Preliminary and Incomplete

Measuring International Trade in Services Robert E. Lipsey

Paper for Pre-Conference on International Service Flows

Cambridge, MA, November 14, 2005

Measuring International Trade in Services

Robert E. Lipsey

Introduction

Most of the literature on international trade that has accumulated over the last 300 years has dealt with trade in goods, and almost every country has had in place for many years a system of collecting information on such trade. In the mercantilist era, a surplus of exports over imports of goods was sought as a way of acquiring gold, and imports of goods were carefully watched and counted as a source of tax revenue. As a result, there has been an apparatus in place for measuring the inflow and outflow of goods in every country for centuries, based on counting and appraising the value of goods as they crossed the country's borders. Trade in goods among regions of a country is often studied by trying to approximate the movement of goods across regional, provincial, or state borders. Only recently, with the establishment of the single market in the European Union, have some major trading countries moved away from the traditional reliance on customs declarations at borders and been forced to invent other ways of measuring trade in goods (OECD, 2001, p. 3). The collection of data on trade in goods is governed by recommendations set forth in United Nations (2004), which translates for compilers of trade data the methodological guidelines adopted by the United Nations Statistical Commission. One of the principal recommendations is that countries use "...crossing the border rather than change of ownership as the basic principle for compilation of trade statistics..." (P. 5). The geographical basis of the data is emphasized by the recommendation that the data should "Record all goods which add to or subtract from the stock of natural resources of a country by entering (imports) or leaving (exports) its economic territory (p. 74), and by the definition of the partner in terms of

the "statistical territory of its trading partners" or, when free zones are involved, the economic territory if the reporting country uses "the strict version of the special system of trade." The definitions are all based on geography rather than ownership.

The measurement of trade in goods for the balance of payments has a different objective. That is the measurement of changes in the ownership of goods between residents and nonresidents of a country. Since the great majority of such changes in ownership take place in connection with the physical movement of the goods, the measures are quantitatively close, and the balance of payments measures are mainly dependent on the data for the physical movement of goods and very close to them. However, since imports are reported on a c.i.f. basis in the goods trade data, and the balance of payments concept separates freight and insurance costs from the value of the physical commodities, one adjustment that is required is to peel off those costs and transfer them to the trade in services account.. Most of the differences involve the dependence of the balance of payments accounts on change of ownership rather than physical movement. Thus, the trade statistics include, and the balance of payments data exclude, goods purchased by travelers and brought home, because there is no change of ownership while there is a change in location. Trade data include, but balance of payments figures exclude, Goods imported for projects by non-resident construction enterprises. The trade figures exclude, but the balance of payments figures include, Bunkers, Goods for repair and Goods entering or leaving a country illegally. Other adjustments involve, for example, timing in terms of change of ownership rather than terms of the change in the location of goods.

In contrast, trade in services does not have two alternative measurements. It exists only in the balance of payments universe. As is observed in OECD (2001), "Unlike trade in goods, trade in services involves no package crossing the customs frontier with accompanying

documentation showing an internationally recognized commodity code, a description of the contents, information on quantity, origin, and destination, an invoice and an administrative system based on customs duty collection, which facilitates data compilation." The difference is more than a question of documentation. Trade in services often involves no crossing of an international boundary by the service, but only a crossing of a border by the consumer of the service. Many trades in services are geographically domestic transactions made international solely by a difference in country of residence between the buyer and the seller of the service. It is a balance of payments concept more than a trade concept, and the definition of residence plays a crucial part in defining what trade in services is.

If the object in the balance of payments is not to measure the physical movement of goods or services, and trade in services does not involve a change in ownership, what is the goal of the measurement? Writings about the balance of trade, and particularly about the balance of payments, have often had a whiff of mercantilism about them. That used to be especially clear in the references to "favorable" or "unfavorable" balances. These terms have virtually disappeared, but they reflected the traditional purpose of the calculations, which was to know whether a country was gaining or losing gold. In an international regime aiming at stability of exchange rates, the substitute was the question of demand for and supply of a country's currency. One reflection of that aim was the effort to define "autonomous" and "accommodating" transactions, as in Meade (1951, pp. 11-16). In the United States, there was a search for the appropriate measure of balance-of-payments deficits or surpluses, the need for which stemmed from the fact that "Leading countries have established fixed parities for their currencies and have undertaken to maintain exchange rates within prescribed margins of those parities" (Review Committee for Balance of Payments Statistics, 1965, p. 2). That purpose too has become

obsolete. The Bureau of Economic Analysis, describing concepts underlying the balance of payments in 1990, does not provide a purpose for the calculation, but defines it simply as "...a statistical summary of international transactions...defined as the transfer of ownership of something that has an economic value measurable in monetary terms from residents of one country to residents of another" (U.S. Department of Commerce, 1990, p. xiii). Since transfer of ownership is crucial, the definition of residence is important, and gives rise to some of the problems in measuring trade in services, as is discussed below

The size and growth of world trade in services.

