Economic Cooperation and Development however, have led to some modifications of geographic zones to align more closely with actual continental boundaries. For example Turkey and Egypt have been respectively shifted to Europe and Africa so that the Middle East region pertains only to Asia. The Antilles designates the Caribbean islands and Bermuda separately from Central America. Three OECD countries in eastern Europe together with Iceland are a sub grouping of Europe, and the Maghreb countries are a subgrouping of continental Africa. An estimate of the CARICOM countries joins the FTAA as a memorandum item.

The great majority of detail is published separately for the United States as well. Starting with the 1997 edition of this publication, a quarterly breakout with sub-series under travel, transportation and commercial services was introduced from 1995 onward, both on a raw and seasonally adjusted basis. Quarterly travel data is broken down into two sub-categories, transportation into three, and commercial services into 14 components.

Travel

1. Concepts

In conformity with international standards, travel covers purchases of goods and services by the following:

- persons travelling in another country for less than one year;
- persons travelling in another country for one year or more for medical or educational purposes;
- seasonal and border workers working in another country (cross-border workers); and
- crews of airplanes, ships, trucks or trains stopping off or laying over in another country.

Purchases of goods and services consist of expenditures for food, lodging, recreation, gifts and other incidentals, as well as local transportation purchased in the country of travel.

Travel excludes passenger fares for international travel, which are included in transportation. It also excludes spending of diplomats and military personnel on posting in host countries. Such personnel remain residents of their home countries, and their spending in the host countries is included in government services. However, visits in the interim, whether on leave or on official business, are considered part of travel.

In Canadian statistics, an exception to international standards is cruise fares, which are excluded from travel and, instead, are classified in transportation. Furthermore, though Canadian travel statistics include the personal expenditures of cross-border workers in business travel, such expenses are not separately identified, as called for by international standards.

Travel is subdivided into travel for business reasons and travel for personal reasons, an important distinction for the System of National Accounts.

Expenditures by business travellers are part of the intermediate consumption of producers, whereas expenditures by other travellers on personal trips are part of household final consumption expenditures. In order to calculate final consumption expenditures of resident households from the expenditure made by all households, both resident and non-resident, within the domestic market, it is necessary to add direct purchases abroad by residents and to subtract direct purchases in the domestic market by non-residents.¹

1.1 Business travel

Business travel covers the expenditures of travellers visiting another economy for business reasons—such as sales, marketing or commercial negotiations—and extends to expenditures by carrier crews stopping off or laying over, and employees of government and international organizations on official business. Business travel also covers expenditures by crossborder workers, but as mentioned above, insufficient data bar their identification as such in the Canadian statistics.² Business travel, like personal travel below, includes spending on goods for personal use as well as for accommodation, food, recreation and local transport.

1. Eurostat, *International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank, System of National Accounts 1993*, (prepared under the auspices of the Inter-Secretariat Working Group on National Accounts, Commission of the European Communities, Brussels/Luxembourg, New York, Paris, Washington, D.C., 1993), paragraph 14.111, p. 334.

2. Limited provision for the income as opposed to spending of cross-border workers is included in miscellaneous commercial services, where they are treated as units of own-account labour, instead of labour income, as called for by international standards.

1.2 Personal travel

Personal travel covers travel for health, education and other personal reasons. This includes travel expenses of employees of international organizations when they travel outside their country of residence for personal reasons.

1.2.1 Health-related travel

In theory, health-related travel refers to all expenditures in another country by medical patients. Persons accompanying or visiting such patients may also indicate the purpose of their travel as health-related. Two types of health-related services are covered in Canadian data: those by hospitals and those provided by physicians' offices. The out-of-pocket expenditures on goods and services by persons travelling for health-related purposes should also be included here, but Canadian statistics record these expenditures in other personal travel, due to data limitations.

1.2.2 Education-related travel

Again in theory, education-related travel should include all expenditures in another country by students. But for practical reasons, Canadian statistics include only outlays of post-secondary students; that is, only outlays on full-time university and college programs, which generally extend over more than one year, are included. Recorded outlays include all expenditures by post-secondary students studying abroad—that is, expenditures for tuition fees and course materials, together with accommodation and general living expenses. Except as incidentally covered in other personal travel, spending for primary and secondary schooling remains to be estimated in Canadian statistics. Certain further expenditures on institutional education (such as for personal interest courses) also remain in other personal travel because of data limitations.

The fact that travel outlays are collected from the consumer rather than the supplier (see section 4.1) sets up a potential duplication between, for example, the foreign visitors' spending on a commercial training course, and the same course reportable as earnings from abroad by the Canadian supplier. Historical response rates for the travel series, however, have made it difficult to establish that non-institutional education services as such would be extensively represented. All receipts and payments reported as commercial education in miscellaneous business services are accordingly included in the commercial services account. Self-employed earnings by instructors are outside the scope of travel, and are not surveyed in any case.

1.2.3 Other personal travel

Other personal travel includes outlays for leisure travel, including participation in sports, artistic, cultural or recreational events. Spending on visits with relatives and friends and for religious purposes is also included here. As previously discussed, other personal travel also includes some expenditures on health and education that cannot be identified separately, for example, expenditures on full-time programs of less than a year as well as some spending by international students at elementary and secondary school levels.

2. Data sources

The Culture, Tourism and Centre for Education Statistics Division of Statistics Canada compiles the basic Canadian travel statistics. These statistics are derived from a combination of census data and sample counts of travellers crossing the border, coupled with sample surveys used to collect specific information from travellers, including their expenditures and main purpose of visit (business or personal).³

The Canada Customs and Revenue Agency collects information on the number of crossings at frontier ports and distributes the travel survey questionnaires. The frontier count is made by categories, based on mode of transportation (including, in the case of highway and ferry points, cars, trucks, motorcycles and bicycles). Complete counts are taken at all but seven points of entry where automobile, motorcycle and bicycle flows are estimated from samples. The questionnaires that collect the travel expenditure data are distributed according to

3. Publications by Culture, Tourism and Centre for Education Statistics Division provide additional descriptions of the sources, methods and quality of the travel series. For example, see Statistics Canada, *International Travel, 2003* (Catalogue no. 66-201-X, January 2005).

pre-arranged schedules to non-resident⁴ travellers upon entry to Canada, or to residents of Canada upon their return from travel abroad. Completion of the questionnaires is voluntary and travellers are asked to mail their completed questionnaires directly to Statistics Canada. Beginning with the reference year 2000 a new air exit survey introduced on site interviews for overseas travel at eight key airports.

In business travel, estimates of spending by crews (of airplanes, ships, boats, trains and trucks) are calculated by the Culture, Tourism and Centre for Education Statistics Division.

Historical series and recent extensions to coverage of health-related travel were developed by the Culture, Tourism and Centre for Education Statistics Division and the Balance of Payments Division. The receipts data for health consist of foreign spending for hospital services in Canada, as recorded from the annual hospital survey of the Canadian Institute for Health Information, with projections for recent years where survey results are not yet available. Recent estimates for physician services linked to U.S. data on the payments side were introduced with the 1995 reference year.

The series on health-related payments was largely limited to hospital and physician charges as paid under provincial health plans for Canadian residents travelling abroad. Starting in 1995, access to U.S. sources has enabled a fuller estimate covering payments beyond provincial health plans at major medical centres and university hospitals.

On the receipts side of the education series, the Culture, Tourism and Centre for Education Statistics Division produces the estimates by combining the time series on the number of students with average tuition and adding estimates of other expenditure. For expenditures of Canadian students in the United States, the data have been supplied by the U.S. Bureau of Economic Analysis from 1981 onward and were linked with balance of payments data for prior years. Data on student expenditures overseas are updated by the Culture, Tourism and Centre for Education Statistics Division to incorporate volume and expenditure estimates.

