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## A REVIEW OF STATISTICS ON TRADE FLOWS IN SERVICES

### Note by the Secretariat

This paper was prepared at the request of the Council for Trade in Services. It aims to provide an overview of the statistics on international trade in services that are currently available. This paper is organised in 6 sections. A brief introduction is followed by Section II which describes the data that are currently available. Section III describes trade flows in services, at an aggregate and sectoral level, on the basis of balance of payments statistics. Section IV discusses the statistics on Foreign Affiliates Trade for the United States, the only country which has so far collected such statistics on a regular basis. Section V presents available indicators of the importance of the presence of natural persons as a mode of supply, and Section VI concludes the paper.

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## I. INTRODUCTION

At the meeting of the Council for Trade in Services held on 25 July 1997, the Secretariat was asked to identify trends in services trade flows. This paper draws together a variety of data to construct a general, but necessarily incomplete, picture of services trade. The paper should be read in conjunction with the previous Secretariat paper on services statistics, circulated as document S/C/W/5, especially Section II, which describes the significant problems with existing services statistics. The poor quality and inconsistency of available data continue to be major problems in analysing trade flows in services.

In the GATS context, in addition to general inadequacies of services statistics, we encounter a crucial problem: *the framework of negotiated commitments does not match the existing structure of trade statistics* (see S/C/W/5). This is for three related reasons. First, the GATS definition of trade in services goes beyond the traditional notion of international trade, which refers to products crossing geographical boundaries, or to transactions between residents and non-residents. Thus, trade in services is defined as including local sales by foreign entities who would be considered "residents" by conventional statistical criteria and for whose activities adequate statistics do not exist. Second, the scheduled commitments are, in most part, according to the GNS classification<sup>1[1]</sup> which is based largely, but not entirely, on the UN Central Product Classification (CPC).<sup>2[2]</sup> However, the only services trade statistics available on a global basis follow the IMF Balance of Payments Manual classification which was not originally based on the CPC.<sup>3[3]</sup> The third reason, related to the first, is the distinction made in GATS between four modes of supply: cross border supply, consumption abroad, commercial presence and presence of natural persons. In the country schedules, commitments in each service sector are specifically defined according to each mode of supply. This is a form of disaggregation for which only crude statistical approximations exist.

## II. AVAILABLE DATA

Three types of data on trade in services are used in this paper: balance of payments (BOP), sectoral, and Foreign Affiliates Trade (FAT) data. The first column in Table 1 lists the 10 main components of the IMF classification, discussed below. The second column in Table 1 lists the sector-specific statistics which are presented in this paper. The third column indicates the sectors for which statistics on FAT are available for the United States, the only country which currently reports such statistics on a regular basis.<sup>4[4]</sup> This Section describes the first two sources, while the third source is discussed in a subsequent section.

**Table 1: Types of data on trade in services presented in this paper**

BOP	Sectoral	FAT (U.S. only)
Transport	Air - Passengers carried	Yes

	- Passenger-kilometres performed - Freight carried  Maritime - World seaborne trade by types of cargo and country groups - Structure of the merchant fleets of the main country groups - 35 most important maritime countries	
Travel	- World's top tourism destinations	None
Communications services	- Top 20 revenue-earners of telecommunications services (total and international) - Volume of outgoing and incoming international calls, and settlement payments	Yes
Construction services	None	None
Insurance services	None, but see WTO (1997)	Yes
Financial services	None, but see WTO (1997)	None
Computer and information services	None	Yes
Royalties and licence Fees	None	None
Other business services	None	- Accounting, management and related services - Advertising
Personal, cultural and recreational services	None	None

### (i) Balance of Payments (BOP) Statistics

The only comprehensive source of information on trade in services available on a global basis are the IMF balance of payments statistics. These statistics are reported by central banks and national statistics offices and reproduced in the IMF Balance of Payments Yearbooks. Most data available until 1994 were reported according to the conceptual framework and the classification system of the 4th edition of the IMF Balance of Payments Manual (1977) (hereafter referred to as BPM-4) but a transition is now being made to the 5th edition of 1993 (referred to as BPM-5 and described below).

In BPM-4, there was no explicit identification of what constituted trade in services. Rather, the current account was divided between *merchandise* and *non-merchandise* items, the latter often being referred to as *invisibles*. The term *invisibles* generally referred to the sum of the following categories: *shipment, other transportation, travel, investment income, other official goods, services and income, other private goods, services and income*, and (optionally) *private and official unrequited transfers*. The definition of *commercial services* used in previous GATT publications included all the components of *invisibles* except *investment income, other official goods, services and income*, and *private and official unrequited transfers*. Starting with the 1995 issue of the Annual Report, the WTO decided to exclude *labour income*, which consists mainly of wages and salaries paid to seasonal and border workers, from the definition of commercial services. The reason for this exclusion is discussed in Section V.

The BPM-5 classification, introduced in 1993, is significantly more disaggregated than BPM-4, and indicates what has already become available for many countries. Box A3 in S/C/W/5 presents a juxtaposition, rather than a formal concordance, of the GNS and the

BPM-5 classifications. This reveals that the information available on a global basis in the near future will still suffer from certain shortcomings. First, these statistics still do not cover "foreign affiliates trade". Balance of payments statistics register transactions between residents and non-residents. According to balance of payments conventions, if factors of production move to another country for a period longer than one year (sometimes flexibly interpreted), a change in residency has occurred. The output generated by such factors that is sold in the host market is not recorded as trade in the BOP. Thus, transactions involving commercial presence or stay of natural persons for durations of more than one year are not covered by the BOP statistics. The implications for statistical coverage of individual sectors depend on the relative importance of these modes of supply in a particular sector. Sectors like *distribution services* and *financial services* are likely to be among the worst affected.