Trade in services has been something of an orphan in international measurement, but it is large, and interest in it has been growing. In 2002, the OECD countries as a group reported service exports \$1,622 billion, 25 per cent of the value of exports of goods, and service imports of \$1,631 billion, 26 per cent of reported imports of goods (OECD, 2003, Table A-1). Many countries that report to the IMF do not report service exports and imports. The number of those that do report has been increasing over time, so that it is difficult to judge whether their importance relative to goods trade, which has also been growing relative to GDP since 1950, has been rising. For 22 countries that have reported service exports and imports since 1972 and accounted for over half of "world" exports of services in 2003, the ratio of service exports to goods exports has grown from 24 to almost 29 per cent over that period. The corresponding ratio for imports fell from 27 to 26 per cent over that same period (Table 1). For a larger group of 30 countries that have reported service exports and imports since 1977, and accounted for two thirds of "world" service exports in 2003, the ratio of service exports to goods exports grew from about 22 to over 27 per cent between 1977 and 1992-93, and has fluctuated around that level since then (Table 2). The ratio for imports grew from 24-25 per cent to a peak of 30 per cent in

1993 and has since settled back to around 27 per cent. Thus there is some indication of an upward trend in at least the reported service exports relative to goods exports, but little indication of such a trend on the import side.

Reported imports of services in the 22 countries, which had been larger than reported exports until the 1990s, sometimes by 10 per cent or more, have been much closer in size since then. That same trend is shown in the data for 30 countries since 1977, with the latest figures showing exports and imports almost equal in size (Table 2). Either comparative advantages have changed or there have been more improvements in measuring service exports than in measuring service imports.

The size and growth of U.S. trade in services

The United States has been a leader in measuring service trade, perhaps because it offers a more cheerful picture of the U.S. international position than the goods trade account. In 2003, the United States had a small surplus of exports over imports in service trade, of about \$50 billion, in contrast to a deficit in goods trade of almost \$550 billion. Services were much larger relative to goods in U.S. exports (over 40 per cent) than in U.S. imports (about 20 per cent), presumably reflecting U.S. comparative advantage in service industries (Sauers, 1994, p. 77). In the decade from 1987 through 1996, U.S. service exports were growing faster than U.S. service imports, by about 40 per cent, but since then, the growth of service exports has slowed considerably, and service imports have been growing faster than exports, by a large margin (Borga and Mann, 2004). For the OECD as a whole, the shares of services in exports and imports were much more similar than for the United States. Services were between 23 and 26 per cent of goods in both exports and imports in 2000. Growth rates were also similar. On the

export side, they were 8.5 per cent per annum for services and 8.3 per cent for goods, and on the import side, 8.6 and 8.5 per cent between 1985 and 2000 (OECD, 2001).

The large current importance of services in U.S. exports is not unprecedented. In 1800 and 1810, U.S. service exports were more than 45 per cent of goods exports, and they were typically more than 20 per cent in that era. Services were more important in U.S. exports than in U.S. imports, usually more than twice as important (North, 1960). After the Civil War, the relation was reversed, and services were generally much more important in imports than in exports in the latter half of the 19th Century (Simon, 1960).

Since 1960, U.S. service exports have fluctuated between 20 per cent and a little over 40 per cent of U.S. goods exports, with all the ratios above 40 per cent occurring since 1992. The service shares of exports were low, between 20 and 30 per cent of goods exports, in 1973 to 1981, times of relatively high oil prices.

U.S. service imports were over half as large as goods imports in 1960 and 1961, but the ratio fell to below 20 per cent in 1976 and has ranged around 20 per cent since then. Thus, there has been a strong trend toward a rising share of services in exports and a falling trend in the service share within U.S. imports (BEA, 2005).

Estimates of U.S. service trade are still a work in progress. A report by the Office of Technology Assessment (U.S. Congress, Office of Technology Assessment, 1986) estimated that exports of services, excluding banking services, were about 60 per cent higher than "Official U.S. Government figures" in 1983 and 1984, and that imports of services were 40-50 per cent higher in those years (Table 1). The latest official BEA calculations of service exports and imports are quite close to the OTA estimates for those years, but somewhat larger for 1984 (Sauers and Pierce, 2005, Table 1).