In recent years, lags in enrolment data have increased the scope for revision. A re-estimation since 1995 of foreign students studying in Canada has been made by the Culture, Tourism and the Centre for Education Statistics Division and linked at 1998. The revisions incorporate a more current estimate of the number of full time university students and the spending per student. The effect of these changes and changes in the air travel series are noted in the Annual Revisions section of 67-001, First Quarter 2004.

3. Methods

The Culture, Tourism and Centre for Education Statistics Division processes the monthly data on counts of travellers and the quarterly expenditure factors, and provides the spending results to the Balance of Payments Division. The latter division seasonally adjusts the quarterly travel expenditures.

3.1 General methodology

Specific methodology is described in the Culture, Tourism and Centre for Education Statistics Division publication, *International Travel*, which is released annually.

3.2 Extended geographical breakouts

Six geographical areas have long been the basis for balance of payments presentations—the United States, the United Kingdom, Other European Union, Japan, Other OECD and Other Countries. This presentation is still used for sub-annual and detailed presentations on services and continues to serve well, as the three countries identified separately often comprise a significant share of total services trade. In 2000, the present publication expanded the geographical breakout of total travel receipts and payments.

For basic travel spending (covering some 80% of all travel outlays), estimates by country are available directly from the international travel survey. The other 20% of travel expenditures are not available for all individual countries and have to be allocated to countries within the three standard country groupings. Health-related transactions are

4. Prior to 1990, questionnaires for United States travellers visiting Canada were distributed to American residents on returning to their country by U.S. Customs officials. The questionnaires were processed by the U.S. Department of Commerce and the results were sent to Statistics Canada.

allocated by basic travel spending in proportion to the travel undertaken. Travel specifically for obtaining medical treatment is taken as occurring largely with the United States, for which there is an existing estimate.

Education-related receipts are proportioned by the number of foreign students; this information is collected from administrative sources. Note, however, that fees and living costs in Canada are not specific to a student's country of residency. Payments are estimated according to UNESCO data on the number of Canadian students who study abroad. The relative cost of living overseas is also taken into account, based on indexes developed by the Prices Division of Statistics Canada. Spending by foreign crews is dominated by airplane crew spending. The expenditures of foreign air crews is distributed by the supporting service outlays made by foreign airlines serving Canada (captured by a Balance of payments survey) and, in the case of payments, by the number of outward flights to first-stop destinations by Canadian carriers. The latter information is supplied to the Culture, Tourism and Centre for Education Statistics Division by the Transportation Division.

4. Products

4.1 Data accuracy

The data accuracy on travel is acceptable. The counts of travellers are most reliable, while the response rates for the questionnaire on expenditure factors and other characteristics have remained low. It should be noted that earlier validation work included a prominent component of expenditures by Canadian travellers abroad—namely spending on goods. This was estimated for 1990 and 1991 through analysis of related administrative data.⁵

With the data releases of the first quarter 2002, the coverage of spending by travellers moving through key airports has been raised as a result of new survey methodology and sample adjustment by the Culture, Tourism and Centre for Education Statistics Division. Response for overseas travel stood at 93% for 2000 and at 96% for the year 2001 and geographic patterns have been made more reliable. In co-operation with the Balance of Payments Division, CTCES produced link estimates to the latest unrevised year, 1997 and preliminary estimates for 2000 and 2001. Final estimates for 2000 and 2001 have been reported by CTCES in August 2002. With the first quarter 2003 release of Balance of Payments data, final data for 2001 and 2002 have been included and a new link with the most recent unrevised year (1998) was made again.

Some breaks in the data in the mid-1990s result from additional coverage of receipts and payments for health-related travel.

Unlike most goods and services, travel is collected on the basis of spending by the consumer, as opposed to being represented by sales of the provider. This approach to travel, set out in international standards, best ensures maximum coverage for balance of payments reporting. Whereas most trade data are presented on a commodity basis, travel includes both goods and services. Therefore commodity expenditures are not identified separately in the balance of payments statements.

4.2 Data accessibility

The quarterly and annual series on travel are published as total receipts, payments and balances in Canada's Balance of International Payments, quarterly (available in print and in electronic format on the Internet) and in CANSIM.

The series on travel are published in the present annual publication *Canada's International Trade in Services*, (also available in both print and electronic versions) and in CANSIM for the six geographical groupings: United States, United Kingdom, Other European Union, Japan, Other OECD and Other Countries. Additional quarterly and annual details are published for business and personal travel.⁶ Business travel is further identified between crew spending and other business travel. Personal travel is further broken down between health, education and other travel.

5. *Statistics Canada*, , *International Travel, 2000* (Catalogue no. 66-201-X, November, 2001). See *Statistics Canada, Cross-Border Shopping-Trends and Measurement Issues*, (National Accounts and Environment Division, *Statistics Canada, Technical Series*, no. 21, January 1991).

6. *Beginning with the 1997 edition of this publication, a quarterly breakout of travel into business and personal travel spending was introduced from 1995 on a raw and seasonally adjusted basis.*

A detailed geographic breakout for trading partners other than the United States, United Kingdom and Japan shows an annual time series of travel on a total basis from 1990-that is, inclusive of health, education and crew spending. These detailed breakouts began with the 1998 edition of Canada's International Trade in Services, and are also published in CANSIM.

The Statistics Canada Culture, Tourism and Centre for Education Statistics Division publishes separate monthly, quarterly and annual releases on the outlays and other characteristics of travellers, for example through its annual release, International Travel.

Transportation services

1. Concepts

Transportation covers international revenues (receipts) and expenses (payments) arising from the transportation of goods and of cross-border travellers, as well as from supporting services related to transportation.

The convention of valuing goods trade at the customs frontier of the exporting country affects the measurement of transportation, especially for overland forms of transportation. (For air and ocean carriers, the point of departure and the customs frontier are generally coincident.) For overland forms of transportation, the transportation services from the plant to the border will give rise to an entry in the transportation account of the balance of payments if the carrier is a non-resident of that country. Likewise, if a non-resident carrier provides the overland transportation service from the customs frontier to the destination, there will be an entry in the transportation account.

Canadian practice generally conforms to international standards, except for the following transactions, which are under transportation in Canadian statistics but which international standards identify in other classes:

- cruise fares (international standards include these in travel);
- ship stores, which are not separately identified from port expenditures (international standards include these in goods);
- rentals without crews, which are not separately identified from charters with crews (international standards include these with equipment rentals in commercial services); and
- freight insurance, which is not separately identified from freight charges (international standards include this with insurance services in commercial services).

In 2002, a reclassification of certain support services to air transport was made from commercial services. The shift to the transportation account beginning with 1998 brings treatment into line with current international standards.

The international standards that call for a breakout by mode of transportation are not fully followed in Canada in the case of ocean transportation. For reasons of both confidentiality and quality, Canadian statistics combine ocean transport with that by inland waterway. International standards call for transport by inland waterway to be recorded as part of other transportation.

1.1 Receipts

Canadian transportation receipts cover passenger revenues of Canadian carriers (the majority of which are airlines) from cross-border fares purchased by foreign travellers, and freight revenues earned from non-residents by Canadian carriers for transporting the following:

- Canadian exports beyond the borders of Canada;
- Canadian imports to the Canadian border; and
- foreign-owned goods both in transit through Canada and between foreign ports.

Revenues earned by Canadian residents chartering vessels to non-residents are also included, as well as those earned by Canadian residents providing port services in Canada to foreign air and shipping carriers.

1.2 Payments

Conversely, Canadian transportation payments cover cross-border passenger fares purchased by Canadian travellers from non-resident carriers (again, mainly airlines), and freight expenses incurred with nonresident carriers for transporting the following:

- Canadian imports from the Canadian border;
- Canadian exports to the Canadian border; and
- Canadian-owned goods between foreign ports.

Expenditures of Canadian residents chartering vessels from non-residents are also included, as well as those of Canadian carriers acquiring port services abroad, largely for air- and water-borne transport, are also included.