Second, even BPM-5 contains a relatively limited disaggregation in comparison with the GNS classification. The greatest number of sub-divisions in the GNS classification are in *business* (46), *communication* (21), *financial* (16) and *transport* (33) services. The number of subdivisions in the IMF classification for these sectors are 2, 2, 2 and 9, respectively. The inclusion of supplementary information, which was included in response to GATS needs, raises the number of *business* subdivisions to 8.

Finally, there is the problem of lack of concordance in that some of the IMF categories do not match the GNS ones. For statistical coverage, *educational services* and *health-related and social services* must rely on a disaggregation of personal travel expenditures provided only in the supplementary information section, and on non-separated ingredients of *other personal, cultural and recreational services*. The lack of a precise concordance is also a major problem for *computer and related services*, *environmental services*, *tourism and travel-related services*, and *recreational, cultural and sporting services*. For example, in the IMF BOP classification, *computer and information services* include *news agencies services* which are part of *recreational and cultural services* in the GNS classification.

Table 2 illustrates the level of detail at which different countries report to the IMF. The low number for 1996 reflects delays in reporting. Almost all of the IMF member countries report aggregate trade statistics for *transportation, travel, insurance, and other business services*. However, only a small number of the countries report disaggregated data for individual components of *transportation and travel*. Furthermore, fewer than half the IMF member countries report statistics separately for sectors like *construction, financial, computer and information, and personal, cultural and recreational services*.<sup>5[5]</sup> Even the statistics that are reported do not necessarily have the same coverage. For instance, the United States BOP figures for services sub-sectors other than transport and travel, only include transactions between unaffiliated partners, while those of other countries include transactions between affiliated partners also.

The Tables in Annex B provide IMF BOP data for 1995. Tables B1 and B2 present export and import statistics, respectively, of all IMF member countries for the ten main components of the BPM-5 classification. Tables B3 and B4 present export and import statistics, respectively, of the subset of member countries (27 and 29, respectively) which reported statistics for more than half of the items in the detailed BPM-5 classification. Significant gaps remain in both sets of tables.

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**Table 2: Coverage: Number of countries reporting trade data for specific services sectors, 1994-96**

Code	Service description	Imports			Exports		
		94	95	96	94	95	96
	<b>Total services</b>	147	117	46	146	116	46
1	<b>Transport</b>	147	117	46	141	113	46
1.1	<b>Sea transport</b>	48	48	27	42	44	27
1.1.1	Passenger transport on sea	18	19	14	13	15	13
1.1.2	Freight transport on sea	42	40	22	31	33	22
1.1.3	Supporting, auxiliary and other services	31	30	19	31	31	18
1.2	<b>Air transport</b>	48	46	26	49	48	26
1.2.1	Passenger transport by air	43	39	23	39	37	23
1.2.2	Freight transport by air	26	32	22	22	29	20
1.2.3	Supporting, auxiliary and other services	26	27	16	33	32	18
1.3	<b>Other transportation</b>	35	34	22	39	40	22
1.3.1	Passenger	19	19	10	22	21	11
1.3.2	Freight	27	26	17	28	29	17
1.3.3	Other transportation services	24	27	15	27	30	15
2	<b>Travel</b>	145	115	46	141	114	46
2.1	Business travel	34	33	15	24	22	12
2.2	Personal travel	47	48	21	39	40	19
2.2.1	Health-related expenditure	13	15	6	4	7	4
2.2.2	Education-related expenditure	25	23	8	10	14	7
2.2.3	Other personal travel	37	37	14	29	28	11
3	<b>Communications services</b>	57	60	33	57	62	32
4	<b>Construction services</b>	36	40	26	30	37	23
5	<b>Insurance services</b>	131	104	39	89	72	31
6	<b>Financial services</b>	40	44	23	38	43	24
7	<b>Computer and information services</b>	19	25	18	16	23	16
8	<b>Royalties and licence fees</b>	63	57	29	46	42	24
9	<b>Other business services</b>	143	116	44	134	110	42
9.1	Merchanting and other trade-related services	31	33	18	36	37	19
9.2	Operational leasing	29	30	21	20	25	19
9.3	Miscellaneous business, professional and technical services	66	62	33	64	61	31
9.3.1	Legal, accounting, management, consulting and public relations services	19	19	11	12	14	9
9.3.2	Advertising, market research and public opinion polling services	16	19	12	14	16	11
9.3.3	Research and development services	11	14	9	10	13	9
9.3.4	Architectural, engineering and other technical services	12	15	8	11	14	8
9.3.5	Agricultural, mining and on-site processing services	5	6	4	6	7	4
9.3.6	Other services	42	37	20	41	37	20
10	<b>Personal, cultural and recreational services</b>	27	30	17	20	24	16
10.1	Audio-visual and related services	16	19	12	11	14	11
10.2	Other personal, cultural and recreational	15	16	9	13	15	11

Source: Compiled by the WTO Secretariat from IMF Balance-of-Payments Statistics.

## (ii) Sectoral statistics

This section describes the sectoral statistics that are potentially available. For reasons of space, only those which seemed most relevant have been included in this study.

Statistics on air transport services can be obtained from the International Civil Aviation Organization's (ICAO) Statistical Yearbook.<sup>6[6]</sup> The Statistical Yearbook contains information on kilometres and hours flown, passengers carried, general type of activity of passengers, passenger-kilometres flown, tonne-kilometres of freight and mail, civil aircraft registered in ICAO states, fleet composition, as well as information on companies, such as the number of employees, operating revenue, expenses and surplus.