1.3 Exclusions from transportation

Transportation, as defined in the international standards, excludes the following transactions:

- revenues earned for transporting non-resident travellers once in the domestic economy (part of travel);
- major repairs and refits of ships and aircraft, which are included in goods;
- repairs to infrastructure (for example, to harbours and runways), which are included with construction services;
- time charters; and
- financial leases, which are treated as both financial transactions and goods.

1.4 Cross-border trucking

The treatment of goods and inland transportation services is interdependent because goods transactions are valued at the customs border of the exporting country. The residency of the truck carriers and the location where transport is provided determine the entries for cross-border trucking services in the transportation account. Services provided by Canadian domiciled truckers beyond the Canadian border are recorded as transportation receipts whereas services provided by U.S. domiciled trucks within the Canadian border are treated as transportation payments.

2. Data sources

2.1 Passenger fares

The Culture, Tourism and Center for Education Statistics Division estimates passenger fare receipts and expenditures. The monthly data on air travellers, provided by Canada Customs and Revenue Agency, are combined with estimates of average passenger fares, obtained from the quarterly sample survey of travellers.

2.2 Transportation of goods

Transportation of goods by truck beyond the exporting country-which constitutes by far the largest component of the transportation account-is derived from customs documentation compiled by the International Trade Division for payments and by the U.S. Census Bureau for receipts. The components for earnings of Canadian truckers for the carriage of goods in the United States, as well as for expenses paid to U.S. truckers for transporting goods in Canada, are obtained from the U.S. Bureau of Economic Analysis (BEA). The BEA incorporates freight data from the customs data compiled by the International Trade Division of Statistics Canada.

The other transportation components are derived from five annual surveys conducted by Statistics Canada's Balance of Payments Division:

- Great Lakes-St. Lawrence Seaway Shipping Transactions-BP-20;

- Report of Cargo, Earnings and Expenses of Ocean Vessels Operated by Non-resident Companies-BP-24;
- Report of Cargo, Earnings and Expenses of Ocean Vessels Operated by Canadian Companies-BP-25;
- Report on Imports of Crude Petroleum and Petroleum Products and Other Shipping Operations-BP-26; and
- Transactions of Foreign Airlines with Residents of Canada-BP-58.

The mailing lists for these surveys are updated based on the Canadian Transportation Guide, Canadian Logistics, published annually by the Canadian Maritime Industries Association. This guide lists all companies engaged in the Canadian transport industry by sector, that is, by sea, air, land and rail. The mailing list is supplemented by information gathered from media coverage. For the surveys of shipping companies, the mailing list is further compared with information on shipping companies kept by the Transportation Division of Statistics Canada.

3. Methods

3.1 General methodology

The Culture, Tourism and Centre for Education Statistics Division compiles the data on passenger fares.

The Balance of Payments Division compiles the remaining information on transportation as follows.

For estimates of trucking freight beyond the Canadian/ American border, most components of the calculation are taken from the U.S. Bureau of Economic Analysis, whose basic methodology is followed for this series.¹ Beginning with the reference year 1987, the earnings by Canadian-domiciled truckers comprise the freight for carrying exports within the United States to the U.S. destination and the freight for carrying goods from U.S. suppliers within the United States up to the U.S.- Canadian frontier. (Freight on the latter Canadian imports for the remaining journey within Canada is classified as a resident-to-resident transaction, outside the scope of balance of payments.)

In the opposite direction, since 1981, the payments made to U.S.-domiciled truckers have included the payments made for carrying imports within Canada from the Canadian border to their destination in Canada, as well as the payments to carry Canadian exports in Canada up to the Canadian border.

For the surveys, where regular follow-ups do not produce sufficient data, amounts are imputed based on prior responses and available external information. The survey results are often combined with other sources. For example, in the 1997 historical series, the methodology was adapted to increase the coverage of global payments abroad for the transport by sea of imports. The basic survey of non-oil imports was closely re-edited to calculate unit values. The unit values were then multiplied by international shipping tonnage unloaded at Canadian ports as compiled by the Transportation Division of Statistics Canada. The tonnage activity is largely handled by non-resident carriers.

3.2 Extended geographical breakouts

Some larger series in the transportation sector are regularly reported for a range of individual countries at source, such as international passenger fares from the travel survey and the port expenditures in Canada reported by individual foreign airlines. In other instances, such as cross-border trucking earnings or smaller series on earnings from in-transit movements, no special allocation is required as they occur only with the United States.

Otherwise, statistics for the United States, Japan, United Kingdom, Other European Union, Other OECD and Other Countries are collected at source, or through other established estimates. Earnings of Canadian-operated shipping on outward cargo are allocated to individual countries in the last three partner trading blocks according to volumes loaded for specific countries based on data from the Transportation Division. Other large series, such as freight payments to vessels operated by non-resident interests or charters, cannot suitably be estimated only according to cargo volumes unloaded or by waterborne import values. What is relevant in these cases is the shipping interests

1. A description of the U.S. treatment appears on page 70 of the June 1, 1995 issue of the U.S. Department of Commerce publication, *Survey of Current Business*.

that paid for the service rather than the origin of the cargo. In such a case, a typical allocator used is the shipping tonnage by country of domicile, including the portion of openregistry shipping managed by each country (tabulations from United Nations Conference on Trade and Development [UNCTAD]).

4. Products

4.1 Data accuracy

Data accuracy is acceptable.

The structure of Canada's transportation services account has undergone substantial change over the years. The pattern of trade in goods plays a preponderant role in the transportation account. A large portion of Canada's trade in goods is now with the United States, which in turn leads to more transportation inland, and the attendant difficulties of measuring inland freight. There are major difficulties in delineating transportation services on the basis of the residency of the carriers, especially for trucking. For example, in the estimation of cross-border trucking, the northbound freight on goods used by the U.S. Bureau of Economic Analysis is supplied by the International Trade Division from Canadian customs records, which show the whole journey rather than only inland freight to the border. This whole journey measure is useful for the series in question, but within this, the shares by domiciled carriers are difficult to discern.

In the past, a higher percentage of trade was with overseas countries. The carriage of Canada's trade by ships under Canadian registry has declined considerably in the postwar period. The fact that Canada's foreign trade is now carried to a larger extent by foreign-operated carriers has led to methods such as the unit valuation (see section 3.1) to raise coverage when less than complete information is available at source.

In addition, since deregulation of air services in the late 1980s, reporting has been less than complete for air freight receipts and on payments for supporting landside services, especially geographic breakouts. The extensive detailed annual reconciliation on current account transactions, which is conducted with the U.S. Bureau of Economic Analysis, assists in the data estimation process as well as in validation.² Certain payments on bilateral air freight and landside services benefit from U.S. estimates, reflecting incomplete information obtained from the Canadian source.

Water and air transportation is derived from a number of small customized BOP surveys conducted annually (the coverage ranging from 7 to 47 firms, depending on the survey). Response rates on four vessel surveys for 2002 averaged 61%, while a survey of 55 foreign airlines serving Canada showed a response rate of 65%.

4.2 Data accessibility

The quarterly and annual series on transportation covering total receipts, payments and balances are published in the quarterly Canada's Balance of International Payments (available in print and in electronic format on the Internet) and in CANSIM.

The annual transportation series are also published in the present annual publication Canada's International Trade in Services (available in print and in electronic format on the Internet) and in CANSIM with breakdowns for the six geographic groupings: United States, United Kingdom, Other European Union, Japan, Other OECD and Other Countries. This publication also has transport series by major mode: water, air, land and other transport. Air transport, land transport and other transport are in turn divided on an annual basis between passenger services and freight and auxiliary services. Water transport, which combines ocean freight and inland waterway transportation, is broken down annually by freight and auxiliary services. Beginning with the 1998 issue, annual totals for transportation are also available (with a year's lag) for a wide range of individual countries from 1990 onward. These series are published in combination with government services, which are very small by comparison. Estimates showing transportation separately can be made available on enquiry.