Statistics on maritime transport services can be obtained from the United Nations Conference on Trade and Development (UNCTAD) Review of Maritime Transport. The Review provides information on fleets, shipbuilding and port development, freight, containers and multi-modal transport, world fleet size by principal types of vessels, tonnage distribution of major open-registry fleets, cargo carried and ton-miles performed per deadweight tonnage of the total world fleet, container port traffic of developing countries and territories, and traffic for selected ports.<sup>7[7]</sup>

Tourism statistics can be obtained from the Yearbook of Tourism Statistics published by the World Tourism Organization. The Yearbook contains information on passengers and passenger-kilometres flown, tourists arrivals, payments, nights in hotels, accommodation capacity, trends of tourist arrivals by country and by air for each region, and nights spent by tourists from abroad in all accommodation establishments

Financial statistics can be obtained from the Annual Report of the Bank for International Settlements, and from different publications of the IMF, the World Bank and the OECD. A recent study, "Opening markets in Financial Services and the Role of the GATS" (WTO, 1997), presents statistics relevant to financial services such as statistics on total banking assets, activity in international financial markets, global derivatives markets, and the share of foreign-owned assets in total banking assets.

Statistics on insurance services can be obtained from the Swiss Reinsurance Company SIGMA. This company publishes statistics on premiums in life and non-life insurance, for a selected number of countries (63). Detailed information on activities of insurance companies is given by UNCTAD for developing countries and OECD for its member countries.

Professional organizations such as the International Federation of Accountants (IFAC) keep statistics on membership of professional bodies on a country basis. The Federation of European Accountants (FEE) collects statistics on the accounting profession for the European Union countries. Nonetheless, data on accounting services are very limited.

Telecommunication services statistics are obtained from the International Telecommunication Union (ITU) (1996, 1997). These publications include information on telecommunication revenues, international telephone revenues, direction of outgoing and incoming traffic, telephone and cellular tariffs, settlement payments, new telephone lines added, telecommunication investment and telecommunication staff.<sup>8[8]</sup>

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### III. TRADE FLOWS IN SERVICES SECTORS BASED ON BOP STATISTICS

It must be emphasized that both the trade values and country rankings presented below, especially at the detailed sectoral level, should be viewed with a certain degree of caution, given the differences between countries in reporting, reliability, definitions and collection methods.

#### (i) Overview of trends in trade in services

World trade in commercial services, *measured on a balance of payments basis*, accounted for around one-fifth of world exports and imports of goods and services in 1995 (Table A1 in Annex A). There were some regional variations in this proportion. On the export side, North America and Western Europe recorded above-average shares of services in their total exports, while Latin America, Africa and Asia recorded shares of services below the global average. On the import side, the picture is somewhat different: Africa, Asia and Western Europe recorded shares above the average while the Americas recorded shares below the average.

The growth of world trade in commercial services slowed down in 1996 (Chart 1, Tables A2 and A3). Exports of commercial services were estimated to be \$1,260 billion in 1996, an increase of 5 per cent over the previous year - much lower than the increase of 14 per cent recorded in 1995. While Asia's exports and imports of commercial services grew fastest in 1995, Latin American growth was as impressive in 1996. Western Europe's trade revealed the most significant deceleration in 1996.

In recent years, *transportation* accounted for at least a quarter and *travel* for around a third of all trade in commercial services (Chart 2, Table A4). Over the last couple of years, the exports of *transportation* services increased less, while *other commercial services* (insurance, banking, telecommunication and so forth) expanded somewhat faster than total services (Chart 1). Chart 3 and Table A5 have been constructed to provide a more disaggregated picture of the relative importance of particular services within the category of *other commercial services*. One significant problem encountered was that not all countries report statistics for each sub-sector. Trade in individual sub-sectors for non-reporting countries was estimated on the basis of their share in total trade in commercial services. A second problem was that aggregate imports were not always equal to aggregate exports in particular sectors due to differences in reporting. Table A5, therefore, presents the average of imports and exports for each sub-sector. Subject to these qualifications, Tables A4 and A5 together reveal that trade in most sub-sectors is dwarfed by *transport* and *travel*.<sup>9[9]</sup> *Financial* and *insurance* services together constituted around a fifth of *other commercial services* in recent years. *Other business services* is a large category within other commercial services because it is a catch-all category for all unreported sectors. The relatively large category of *royalties and licence fees* is treated as part of services in IMF BOP statistics, but it is only the *franchising* component of this category which is relevant in the GATS context (as a sub-sector of *distribution services*).

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The top 15 exporters and importers of commercial services accounted for around 72 per cent and 69 per cent of world exports and imports, respectively, in 1995 - the most recent year for which a sufficiently large number of countries have reported statistics (Table A6). The leading exporting countries and the leading importing countries tend to be the same, though their relative importance in exports and imports differs somewhat. Although annual changes need to be treated with caution, Table A6 suggests that there are significant variations in the performance of the leading exporters and importers of commercial services in 1995.

Table A7 provides estimates of the share of the top 5 and top 10 exporters and importers in reported trade in each sector. As noted above, not all countries report trade figures for each services category. The relative importance of the reporting countries in total trade in the relevant service is estimated on the basis of their share in total trade in commercial services. In so far as the reporting countries may be relatively more important traders in the relevant services category, their estimated share in world exports may be understated. It must be noted that there is virtually full reporting for the categories transport, travel and other business services. But the ingredients of other business services are likely to differ between countries in so far as they include data for all unreported sectors. The elements of Table A7 are discussed in the sections on individual sectors.

## (ii) Transportation

In the GNS classification, *transportation services* include maritime, internal waterways, air, space, rail, road, pipeline, as well as auxiliary services, such as cargo-handling, storage and warehousing, and freight agency services. In the BPM-5 Classification, *transportation* is divided into sea, air and other transport, with each category subdivided further into passenger, freight and other.<sup>10[10]</sup>

Table A8 presents the 15 leading exporters and importers of *transportation services* in 1995.<sup>11[11]</sup> The top five exporters of transportation services accounted for around 42 percent of world exports of *transportation services* in 1995, reflecting a small decline from their share of over 44 per cent in 1990. The corresponding figures for the top five importers of *transportation services* are 41 per cent and 42 per cent, respectively.

Among the top 15 exporters of *transportation services*, Hong Kong (China), the Republic of Korea, Chinese Taipei, and Sweden did not report disaggregated data for individual transportation services. Among those countries which reported disaggregated data, Japan and Italy were the top two exporters and importers of sea transport services in 1995.

The data reported by the IMF are at an aggregated level. More disaggregated or industry-level data for *maritime transport services* are reported by UNCTAD in its Reviews of Maritime Transport. Table A9 presents statistics for world seaborne trade for the year 1970, 1993, 1994 and 1995. Table A10 presents the structure of the merchant fleets of the main country groups for the year 1995, and Table A11 shows the 35 most important maritime countries in 1995.

The information contained in Table A9 pertains not to trade in maritime transport services *per se*, but demonstrates the reliance on maritime transport for trade in goods. The table distinguishes between goods loaded (exports) and goods unloaded (imports), types of goods (crude oil, oil products, and dry cargo), and country groups. A comparison of Tables

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A8 and A11 reveals interesting differences. Greece, the Russian Federation, Japan, China and Norway were the five most important maritime countries in 1995 - ranked by ownership of number of vessels under either national or foreign flag. However, Greece and China did not figure in the list of most important exporters of maritime transport services because these figures are not fully reported to the IMF. The Russian Federation's low position in terms of exports, despite its ownership of a large number of vessels, may be explained by the large national consumption of maritime transport services.

In 1995, oil tankers and bulk carriers each accounted for over a third of the world's merchant fleets. Oil tankers had the largest share (over 40 per cent) in the fleets of both developed market-economy and major open-registry countries, whereas bulk carriers had the largest share (42 percent) in the fleets of developing countries and socialist countries of Asia. General cargo vessels (share of 39 per cent) dominated the fleets of Central and Eastern European countries (including the former USSR).

In 1995, the United States, Germany, the United Kingdom, France and Japan were the top 5 exporters as well as the top 5 importers of *air transport services*. More disaggregated or industry-level data for air transport services are presented in Tables A12, A13 and A14, which are drawn from the ICAO Annual Reports. In 1995, United States' airlines carried the highest number of passengers on scheduled flights. The United States' share of world's passengers carried was more than 41 percent in terms of total operations, and more than 14 percent for international operations. Airlines from the United States also carried the most tonnage of freight in 1995. It's share of world's freight tonnes-kilometres performed was approximately 24 percent from total operations, and approximately 15 percentage from international operations.

### **(iii) Travel**

The BOP category *travel* covers all expenditures by travellers abroad, including those on goods, and is not subdivided into the different categories of services acquired by travellers. Some elements of consumption abroad which arise when the property of the consumer moves or is situated abroad, as in the repair and maintenance services of ships and aircrafts, are not recorded in *travel* but in other BOP categories.

Table A15 presents the 15 leading exporters and importers of *travel services* in 1995. The top ten exporters and importers of *travel services* in 1995 accounted for approximately 59 percent and 63 percent of world exports and imports of *travel services*, respectively. In 1995, the United States was the leading exporter of *travel services*, and Germany was the leading importer of *travel services*.

France, United States, Spain, Italy and Hungary were the top five tourism destinations in 1994 as shown in Table A16. The top ten tourism destinations in 1994, which also included China, Poland and Mexico, accounted for more than half of the arrivals worldwide.

### **(iv) Communications**

In the GNS classification *communications services* include postal, courier, telecommunication, and audiovisual services. In the BPM-5 Classification, *communications services* group together postal, courier and telecommunication services, while audiovisual services are reported separately as an element of personal, cultural and recreational services.

Table A17 presents the 20 leading exporters and importers of *communications services* among those countries that have reported to the IMF in 1995. The top five exporters and importers of *communications services* in 1995 accounted for more than 49 percent and 67 percent of reported exports and imports of *communications services*, respectively.<sup>12[12]</sup> The United States, Germany and the United Kingdom were the top three exporters and importers of *communications services*.

Table A18 presents the top 20 revenue-earners of international telecommunication services in 1995, and Table A19 presents the international telephone traffic for the top 20 countries - ranked by the number of outgoing minutes for the same period.

#### **(v) Construction**

In the GNS classification, *construction services* are subdivided into several sub-sectors, while the BPM-5 classification includes all construction services in a single category. Two points should be noted about the BOP statistics on construction services: first, the one-year rule for determining whether an entity is resident is interpreted flexibly, so that many situations of temporary commercial presence are captured by the data. Second, goods imported by an enterprise for use in projects are included in the value of construction services rather than being recorded under goods trade; the data presented thus tends to overrate the "true" services component.

Table A20 presents the 20 leading exporters and importers of *construction services* for those countries that have reported to the IMF in 1995. The top five exporters and importers of *construction services* in 1995 accounted for approximately 61 percent and 69 percent of reported exports and imports of *construction services*, respectively.<sup>13[13]</sup>

#### **(vi) Financial services**

In the GNS classification, *financial services* include insurance, banking and other financial services. In the BPM-5 Classification, *financial services* covers financial intermediary and auxiliary services (except those of insurance enterprises and pension funds) conducted between residents and non-residents. Included are intermediary service fees, such as those associated with letters of credit, bankers' acceptances, lines of credit, financial leasing, and foreign exchange transactions. Also included are commissions and fees related to transactions in securities - brokerage, placements of issues, underwritings, redemptions, and arrangements of swaps, options, and other hedging instruments; commissions of commodity futures traders; and services related to asset management, financial market operational and regulatory services, security custody services, etc.