2. "Reconciliation of the Canada-United States Current Account," in Statistics Canada, *Canada's Balance of International Payments, Third Quarter, 2004* (Catalogue no. 67-001-X).

Commercial services

1. Concepts

Concepts underlying these data reflect those for services generally. Prominent among cross-border services are those described in Canadian statistics as commercial services.¹

Specific breakouts are described below.

Particulars as to provenance and accuracy are noted as part of this section, with a general overview taken up in the section that follows. The following main categories are all published. In addition, subcategories that are published separately in the tabular section of Canada's International Trade in Services are in italics.²

1.1 Communication services

Communication services covers

- postal and courier services: the pick-up, transport and delivery of letters, other printed matter, parcels and packages, together with postal outlet services; and
- telecommunications services: 'basic' services such as telephone, telex, data and facsimile transmission; and 'enhanced' or 'value-added' services such as e-mail, electronic data interchange (EDI) or teleconferencing.

Included are charges to and from abroad by public carriers and interconnected suppliers for the use of facilities that teletransport client information, together, as a matter of practicality, with fees for related consulting and facilities management reported at source. Charges for the use and management of private facilities (non-public carriers) for teletransporting client information to and from abroad are included and carriage of third party or transit services are also covered. The value of the subject matter teletransported is excluded where possible. Lastly it is noted that limited coverage of internet access provision and enabling services for the internet are presently assigned to Information services below.

There is no separation of postal and courier data for reasons of confidentiality.

Data are derived from the annual survey of international transactions in services and from specific information supplied by industry participants.

1.2 Construction services

Construction services covers the erection of structures, structural repairs, installation, refurbishing, special trades, demolition and site work. Service suppliers are asked to estimate the construction portion in the case of a turnkey project, or to judge where to assign its entire value between, for example, construction and the architectural and engineering services category. Rentals of construction equipment are excluded, appearing instead with equipment rentals (see section 1.8).

According to international standards, goods supplied directly to or from Canada should be recorded with construction services. However, such goods are left with the trade in goods in Canadian statistics and, to the extent that they may be also reported in surveys of construction services, there will be duplication in the goods and services accounts.

1. As noted earlier, 'commercial services' is a term of convenience used in Canadian statistical presentations to summarize services other than travel, transportation and government. The term is also used by the World Trade Organization to refer to services other than government. Technically it would be more accurate for the Canadian term to read 'other services.' It seemed, however, that a description containing 'other' would indicate that this major block of trade was a residual class that is not correct for most of its subcategories.

2. In 1996 and in 1997, the services data, notably commercial services, were restated according to the 1993 international standards. For more detail, please refer to Hugh Henderson, *Implementation in Canada of the International Standards for Services Trade-On with the Fifth*, (Research Paper No. 13, Balance of Payments Division, (67F0001MIB97013), <http://www.statcan.ca/english/services>, Statistics Canada, Ottawa, 1997).

Furthermore, the Canadian expenditures related to revenues of construction services, such as expenditures for local supplies, are classified as construction payments in Canadian statistics. This treatment aligns with that recently adopted by the new UN manual on services trade statistics.

Projects extending beyond a year are still classified as cross-border services, unless the service suppliers themselves have established foreign enterprises. In other words, in Canadian statistics, regardless of the length of the contract, construction is classified as cross-border construction services if the suppliers record them as such in their books, or as direct investment if the suppliers set up foreign enterprises to manage their construction activities. This approach differs from international standards, which typically treat site offices as direct investment:

Construction involving major specific projects that often take several years to complete, are carried out and managed by non-resident enterprises through unincorporated site offices. In most instances, site offices will meet the criteria that require site office production to be treated as the production of a resident unit and as part of the production of the host economy rather than as an export of services to that economy.³

Construction was surveyed as a separate category for the first time in 1995. From 1990 to 1994, a proportion of results from selected survey returns in a previous broad grouping on consulting and other professional services was used. Construction activity prior to 1990 is included with the category architectural, engineering and other technical services (see section 1.12).

1.3 Insurance services

Insurance services covers the provision of various types of insurance to non-residents by resident insurance companies and vice versa. Broker and agency commissions related to insurance are included.

Data cover life insurance, pension and annuity services, as well as other direct insurance. Compulsory social security services are excluded. Other direct insurance covers private sector accident and health, property, casualty and other liability risks, such as financial or vehicular. Reinsurance, or the subcontracting of risk, is also included. No separate category is attempted for freight insurance. Some elements may be indistinguishably included with other direct insurance and/or be embedded in the valuation of freight charges shown as goods or with transportation services. No explicit provisions are made for some auxiliary services, such as claims adjustment and salvage administration.

The Canadian statistics are shown on the basis of gross premiums and claims, a departure from international standards.⁴ Receipts are the sum of premiums received by Canadian residents from abroad and claims paid to clients in Canada by non-resident insurers. Payments for their part are the sum of claims paid abroad by insurers resident in Canada, and premiums paid to outside insurers by policyholders in Canada. From 1990, the annual insurance series are subdivided into four subcategories:

Primary life and non-life represents the premiums and claims of insurance carriers. The largest majority of international transactions are by far non-life in nature. Health and term life insurance are not excluded, although this is called for by international standards. However, compulsory social insurance transactions are excluded. Finally, no distinguishable component of freight has been identified in non-life insurance, although this is called for by international standards.

Reinsurance-life covers subcontracted risk on life insurance in return for a proportional share of the premium income.

Reinsurance-non-life, as a further significant set of international insurance transactions, covers other subcontracted risk, often to specialized operators.

Insurance commissions covers commissions by brokers and agencies and commissions identified by carriers.

Data for insurance companies are obtained annually from Balance of Payments Division surveys of Canadian and foreign insurers in Canada, supplemented by the annual survey of international transactions in services, and a small

3. *International Monetary Fund, Balance of Payments Manual, (Fifth edition, IMF Publication Services, 700 19th Street NW, Washington DC 20431 USA, 1993), paragraph 78, 23.*

4. *The international standards call for a rearrangement of gross premiums and claims data into two separate components. The first is a service charge (premiums earned less claims expensed) that would be entered as the insurance service. The other component, which is the difference between gross premiums and the service charge plus claims payable, would be entered in the case of life insurance under other investment of the financial account, and for non-life insurance under transfers in the current account.*

annual survey of Canadian insurance brokers. In addition, data from the U.S. Bureau of Economic Analysis on crossborder insurance are also used-especially for insurance of Canadian resident individuals with U.S. insurance companies-as it is difficult from a Canadian viewpoint to measure activities of resident individuals.

1.4 Other financial services

Other financial services covers financial intermediary and auxiliary services (except those of insurance enterprises and pension funds) conducted between residents and non-residents. These include the following:

- commissions and other fees related to transactions in securities-the majority of services in this category- including brokerage, placement of issues, underwriting, redemption and arrangement of swaps, options and other hedging instruments;
- commissions of commodity futures traders, as well as service fees related to asset management,
- financial market operational and regulatory services, security custody services, and so on;
- intermediary service fees, such as those associated with letters of credit, bankers' acceptance, lines of credit and financial leasing; and
- commitment fees associated with undrawn balances under standby or extended credit arrangements.

Fees associated with foreign exchange transactions, as well as financial services rendered by means of foreign-correspondent banking, are not currently measured. Financial intermediary services indirectly measured (FISIM) are also excluded; these are classified indistinguishably with investment income both here and under International Monetary Fund standards. However, estimates of FISIM are included in the non-resident sector in the other components of the Canadian System of National Accounts.

Prior to 1986, the data mainly cover commissions paid on new Canadian securities issued abroad. Beginning in 1986, the data also include the following:

- fees and commissions paid or received on trade in outstanding securities with non-residents;
- banking services (embedded in investment income transactions prior to 1986);
- provisions for services related to guarantees and letters of credit, funds transfers, collection fees, credit card transactions, interoffice and interbank charges (some from U.S. sources); and
- trust company fees that were shown under management and administrative services prior to 1986.

Commissions on new issues are largely derived by applying a percentage against the proceeds from new issues. The percentages used are checked from time to time against prospectuses. Fees on trade in outstanding securities are derived from gross trading data coupled with certain rate factors based on discussions with the industry, and some extensions made to cover certain management and listing fees payable abroad. Rates were recomputed in 1998 and significantly lowered both receipts and payments shown from 1994. Estimates include commissions on trading in commodity futures.

The remaining fees and commissions are derived from both corporate⁵ and regulatory sources, supplemented by the annual survey of international transactions in services and by some U.S. survey sources that are believed to be more comprehensive. Estimates of service fees with the International Monetary Fund are based on administrative records.

5. For example, to cover transactions arising from demutualization of life insurance carriers.

1.5 Computer and information services

Computer services covers the design, engineering and management of computer systems (exclusive of the value of hardware). Also covered is the development and production of original software (including operating software). Beginning with the reference year 1996, the physical exports of prepackaged software units for general commercial or personal use are excluded. These exports are part of goods, but had been included in services for the years prior to 1996 to ensure sufficient valuation in the goods and services account. Computer processing services as well as equipment maintenance and repair are covered here. The category also includes consulting and training related to the provision of computer services. Computer services may be sold or licensed, specifically including fees for the right to replicate, distribute or otherwise use software, whether custom or prepackaged; these transactions are shown for the most part with software and other royalties (see section 1.6).

Information services covers online information retrieval services, including database services (the development of subject matter through to storage and dissemination) and computer-assisted document searches and retrievals; news agency services (such as syndicated reporting services to the media). If database charges are separable from related telecommunications charges, they are reported here for convenience. Because of data limitations, direct subscriptions to newspapers and periodicals are covered as part of mail imports in goods rather than with information services, as called for by international standards.

Data on computer services are based on the annual survey of international transactions in services, which covers receipts from a range of companies not primarily providing computer services, together with payments by a wide spectrum of companies acquiring these services. To this are added receipts by major computer industry firms surveyed by the Services Division of Statistics Canada. A further amount, which is based on U.S. survey sources, serves to extend coverage on payments.

Measurement of the computer services category, as it has attempted to reflect conditions of rapid technological change, has inevitably brought a number of challenges. Indeed, efforts to measure rapid technological change have resulted in some series breaks. Computer services were not captured separately, until 1981- and not annually, until 1983 - and were intermingled with other categories, including goods. Since 1990, software royalties are assigned to Royalties and licence fees. Beginning with 1996, customs values for custom software already recorded in imports of goods is removed from goods through a balance of payments adjustment to avoid its duplication with services.

Limited coverage of internet access provision and enabling services for the internet are presently assigned to Information services.

The treatment of software continues to present difficulty. A particularly difficult issue has remained the estimation of prepackaged software exports. In recent years, it has been widely agreed that retail software is appropriately classified as goods, in much the same way as retail copies of books, magazines or music CDs. Recent research, comparing detailed records for prepackaged software from both goods and services survey sources, has enabled an approximation of the goods portion residing in the service exports. While some undervaluation in goods on a customs basis seems to remain, the higher results from recent service surveys appear mainly due to revenues for multiple usage by foreign clients of copies passing through customs, often at an appropriate unit value. In short, an estimate for the physical copies valued at content and exported on a customs basis is now deducted from services while a relatively small amount, to increase the valuation in goods, is included as a BOP adjustment to Canadian goods exports (the amount is compiled by the U.S. Balance of Payments). These changes were applied starting with the reference year 1996.⁶ From the same reference year, prepackaged software exports less the goods portion is reclassified to royalties and licence fees in that this portion represents licences (see section 1.6).

Information services were requested for the first time in the 1995 survey of commercial services and, for prior years, consist of reallocations to this category of respondent results from several categories of data collection including consulting, computer services, and communications. As with computer services, a further amount based on U.S. survey sources is used to extend coverage on payments.

6. The source of statistics on goods exported to the United States is the U.S. customs data. Records of the U.S. customs value many software transactions at the cost of the medium rather than inclusive of the content. Goods imports in the Canadian data are valued for content, in part to ensure applicable GST is not foregone.

1.6 Royalties and licence fees

Royalties and licence fees covers the use of intellectual property rights (the sales of rights themselves are recorded in the capital account). The breakout of royalties and licence fees into the five following sub-categories was implemented from 1990 and goes beyond the provisions of international norms.

Patents and industrial design covers royalty or licence fees for the use of patents, industrial designs, industrial know-how or manufacturing rights, as well as payments for non-patented industrial processes.

Trademarks covers royalties or fees for the use of trademarks, that is, words, symbols, designs or combinations thereof that distinguish the holder's products or services from those of another provider.

Franchises covers contractual privileges granted by an individual or corporation to another, permitting the sale of a product or service in a specified area or manner.

The value of franchise transactions in total has appeared small compared to other service payments. This is partly attributable to the fact that many foreign franchise firms have subsidiaries established in Canada, and franchise fees payable to such subsidiaries within Canada do not give rise directly to international payments. In spite of additional coverage from U.S. sources, there may also be an element of undercoverage, for which a general provision is included under miscellaneous services to business.

Copyrights and related rights covers royalty or licence fees for the use of original artistic, literary, dramatic or musical works—for example, to stage productions or performances, or to make recordings or films. These originals or prototypes may take the form of text, data compilations or audio and visual products (such as films or sound recordings) and may or may not be in machine-readable format. Distribution rights for performances of completed audio-visual productions are reported with audiovisual services (see section 1.14). Fees for the replay of recordings or videos are recorded here. Royalties, licences or other fees for the right to use computer programs are reported below in software and other royalties. Additional provision for payments of cable services appears from the reference year 1997.

Software and other royalties covers software and other computer-related royalties including fees for the right to replicate, distribute or otherwise use software, whether custom or prepackaged. These also cover royalties for exclusive use of natural resources (private sector transactions). From the reference year 1996, licence fees included in the survey value of prepackaged software exports are reclassified here from computer services (see section 1.5). From 1997 an additional estimate from a variety of sources was made to account for certain software royalties paid directly abroad by classes of users not covered or sufficiently covered by surveys, (as school boards).

1.7 Non-financial commissions

Non-financial commissions covers commissions on goods and service transactions between nonresidents and resident merchants, commodity brokers, dealers, manufacturers' sales branches and commission agents. Excluded are financial service commissions, which are included in other financial services (whether involving insurance, credit, stock or bond issues), as well as commissions already recorded in the price of goods imported and exported.

A small provision is made for fees paid by the importer of goods after the point of export. However, Canada Customs and Revenue Agency (formerly Revenue Canada) view such buying commissions as less common than selling commissions, which are valued with goods.

Merchanting is the buying and selling of goods that do not enter or leave the economy from which the trader is conducting business. An apt measure of such transactions has not been found for the Canadian series.

Data are based on both the annual survey of international transactions in services and on estimates derived by applying fixed factors to merchandise exports and imports. The factors used for trade with the United States are lower than for other countries, as a larger proportion of transactions are presumed to take place between related companies without incurring agents' fees.

1.8 Equipment rentals

Equipment rentals covers rentals (without operator) of light or heavy machinery and tools, drilling rigs and supply vessels, rail or road/off-road vehicles and aircraft (short-term leases). It also includes rentals of containers, office machinery and equipment, including computers, as well as rentals of household and personal goods. Excluded are financial leases, leases of telecommunication lines, leasing of real estate, car rentals on foreign travel and certain shipping charters.

Moreover, for practical reasons, no distinction has been made in the Canadian series between rentals with operators (to be reported in various other specific services according to international standards) and rentals without operators (reportable here). Identifiable amounts for chartering boats without crews based on Transportation Division data are incorporated here. Otherwise, rentals without crews which cannot be separately identified from rentals with crews are included in transportation, which does not conform to international standards.

The annual survey of international transactions in services and other smaller surveys are the basis for estimates on equipment rentals.