Table A21 presents the 20 leading exporters and importers of *financial services* (other than insurance) for those countries that have reported to the IMF in 1995. The top five exporters and importers of *financial services* in 1995 accounted for approximately 61 percent and 71 percent of reported exports and imports of *financial services*, respectively.<sup>14[14]</sup>

The financial services statistics illustrate why it is important to view both the values of services trade and the country rankings with a certain degree of caution. First, two major

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traders, Switzerland and the United Kingdom, report financial trade statistics only on a net basis, and not separately for exports and imports. Since each has a trade surplus, the two countries appear in Table A21 as exporters. But the practice of reporting net figures leads to an underestimation of world exports and world imports, and this leads to a distortion of the ranking of countries. Second, huge revisions in the national statistics reveal the fragility of current data. For instance, Japan's financial services imports (exports) in 1996 are nearly 10 times (6.5 times) larger than those reported in 1995; for the United States, recent revisions suggest that financial services imports (exports) may have been as much as 45 per cent (15 per cent) higher than the values reported in Table A21.

### **(vii) Insurance**

In the GNS classification, *insurance services* include both life and non-life insurance, as well as reinsurance and retrocession, insurance intermediation, and services auxiliary to insurance. In BOP statistics, *insurance services* are valued by service charges included in total premiums earned rather than by total premiums. The BPM-5 classification does not include any sub-component for insurance services.<sup>15[15]</sup>

Table A22 presents the 20 leading exporters and importers of *insurance services* among those countries that have reported to the IMF in 1995. The top ten exporters and importers of *insurance services* in 1995 accounted for approximately 84 percent and 72 percent of reported export and import of *insurance services*, respectively.<sup>16[16]</sup>

### **(viii) Computer and information services**

The GNS classification makes a distinction between *computer services*, which is a sub-sector of *business services*, and *news agency services*, which is a sub-sector of *recreational, cultural and sporting services*. However, in the BPM-5 Classification, *computer and information services* are treated as a single category.

Table A23 presents the 20 leading exporters and importers of *computer and information services* among those countries that have reported to the IMF in 1995. The top five exporters and importers of *computer and information services* in 1995 accounted for approximately 70 percent and 71 percent of reported export and import of *computer and information services*, respectively. Table A7 shows that this sector is probably the worst affected by reporting problems - the share of reporting countries in total trade is estimated to be only 49 percent.<sup>17[17]</sup>

### **(ix) Other business services**

Under *other business services*, the IMF classification includes *merchandising and other trade related services*, *operational leasing* and *miscellaneous business, professional and technical services*. *Merchandising and other trade related services* are related to elements of *distribution services* in the GNS classification, while *operation leasing services* relate to *rental/leasing services*, which is a subset of business services. *Miscellaneous business, professional and technical services* in the IMF classification cover elements of *professional services, research and development services, advertising services and other business services* in the GNS classification.

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Most countries report figures only for the aggregate category *other business services*. Table A24 presents the 20 leading exporters and importers of *other business services* among those countries that have reported to the IMF in 1995. The top ten exporters and importers of *other business services* in 1995 accounted for approximately 65 percent and 60 percent of world export and import of *other business services*, respectively.

#### **(x) Royalties and licence fees**

A part of the IMF category *royalties and licence fees* captures the GNS category *franchising*, which is a subset of *distribution services*.

Table A25 presents the 20 leading exporters and importers of *royalties and licence fees* for those countries that have reported to the IMF in 1995. The top five exporters and importers of *royalties and licence fees* in 1995 accounted for approximately 89 percent and 60 percent of reported export and import of *royalties and licence fees*, respectively.<sup>18[18]</sup>

#### **(xi) Personal, cultural and recreational services**

The BPM-5 Classification, *personal, cultural and recreational services* captures transactions related to the GNS category *personal, cultural and sporting services together with audiovisual and related services*.

Table A26 presents the 20 leading exporters and importers of *personal, cultural and recreational services* among those countries that have reported to the IMF in 1995. The top five exporters and importers of *personal, cultural and recreational services* in 1995 accounted for approximately 82 percent and 61 percent of reported export and import of *personal, cultural and recreational services*, respectively.<sup>19[19]</sup>

### **IV. FOREIGN AFFILIATES TRADE (FAT) STATISTICS**

As noted above, balance of payments statistics do not capture trade through commercial presence. Such trade is measured by statistics on the sales of foreign affiliates. The United States is the only country which has been regularly collecting Foreign Affiliates Trade statistics, though other OECD countries are now beginning to do so.

The United States compiles data on sales of services to foreign persons by Majority-Owned Foreign Affiliates (MOFAs) of U.S. companies, and on sales of services to U.S. persons by Majority-Owned U.S. Affiliates of Foreign companies (MOUSAs). MOFAs data are broken down by country of affiliate and MOUSAs by country of Ultimate Beneficial Owner (UBO). The U.S. data are particularly useful for comparing BOP-related and FAT-related sales, given that: (i) they are available for a number of service sectors and are broken down by partner country; (ii) U.S. FAT sales do not include sales to the country of origin, which prevents an overlap between BOP and FAT data; and (iii) U.S. sectoral BOP statistics are available for unaffiliated partners only, which prevent the double counting of particular transactions, such as when a service is exported to an affiliate which subsequently sells it on its domestic market. However, the fact that intra-firm transactions are not included is likely to

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induce a substantial undervaluation of BOP transactions in particular sectors such as in finance, accounting and advertising.

Comparisons of BOP and FAT statistics are affected by the fact that BOP transactions are mainly classified by type of service, whereas data on sales by foreign affiliates are broken down according to the primary industry of the affiliate.<sup>20[20]</sup> Furthermore, there is generally no direct concordance between these two classifications. Finally, as minority-owned foreign affiliates escape registration in FAT statistics, these statistics may underestimate the commercial presence mode of supply. A number of minority-owned foreign affiliates are presumably controlled by the foreign parent company.

In the following tables, it should be noted that the relative importance of trade by different modes in a particular sector reflects the choices of economic agents given the constraints of both technological feasibility and policy restrictions. Thus, for instance, we may observe a relatively high degree of affiliates trade in a particular legal service either because cross-border supply is not feasible or because such supply is restricted by the government.

Table 3 presents aggregate figures for BOP transactions and foreign affiliates transactions for the United States between 1992 and 1994, the most recent year for which statistics have been published. The relative importance of the two types of transactions does not differ significantly at the aggregate level. However, while BOP exports tend to exceed sales through affiliates, purchases through affiliates tend to be more important than BOP imports by roughly the same extent.

**Table 3: Total commercial services trade of the United States**

(Million dollars and percentage)

	1992	1993	1994	Annual change 1992-93	Annual change 1993-94
BOP (exports)	164057	172139	182704	4.9	6.1
MOFAs	141585	142603	153541	0.7	7.7
BOP (imports)	103328	111016	121148	7.4	9.1
MOUSAs	126989	134700	144365	6.1	7.2

Source: Compiled by the secretariat from Survey of Current Business (1996, November).

Table 4 compares the receipts and payments of transportation services from BOP transactions and foreign affiliates transactions for the United States. In 1994, BOP transactions accounted for more than 80 percent of total receipts and total payments for transportation services. Freight and passenger transport (cross border supply by convention) accounted for a major part of BOP transactions. Europe dominates the United States' trade in transport services. In 1994, Europe's share of BOP exports was about 35 percent, and MOFAs sales was about 43 percent.

**Table 4: U.S. trade in transport services, 1994**

(Million dollars)

	Total	Canada	Europe	Latin America	Japan	Australia	Other
BOP exports (receipts)	42944	3565	15026	6804	8176	629	8744
MOFAs sales	8740	1550	3789	383	(a)	135	1991
BOP imports (payments)	40868	3622	16038	4320	5865	665	10358
MOUSAs sales	9551	1418	5728	54	1792	44	322

Source: Survey of Current Business (1996, November).

(a) Confidential.

The U.S. BOP classification provides a category for telecommunication services, but no category for other communications services. On the other hand, U.S. FAT statistics provide only for communications services as a whole. Despite the wider coverage of the FAT category, it can be seen from Table 5 that cross-border imports of telecommunication services in the United States are far more important than MOUSAs sales in the United States. Sales of MOFAs are close to cross-border exports for Europe and Latin America, but the sales of MOFAs dominate with respect to the non-reporting "other" countries. The relative importance of cross-border supplies and sales via commercial presence varies widely according to the partner country.

**Table 5: U.S. trade in telecommunications (BOP) and communications (MOFAs and MOUSAs), 1994**

(Million dollars)

	Total	Canada	Europe	Latin America	Japan	Australia	Other
BOP exports (receipts)	2871	244	924	672	212	59	761
MOFAs sales	(a)	(a)	785	866	(a)	(a)	1900
BOP imports (payments)	6924	390	1603	2358	268	66	2240
MOUSAs sales	1057	(a)	795	(a)	4	0	(a)

Source: Survey of Current Business (1996, November).

(a) Confidential.

Table 6 shows that in the United States, commercial presence is by far the dominant mode of supply in insurance services.

**Table 6: U.S. trade in insurance services, 1994**

(Million dollars)

	Total	Canada	Europe	Latin America	Japan	Australia	Other
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BOP exports (receipts)	4944	1021	2088	843	470	85	437
MOFAs sales	30941	5242	9106	3152	8271	324	4846
BOP imports (payments)	13861	1128	6563	5521	429	97	123
MOUSAs sales	48666	11586	36191	(a)	495	112	130

Source: Survey of Current Business (1996, November).

(a) Confidential.

*Computer and data processing services* are a subset of business services.<sup>21[21]</sup> Despite the expansion of trade through BOP-related modes of supply, commercial presence remains the dominant mode of supply, as illustrated in Table 7.

**Table 7: U.S. trade in computer and data processing services, 1994**

(Million dollars)

	Total	Canada	Europe	Latin America	Japan	Australia	Other
BOP exports (receipts)							
Computer and data processing services	2724	192	959	244	388	123	818
Data base and other information services	1113	108	558	81	119	85	161
Total of above	3837	300	1517	325	507	208	979
MOFAs sales	16714	759	11723	1363	1217	654	998
BOP imports (payments)							
Computer and data processing services	244	31	162	4	11	11	25
Data base and other information services	141	9	96	1	19	2	14
Total of above	385	40	258	5	30	12	39
MOUSAs sales	2944	438	2197	14	138	61	94

Source: Survey of Current Business (1996, November).

In professional services, the comparison between commercial presence and other modes of supply is limited by the availability of data and the lack of concordance between BOP and FAT classifications. Table 8 presents a comparison between U.S. BOP receipts and payments in *management, consulting and public relations services; accounting, auditing and bookkeeping services; and research, development and testing* on the one hand, and MOFAs and MOUSAs sales in the *accounting, research, management and related services* sectors on the other hand.