1.9 Management services

Management services covers legal, accounting and business management services (which include management and administrative overheads between related enterprises and business management consulting).

Legal services⁷ covers legal advisory and representational services in any law, judicial and statutory procedures, and the drawing up of legal instruments or documentation.

Included here are patent and trademark registration fees and patent maintenance fees. At present, there is no provision for the inclusion of auction, escrow or bankruptcy services (see section 1.7). Additional coverage is obtained from more complete counterpart sources of the U.S. Bureau of Economic Analysis on the payments side.

Other management services covers accounting, business management consulting and other management services.

Accounting services covers the recording of business and other accounts, including reviews and audits, bookkeeping and preparation of related statements and returns. These services include business tax planning and consulting, and preparation of tax documents.

Business management consulting,⁸ including public relations services, is typically transacted with unrelated parties. In addition, certain specialized business management consulting, is reported with the service concerned: telecommunications, computer and information services, legal, accounting, architectural, engineering and construction, environmental, artistic or recreational, education and training. Property management is included with miscellaneous business services (see section 1.13). Additional coverage from redesigned surveys by the Service Industries Division have been reflected from the reference year 1997.

Other management services comprise charges for managerial and administrative services, rendered by an individual or corporation, that cannot be allocated to another services category. Such overhead charges typically arise between related parties and may include amounts that are not always identified as services.

Figures are based largely on the annual survey of international transactions in services. The main component is management and administrative charges between related companies. Data on patent agent fees that are included here are estimated from administrative data. The data also include specific survey results for legal firms beginning in 1995, registration and maintenance fees of intellectual property, and added coverage of international management consulting services typically provided to third parties, also from 1995.

Reporting is incomplete for most major firms that provide clients with both accounting and management consulting services. At the same time, international transactions in such services in past years are not believed to have involved

7. Please refer to Colleen Cardillo, *Canada's International Legal Services, 1995-1996*, (Research Paper No. 15, Balance of Payments Division (67F0001MIB97015) <http://www.statcan.ca/english/services>, Statistics Canada, Ottawa, 1997).

8. Please refer to Willa Rea, *Canada International Trade in Management Consulting, 1990-1996*, (Research Paper No. 16, Balance of Payments Division (67F0001MIB97016) <http://www.statcan.ca/english/services>, Statistics Canada, Ottawa, 1997).

substantial flows. This is a reflection of the industry's international structure whereby separate partnerships operate in each domestic market in a largely self-sufficient manner.

1.10 Advertising and related services

Advertising and related services covers:

- design, creation and marketing of advertisements by advertising agencies;
- placement of advertisements in newspapers, journals, radio, TV and other media, including the purchase and sale of advertising space; and
- participation in trade fairs and other promotional outlays, including exhibition services, telemarketing and delivery services of promotional material.

Costs of maintaining representative offices of banks in another country are included in the Canadian series. Also, some advertising outlays are reported with the data on airline transactions within transportation services. Classified here are services to advertise and promote travel that are purchased from non-residents by governments in Canada. Also covered are market research and public opinion polling services.

Data are obtained from the annual survey of international transactions in services. Included also are benchmark projections of expenses in Canada of representative offices of foreign banks as well as representative offices of Canadian banks located in other countries. Tourism promotion outlays are obtained from provincial authorities on an annual basis.

1.11 Research and development

Research and development covers charges related to systematic investigation through experiment or analysis to achieve a scientific or commercial advance for, or through, the creation of new or significantly improved products or processes. Research and development extends to the social sciences and humanities but excludes market research (see section 1.10, above) and technical studies (see other technical services in section 1.12, below).

The statistics are derived from the annual survey of international transactions in services and from surveys conducted by the Science, Innovation and Electronic Information Division.

1.12 Architectural, engineering and other technical services

Architectural, engineering and other technical services covers a range of architectural and engineering activities together with a diverse group of scientific and technical services and specific services related to mineral extraction, processing and the environment.

Architectural and engineering services comprises consulting, design and predesign, as well as contract supervision services. Urban planning and landscape architectural services are covered as are the export or import of services for the management of projects after completion. Please also refer to construction services for the treatment of turnkey projects and projects of long duration (section 1.2).

Other technical services covers, the following services which cannot always be separated:

Scientific and technical services comprise geological and geophysical services; mineral exploration and prospecting work; surveying and mapping services of or from land, sea and above-surface, including weather services; and services of testing, analysis, inspection or certification of materials or products. Medical and dental laboratory services are excluded (see section 1.13). A reclassification from 1998 was made for certain technical services related to air transport. (See Transportation Services, Concepts).

Mining services comprise drilling and field services including maintenance, inspection and repair, but not equipment rentals or sales. Services related to discovery-that is, mineral prospecting and exploration, as well as geological surveying-are classed as scientific and technical services (above in section 1.12).

Environmental services comprise sanitation, protection and remediation services, waste storage, treatment, destruction, decontamination, clean-up or containment and pollution control. The series also includes environmental consulting, covering biological and ecological consulting, environmental audits, and impact and site assessments, not assigned by the new UN Manual to environmental services. Basic architectural and engineering or research and development services for projects that happen to be environmental in purpose, remain with architectural and engineering services or with research and development.

Services incidental to agriculture, fishing and certain mining and forestry activities are not systematically identified in the data collection to date: international transactions, apart from those related to mining, are not viewed as substantial.

Results from the annual survey of international transactions in services were augmented from 1991 by additional data for certain engineering, architectural and technical services surveyed by the Services Division. Data for mining services and other technical services require further development. Coverage was extended from 1996 for companies engaged in providing a range of surveying, mapping, remote sensing and related information systems sometimes referred to as 'geomatics.'

1.13 Miscellaneous services to business

Tooling and other services predominantly covers amounts paid or received by automotive companies for charges such as retooling, warranties and like charges linked to the production of new models. A provision for undercoverage of services not included elsewhere is also grouped here.

Miscellaneous business services covers a range of transactions not allocated elsewhere. These include real estate services (sales, commission fees and contracts for the management of properties including hotels and resorts), suits and settlements as they are deemed a cost of doing business; medical and dental laboratories; and education, training and staff development services.

Commercial or non-institutional education services cover charges for employee training and development. These services also cover services to the educational market such as testing, consulting and the development, delivery and adaptation of course materials and systems. Equipment sales and software replications for general sale, however, are excluded. (Fees incurred for attending full-time university and college programs are covered under personal travel; see above section on Travel).

Compensation of cross-border employees (commuter and seasonal workers' remuneration) is entered here since these employees are treated as self-employed service providers: insufficient data prevents their identification as labour income, as called for by international standards. Expenditures for local labour and supplies for construction projects are not identified separately and are included in construction.

For working purposes, an internal category under miscellaneous services to business has been established to cover what so far are infrequent cases of reported contract production abroad on a fee or contract basis. Instances where a resident hires and pays a producer abroad to transform basic materials into a new product that is then sold abroad appear not to be fully articulated, either in the data or in underlying concepts and classifications at the present time. Where residents export their own materials, this can be expected to appear in customs coverage of goods. The value added abroad is less frequently known or reported, and the international norms call for assigning it as a service to the category of merchanting and other trade-related services. Cases where the inputs are all sourced abroad and sold from abroad are not identified by international standards. Recipients of the commercial services survey are currently asked to report their contract production abroad separately.⁹

Other components in the Canadian data include design, personnel, translation and security services together with certain conservation expenditures.

9. The BP-21S questionnaire at category #30 reads as follows: *Contract production abroad. If you pay a producer abroad to produce a good which you then sell abroad (that is, no export back to Canada), please report the revenue you receive, and the production expenses which the foreign producer bills you. (The producer may buy materials outside Canada on your behalf and bill for the whole cost, or you may export your own materials or master copy and pay only the transformation or reproduction charge). In the reverse situation, that is, if you are the contract producer, please report revenue from foreign parties who engage your services, and at #31 specify the value of the product shipped within Canada.*

Data for tooling and other automotive charges are based on the annual survey of international transactions in services and on customs information from the International Trade Division of Statistics Canada. The provision to cover underreporting in the main services surveys reflects coverage of administrative sources and survey experience.

Remaining data are in part based on unspecified services reported by individual companies in the annual survey of international services under other transactions. Estimates of commuter and migrant labour earnings are based on benchmarks. Coverage of commercial education services from 1996 was added based on a listing compiled at Industry Canada.

A general provision is made from 1990 for Canadian government sales and purchases of services to and from the foreign private sector. Amounts for international organizations are obtained either directly or from public accounting records. A provision is made to include from 1995 a block of lower-value export contracts financed by CIDA. Some small items covered by annual reports or benchmark estimates are included here as well.

1.14 Audiovisual services

Audiovisual services covers film and video production and distribution, broadcasting, performing arts and organized sports. More specifically, these may be services and associated fees related to the production of motion pictures (on film or videotape), radio and television programs (live or on tape) and musical recordings. Included are receipts or payment for rentals; fees received by resident actors, directors, producers, and other crew members for productions abroad (or by non-residents in the compiling economy); and fees for distribution rights sold to the media for a limited number of showings in specified areas.

Fees to actors or participants in theatrical or musical productions, organized sports and other activities intended for broadcast, as well as related distribution rights are also included. Certain distribution rights for sporting events are classified here.

Physical copies of films, programs, musical compositions, books and retail software should be excluded, being treated as goods. Also excluded here are copies of software for retail sale.

Most of the data are obtained from results of annual surveys of the Science, Innovation and Electronic Information Division and the Culture, Tourism and Centre for Education Statistics Division of Statistics Canada, including film producer and distributor data from 1988. Statistics are supplemented from various provincial sources and studies and the annual survey of international transactions in services. Data for broadcasting are based on annual survey information of the Science, Innovation and Electronic Information Division. Estimates of organized sports and performing arts are based on benchmark investigations of receipts and payments of major participants and on continuing surveys.

Joint development work to edit and improve international data on cultural transactions has proceeded with the Culture, Tourism and Centre for Education Statistics Division. Certain additional coverage has lately been implemented for film labs and sound recording services as a result of redesigned and more detailed surveys.

1.15 Personal, cultural and recreational services

At present, coverage is limited to data on international activity of trade unions. Figures, until recently estimated from annual returns filed with Statistics Canada under the former Corporations and Labour Unions Returns Act, are now projected since the Act no longer covers labour unions.

2. Data sources

2.1 General description

The Balance of Payments Division collects much of the data on commercial services through its comprehensive survey International Transactions in Commercial Services-BP-21S (annual). Other Balance of Payments Division surveys used include the following:

- International Transactions in Commercial Services- BP-21SQ (quarterly);

- Transactions Between Canada and Other Countries- BP-21 (annual);
- Transactions Between Canada and Other Countries- BP-21A (quarterly);
- International Transactions Between Insurance Brokers in Canada and their Foreign Affiliates, Agents, and Other Companies or Persons Outside Canada-BP-17 (annual);
- Transactions Between Canadian Incorporated Insurance Companies and their Foreign Affiliates, Agencies and Bank Accounts and Other Companies or Persons Outside Canada-BP-27 (annual);
- Transactions Between Canadian Branches of Foreign Insurance Companies in Canada and Head or Other Offices, Companies or Persons Outside Canada-BP- 28 (annual);
- Report by Trust and Mortgage Loan Companies in Canada on Transactions with Non-residents-BP-29 (annual); and
- Canada's International Transactions in Securities- BP-30 (monthly).
- The Balance of Payments Division also relies on diverse surveys of other Statistics Canada divisions as well as administrative sources. The following annual surveys of the Services Division are used:

Annual surveys of the Services Division:

- Annual Survey of Architectural Services
- Annual Survey of Software Development and Computer Services
- Annual Survey of Engineering Services
- Accounting and Bookkeeping
- Specialized Design Services
- Management, Scientific and Technical Consulting

A number of these are basically redesigned to meet expanded statistical requirements and conform to coverage of the North American Industrial Classification System (NAICS).

The following surveys of the Science, Innovation and Electronic Information Division are used:

- Survey of Telecommunications Service Providers;
- Annual Return of "Broadcasting Distribution" Licensees;
- Annual Return For Radio and Television Programming Undertaking(s) (including Networks); and Research and Development in Canadian Industry.

The following four surveys are used from the Culture, Tourism and Centre for Education Statistics Division (CTCES):

- Film, Video and Audiovisual Production Survey;
- Film, Video and Audiovisual Distribution and Video Cassette Wholesaling Survey;
- Motion Picture Laboratory Operations and Production and Post Production Services; and
- Sound Recording Survey.

In addition to the surveys listed, data on environmental services are provided by the Environment Accounts and Statistics Division from the Environment Industry Survey, and data on courier services are provided by the Transportation Division from the Survey of the Couriers and Local Messengers Industry.

Government administrative sources from the federal government include

- tax forms T-106, GST, and NR-4 (withholding taxes);
- Citizenship and Immigration Canada;
- Bank of Canada; and
- Office of the Superintendent of Financial Institutions (federal).

Data sources from other Canadian governments and crown corporations include

- Public Accounts of Crown Corporations (federal and provincial), with supplementary data obtained directly from selected corporations;
- film and tourism authorities (provincial); and
- power utilities (provincial).

Other data sources used include

- regular correspondence with corporations engaged in international communications, air and rail transportation, consulting, and so on;
- U.S. Department of Commerce data (with annual reconciliations of U.S. current account data);
- foreign embassies;
- World Bank;
- patent agents;
- international organizations operating in Canada;
- Canadian banks;
- benchmark studies on sports and other entertainment;
- annual reports of individual companies engaged in international transactions; and
- public media.

3. Methods

3.1 General methodology

The Balance of Payments Division compiles the data on commercial services. For the current year, data are estimated from the quarterly sample surveys, which are based on the previous annual census survey data. The data are processed through a system known as the Services Integrated System (SIS) which is a relational database that consolidates the extensive but diverse sources of information on commercial services. One format file, for example, contains company names. An algorithm file (with factors changeable as needed by staff) is used to calculate certain series or to prorate global totals geographically when country level information is unavailable (that is, over and above normal imputations to deal with incomplete survey responses). It also serves as a useful registry for the firms identified as transacting international commercial services. The system also identifies the

particular source and status of the data. At present the system identifies some 20 sources, from surveys through benchmark calculations, along with four status indicators as to whether the data is reported or estimated.

The coverage of the main survey is updated from listings from trade associations and from the monitoring of events by an ongoing scanning of the business media for international transactions. Tracked events are both company-specific and of a general background nature (for example, industry trends and developments). The information assists with the editing and updating of survey coverage for balance of payments surveys and other series.

Importantly, the data benefit from internal comparisons and review, both within the System of National Accounts (for example, commodity balancing through the input-output system), and with other areas of Statistics Canada, such as the Culture, Tourism and Centre for Education Statistics Division and the Services Division. Each year, results are compared and corrected, when applicable, in relation to counterpart U.S. results through the Canada-United States current account reconciliation.

Data on services are collected net of withholding taxes but published inclusive of withholding taxes. It is noted that the allocation of withholding taxes to the relevant royalty categories entails significant estimation.

3.2 Extended geographical breakouts

As all detail is initially compiled with an extensive geographical basis, more geographical data has been published for commercial services over the years than for other service accounts. The publication from 1990 of services by individual country largely entailed a review for confidentiality for countries not previously released.

Administrative data sources for commercial services, first available for 1989, initially augmented the overall coverage of these services by about 2%, but over the last three survey years have added a further 3% to value.