Although the three BOP categories together are broader in scope than the FAT category, sales by foreign affiliates are far more important than the corresponding BOP transactions. Commercial presence is thus the dominant mode of supply in professional

services for the United States, as shown in Table 8.

**Table 8: U.S. trade in accounting, management and related services, 1994**

(Million dollars)

	Total	Canada	Europe	Latin America	Japan	Australia	Other
BOP exports (receipts)							
Management, consulting & public related services	1138	77	391	148	69	47	405
Accounting, auditing and bookkeeping services	132	...	...	...	...	...	...
Research, development and testing	522	38	182	15	150	12	125
Total of above	1792	...	...	...	...	...	...
MOFAs sales							
Accounting, research, management & related services	5678	693	3969	222	238	202	354
BOP imports (payments)							
Management, consulting & public related services	318	29	149	25	16	9	90
Accounting, auditing and bookkeeping services	130	...	...	...	...	...	...
Research, development and testing	294	35	153	12	46	5	43
Total of above	742	...	...	...	...	...	...
MOUSAs sales							
Accounting, research, management & related services	1606	17	1215	13	334	4	20

Source: Survey of Current Business (1996, November).

From Table 9 it is evident that in advertising services, commercial presence is again the dominant mode of supply.

**Table 9: U.S. trade in advertising services, 1994**

(Million dollars)

	Total	Canada	Europe	Latin America	Japan	Australia	Other
BOP exports (receipts)	489	208	119	72	39	5	46
MOFAs sales	(a)	324	3148	195	189	184	(a)
BOP imports (payments)	725	47	285	51	231	23	88
MOUSAs sales	3135	13	2897	(a)	76	0	(a)

Source: Survey of Current Business (1996, November).

(a) Confidential.

Table 10 shows the growth rates of BOPs trade and Foreign Affiliates Trade for 1992-1993 and 1993-1994. No clear pattern emerges of the changing relative importance of different modes of supply.

**Table 10: Growth of U.S. BOP and Foreign Affiliates Trade, 1992-93 and 1993-94**

(Percentage)

Sectors	Growth rates 1992-93			
	BOP exports	MOFAs sales	BOP imports	MOUSAs sales
Telecommunications & communications	-3.5	-33.3	5.2	-0.2
Transport	0.5	3.4	4.5	2.3
Insurance	3.3	6.2	3.0	(a)
Accounting, management and related services	-3.3	-3.9	10.0	25.6
Advertising	7.3	-16.0	43.6	7.6
Computer and data processing services	18.0	8.7	94.4	1.3

Sectors	Growth rates 1993-94			
	BOP exports	MOFAs sales	BOP imports	MOUSAs sales
Telecommunications & communications	3.1	(a)	8.8	9.0
Transport	6.0	30.3	8.6	9.9
Insurance	24.2	12.2	14.6	9.8
Accounting, management and related services	23.2	9.6	18.0	13.6
Advertising	44.7	(a)	12.2	22.9
Computer and data processing services	27.8	31.9	-7.0	17.5

Source: Compiled by the Secretariat from Survey of Current Business (1996, November).

(a) Confidential.

## V. ESTIMATING TRANSACTIONS ASSOCIATED WITH PRESENCE OF NATURAL PERSONS

To begin with, it must be recognized that no comprehensive statistics exist today on the extent of trade taking place through Mode 4, i.e. through the presence of natural persons. This section examines certain indirect indicators of such trade. Presence of natural persons includes, first, service suppliers who are present for less than a year in foreign markets and are therefore considered non-resident in the BOP context. If such natural persons are themselves service suppliers, then their sales are captured in the relevant services categories of BOP statistics - but are not recorded separately from cross-border sales. Employees are covered by the GATS if they are employed by a service supplier of a Member. The earnings of such natural persons are an unidentifiable ingredient of the BOP category *compensation of employees*, which records the earnings of all natural persons established abroad for less than one year - regardless of the sector of employment. Starting with the 1995 issue of the Annual Report, the WTO decided to exclude compensation of employees, which consists mainly of wages and

salaries paid to seasonal and border workers, from the definition of commercial services. The main reasons were that the former category measured income earned by temporary employees in both the goods and services sectors, rather than sales of services *per se*. Nevertheless, Table 11 presents evidence on compensation of employees since this is the closest indicator that can currently be found of the importance of Mode 4, subject to all the qualifications noted above. The largest compensation of employees abroad was received by the Philippines which also recorded the fastest increase in such earnings in 1995. Switzerland made the largest payments of compensation to foreign employees in 1995, but the fastest growth in payments was recorded by Israel.

There is no record in the BOP statistics of the activities of natural persons who are resident for longer than one year, except that workers' remittances capture the transfers that they make. Employment data from FAT statistics (such as number of employees and compensation of employees) would be relevant, when it becomes available, especially if it distinguishes between "national" and "foreign" employees.