4. Products

4.1 Data accuracy

The overall quality of the data on commercial services is reliable. The non-responses to the surveys, the main source of information, tend largely to be comprised of low or nil value transactions for the period. A provision based on analysis of taxation records is applied to allow for underreporting in the survey and operations too small to survey. If follow-ups do not result in sufficient data, amounts are imputed from past results, external information and broader projections of annual information as a control indicator. For the most part, the geographical detail on commercial services is reported directly by survey respondents according to the geographic coding instructions that are sent to them. When respondents do not or are unable to report full details, approximations are accepted or estimates made.

The response rate in 2002 for the comprehensive survey of international transactions in services, sent to over 3,000 firms in Canada, stood at 68%. To reduce the response burden, starting with the reference year 2003, more than 900 small respondents will be surveyed once every three years instead of every year. In addition, three specific surveys of 233 insurance carriers and agencies showed response rates with an average of 96% for 2002.

A quarterly sample survey for the current year was redesigned as of the first quarter 2002. Its stratification was unlinked from six summary industry categories - whose 'other' grouping was predominant - to a direct sample of some 28 categories of receipts and payments. It employs - as before - two quarterly survey sources. The first source is a quarterly survey of 529 firms, mainly Canadian-controlled. The second source comprises a selection of 300 firms made from a quarterly survey of financial transactions of mainly foreign-controlled firms. Response rates on the expanded base, have decreased slightly to 60% in 2003.

Lastly, accuracy of the commercial services series benefits from the extensive detailed reconciliation on current account transactions, which is conducted annually with the U.S. Bureau of Economic Analysis. This comparison assists in the data estimation process as well as in validation.¹⁰

10. "Reconciliation of the Canada-United States Current Account," in Statistics Canada, *Canada's Balance of International Payments, Third Quarter issue*, (Catalogue no. 67-001-X).

4.2 Data accessibility

The quarterly and annual series on commercial services are published as total receipts, payments and balances in the quarterly publication Canada's Balance of International Payments (available in print and in electronic format on the Internet) and in CANSIM.

In the present annual publication, Canada's International Trade in Services (available in print and in electronic format on the Internet) and in CANSIM, the annual series for commercial services are published for the six geographical groupings: United States, United Kingdom, Other European Union, Japan, Other OECD and Other Countries. The commercial services category is broken down to provide for over 25 product types. Not only is each main product type presented by the six standard geographical areas delineated above, but each product type is also presented according to three basic foreign regions with which the transactions are conducted—United States, European Union and Other Countries. The transactions are further identified by the party with whom they were carried out—that is, either a foreign affiliate or a foreign non-related party. The types of services are presented according to the country of control of the Canadian transactor and the transactor's industry classification.

Beginning with the reference year 1990, the geographic breakout for commercial services was further expanded to show summary receipts and payments for individual countries, starting with the 1998 edition of this services publication.

With the 1997 edition of the present publication, a quarterly breakout of some 14 commercial services was introduced beginning from 1995, both on a raw and seasonally adjusted basis. The same quarterly series also appears in the above-noted publication, as well as in Canada's Balance of International Payments.

Government services

1. Concepts

Government services covers international transactions arising largely from official representation and military activities, as well as commercial activities of governments not covered in other accounts. They include expenses of staff at embassies and missions and of individuals stationed on military bases. Receipts chiefly comprise expenditures in Canada by foreign governments and their staff recruited abroad. Receipts also include overheads to administer official assistance. Payments cover expenditures abroad of both the Canadian federal and provincial governments and their staff recruited in Canada. Beginning with the reference year 1996, separate information is available on construction, existing building and land transactions for both embassy and other use by the Government of Canada abroad. Construction is now included in construction services while purchases of existing buildings will continue to be treated as government services. In conformity with international standards, land transactions are classified as non-produced non-financial assets in the capital account.

Again in conformity with international standards, outlays by the federal government for contributions to the operations of international organizations and programs are excluded and shown in current transfers. For provincial governments, the data exclude receipts and payments by provinces for the promotion of tourism, which are included in commercial services.

To the extent that official government records used as the source data are on a cash basis, they have been incorporated as such in the balance of payments accounts, rather than on an accrual basis, as called for by international standards. With the move to accrual accounting at April 1, 2001 by the Canadian government, it is anticipated that progressively more services in this category will be stated in accrual terms.

2. Data sources

Almost all the data are collected from administrative sources, except for ad hoc surveys conducted to obtain estimates of spending by foreign embassies in Canada (the last such survey was conducted to collect 1995 data). Federal government administrative sources include the following:

- Public Accounts of Canada;
- National Defence;
- Canadian International Development Agency;
- Department of Foreign Affairs and International Trade;
- International Development Research Centre;
- From 1997, data on a range of immigration services paid by non-residents has been added to this account. They draw on administrative records of revenues and entry of persons maintained by Citizenship and Immigration Canada.

Data for provincial and territorial governments come from the provincial Public Accounts while data for crown corporations are taken from federal and provincial Public Accounts and supplementary data obtained directly from selected corporations.

Most of the data on spending in Canada by U.S. government authorities are provided by the U.S. Bureau of Economic Analysis. Data on spending by countries other than the U.S. are obtained from Canadian administrative records.

3. Methods

3.1 General methodology

The Balance of Payments Division compiles the data. For Canadian expenditures by personnel posted abroad, two-thirds of their salary is assumed to be available for personal spending in the local economy. Payments for Canadian military personnel are calculated and provided by the Income and Expenditure Accounts Division.

A number of changes were made following a review of government transactions with the Input-Output Division. Beginning with 1993 data, military expenditures abroad were scaled back to be more in line with declining outlays on personnel. From the same year, improved data sources were used for receipts for the use of Canadian facilities by visiting non-U.S. military forces. Additions and changes were also made to more accurately reflect outlays for trade development by provincial governments. A number of in-Canada outlays of a commercial nature-deemed paid to Canada by recipients of official aid flows- were reduced and were recognized instead under services to business. Spending by foreign embassies, High Commissions and consulates was re-estimated through a voluntary survey for 1995. This survey produced a small but helpful cross-section of responses. Results were generally higher than previous estimates.

3.2 Extended geographical breakouts

In terms of geographical detail for government services, some larger segments of data are initially recorded by individual country, such as Canadian representation abroad or certain expenditures on defence. In Canada, overheads to administer official assistance are recorded as receipts. These are distributed geographically according to the administrative records of assistance provided. These records are country-specific. More difficult is an allocation for foreign government expenditures in Canada. Here, the 1995 benchmark survey forms the basis for a benchmark indicator composed of wages and salaries paid annually to local employees of embassies and consulates in Canada and aggregated from taxation records.

For immigration services, detailed records by mission are available for persons paying abroad. Certain payments made in Canada prior to granting landed immigrant status are allocated by flows of landed immigrants. Revenues from the granting or renewal of work or study permits are also available directly by country from Citizenship and Immigration records. The share of payments made by residents on behalf of persons seeking entry into Canada was estimated for exclusion in consultation with C&I officials.

4. Products

4.1 Data accuracy

Overall, the data are reliable. For each series, the accuracy varies. This reflects the variable accuracy of the data sources, which range from sound administrative records to estimates-particularly of foreign activity in Canada-that are based overall on very limited information. The data, however, benefit from the extensive detailed reconciliation conducted annually with the U.S. Bureau of Economic Analysis on current account transactions.¹

4.2 Data accessibility

The quarterly and annual series on government services are published as total receipts, payments and balances for total and for the United States in the quarterly publication *Canada's Balance of International Payments* (available in print and in electronic format on the Internet) and in CANSIM.

1. "Reconciliation of the Canada-United States Current Account," in *Statistics Canada, Canada's Balance of International Payments, Third Quarter issues (Catalogue nos. 67-001-X)*.

The annual series on government services are published in the present annual publication, Canada's International Transactions in Services, in total and for the six geographical groupings: United States, United Kingdom, Other European Union, Japan, Other OECD and Other Countries. Annual breakouts of individual are also released, aggregated with transportation services from 1990 onward in the same publication.

Specific unpublished breakouts are available on request.