**Table 11: Compensation of employees by originating and host country in 1994-95**

(Million dollars and percentage)

Rank	Credit	1995	1994	Percentage change	Rank	Debit	1995	1994	Percentage change
1	Philippines	4928	3009	63.8	1	Switzerland	7054	6078	16.1
2	Belgium- Luxembourg	4513	3524	28.1	2	Germany	6350	5350	18.7
3	Germany	4480	4340	3.2	3	France	5362	4769	12.4
4	France	4460	3695	20.7	4	Belgium- Luxembourg	2507	1712	46.4
5	Italy	1934	1901	1.7	5	Japan	1820	1580	15.2
6	Thailand	1695	1281	32.3	6	Italy	1447	1922	-24.7
7	Switzerland	1233	1060	16.3	7	United States	1360	1330	2.3
8	Japan	1150	870	32.2	8	Netherlands	1083	760	42.5
9	Austria	973	845	15.1	9	Israel	650	268	142.5
10	Mexico	695	647	7.4	10	Bahrain	593	506	17.2
11	Netherlands	666	511	30.3	11	Russian Fed.	469	221	112.2
12	Denmark	523	439	19.1	12	India	419	351	19.4
13	Australia	431	387	11.4	13	South Africa	413	621	-33.5
14	Ireland	347	324	7.1	14	Austria	340	292	16.4
15	Greece	304	310	-1.9	15	Australia	306	235	30.2
16	South Africa	205	184	11.4	16	Greece	300	222	35.1
17	Czech Rep.	189	164	15.2	17	Sweden	289	203	42.4
18	Russian Fed.	167	108	54.6	18	Ecuador	255	210	21.4
19	Slovenia	166	153	8.5	19	Poland	251	130	93.1
20	United States	160	160	0.0	20	Brazil	218	190	14.7

Source: IMF Balance of Payments Statistics.

## VI. CONCLUSIONS

This paper has drawn together a variety of data to construct a general, but necessarily incomplete, picture of services trade. In the near future, data availability is likely to improve for three reasons: First, more countries are expected to report statistics according to the relatively disaggregated classification introduced in the 5th edition of the

IMF's BOP Manual. Second, as mentioned, several OECD countries have begun pilot studies on statistics for the commercial presence mode of supply, referred to as Foreign Affiliates Trade statistics. Finally, the Inter-Agency Task Force on Trade in Services Statistics is developing an international manual which seeks to harmonize classification and collection methodologies.

Meanwhile, further work could be undertaken to obtain some indirect estimates of the importance of the two modes for which little information exists: commercial presence and presence of natural persons. The Secretariat could, for instance, explore the existing statistics on foreign direct investment, and any employment and migration statistics that can be found.

It would be misleading, however, to end on an optimistic note as we are a long way from bridging the gap between GATS negotiations' demands and statistical availability. The conclusion of a previous Secretariat paper is still valid: "Improving services statistics is a long term process that depends primarily on efforts by national statistical agencies to employ the appropriate methodologies and a willingness on the part of government to meet the resource costs involved".

## ANNEX A

**Table A1: Share of goods and commercial services in total trade of selected regions and economies, 1995**

(Billion dollars and percentage, based on balance of payments data)

	Exports			Imports		
	Value	Percentage share		Value	Percentage share	
	Total	Goods	Commercial services	Total	Goods	Commercial services
World	6,240	80.9	19.1	6,130	80.3	19.7
North America	978	78.5	21.5	1,075	85.3	14.7
Canada	211	90.0	10.0	197	85.1	14.9
United States	767	75.3	24.7	878	85.4	14.6
Latin America	276	84.3	15.7	286	82.0	18.0
Argentina	24	88.4	11.6	24	79.5	20.5
Brazil	53	88.6	11.4	63	79.1	20.9
Chile	19	84.0	16.0	18	82.1	17.9
Colombia	14	75.6	24.4	16	80.0	20.0
Mexico	88	90.1	9.9	82	88.6	11.4
Venezuela	20	93.3	6.7	16	71.1	28.9
Western Europe	2,764	79.0	21.0	2,608	78.6	21.4
Austria	97	74.7	25.3	100	77.9	22.1
Belgium-Luxembourg	189	82.0	18.0	178	81.4	18.6
Denmark	64	76.9	23.1	56	75.1	24.9
Finland	48	84.4	15.6	38	74.8	25.2
France	366	73.8	26.2	336	77.1	22.9
Germany	604	86.6	13.4	589	77.6	22.4
Greece	15	38.3	61.7	24	83.6	16.4
Ireland	49	90.3	9.7	42	73.3	26.7
Italy	299	78.2	21.8	254	74.5	25.5
Netherlands	222	78.7	21.3	199	77.2	22.8
Norway (a)	57	74.2	25.8	48	66.0	34.0
Portugal	32	74.7	25.3	39	83.8	16.2
Spain	131	69.7	30.3	130	83.4	16.6
Sweden	94	83.9	16.1	80	78.7	21.3
Switzerland	123	78.8	21.2	109	85.9	14.1
Turkey	36	60.3	39.7	40	88.3	11.7
United Kingdom	312	77.4	22.6	318	81.8	18.2
Africa	137	81.8	18.2	153	77.2	22.8
Algeria (a)	11	96.6	3.4	10	87.3	12.7
Egypt	13	36.1	63.9	17	73.1	26.9
Libyan Arab Jamahiriya (a)	8	98.6	1.4	8	81.1	18.9
Morocco	9	78.7	21.3	11	85.9	14.1
Nigeria (a)	11	96.4	3.6	11	72.1	27.9
South Africa	33	87.1	12.9	33	81.3	18.7
Tunisia	8	69.5	30.5	9	85.7	14.3
Asia	1,668	84.1	15.9	1,619	79.7	20.3
Australia	69	77.4	22.6	74	77.6	22.4
China	147	87.4	12.6	135	81.7	18.3
Hong Kong, China	210	82.9	17.1	215	90.0	10.0
India	38	82.2	17.8	46	78.2	21.8

Indonesia	51	89.0	11.0	53	75.1	24.9
Japan	493	87.0	13.0	418	71.0	29.0
Korea, Rep. of	148	83.1	16.9	155	82.3	17.7
Malaysia	83	86.6	13.4	86	83.5	16.5
New Zealand	18	76.1	23.9	17	73.2	26.8
Philippines	27	65.2	34.8	33	79.3	20.7
Singapore	148	80.3	19.7	134		