The path to the much higher revised estimates of trade in services was described in the Appendix to Whichard and Borga (2002). That path began with new legislation in 1984 that permitted BEA to conduct surveys of trade in services. The first benchmark survey was carried out for 1986, and annual follow-up surveys began in 1987. Also, in that year medical service exports were first estimated and primary insurance services were added to previous estimates of reinsurance transactions. Estimates of expenditures by foreign students in the United States and U.S. students abroad started in 1989. In 1990, services were redefined to exclude investment income. In 1992, trade in services between U.S and foreign parents and their affiliates was placed on a gross, instead of a net, basis, increasing both exports and imports of services, coverage of transportation services was increased, and some new services were added to the 1991 benchmark.. Truck transportation services between the United States and Canada were added to the service trade account in 1995 and in 1996, BEA began a "Benchmark Survey of Financial Services Transactions Between U.S. Financial Services Providers and Unaffiliated Foreign Persons." Since then, there have been other improvements in measures of transportation services and reclassifications of software royalties and license fees, leasing of transportation equipment, and compensation of employees, new sources for exports of medical services and imports of travel, and various other items.

One consequence of all these improvements in data collection and expansions in the list of services covered is that historical comparisons over long periods are questionable. The earliest estimates of U.S. service exports included only shipping earnings, and later also port charges on foreign ships, and foreign tourist expenditures in the United States, items that accounted for perhaps a third of service exports in 2003. The same items, plus estimates of bankers' commissions might be cover more of the current imports of services, perhaps a little

over half. Of course, many of the services traded currently, such as telecommunications and film and television tape rentals, did not exist very long ago, but it is hard to guess what other services existed then that are now obsolete. It is therefore difficult to say whether the apparent rising trend in the share of services in U.S. export trade is genuine.

The definition of residence

The Review Committee for Balance of Payments Statistics (1965) suggested that "balance of payments data are peculiarly elusive" because, "The basic criterion for a balance of payments transaction is that it is between a domestic and a foreign 'resident.'...The application of this set of concepts to concrete situations may involve subtle distinctions, and it is often difficult to determine residence even when all the facts are known....Distinctions based on the balance of payments concept of residence have not ordinarily been important in the affairs of business firms, governments, or households; the concept, therefore, is not normally reflected in their records. The balance of payments statistician seeking data on international transactions from these records finds himself asking questions that are likely to be new and alien to the company's or the agency's normal way of thinking." (pp.16-17).

The measurement of trade in more and more services places a great deal of weight on the definition of residence, because the identification of residence can change what is on the face of it a domestic transaction into an international transaction. One example is the export of education services through study at U.S. schools by foreign students. The service that is simply domestic production and consumption or investment in human capital if a student is a resident of the United States, is an export of educational services if the student is classified as a "foreign resident". Any student of foreign nationality is assumed to be a resident of that foreign country.

Meade (1951, p. 34) ends up by defining exports as an element of "...demands for goods and services which directly or indirectly cause a demand for factors of production (i.e. for the productive services of land, capital, enterprise and work)..." whose incomes are recorded in the national income. Imports, correspondingly, lead to a demand for "...the productive resources of other countries." If we interpret that criterion as requiring that exports use the factors of production physically located in a country, the treatment of firms "...organized in the United States and controlled by U.S. interests, but operating abroad" as U.S. residents (U.S. Department of Commerce, 1990, pp. 3-4) appears to contradict it. The same is true of the treatment as domestic production, a source of exports, of production "...undertaken by a resident even though the physical process takes place outside the economic territory." (IMF, 1993, p. 23.)

One question I will try to explore here is how well reported measures of exports and imports of services meet this criterion. Do reported exports constitute a demand by foreign countries on the exporting country's productive resources and do reported imports constitute a demand by the importing country on the source country's productive resources?

The definition of residence and trade in educational services

One case in which the attribution of residence changes a domestic demand on a country's resources into an international demand is that of foreign students, who are always treated as residents of the country from which they come, with the result that their costs of education and living expenses become a service export of the host country. Since many students choose to stay in the host country after their education is completed, the services "exported" to the students' home countries turn into an import of human capital by the host country, an import that is never recorded.

There are no comprehensive data on what proportion of these service exports in fact never leave the host country. A hint that the share might be important in the case of the United States is provided by data on foreign recipients of science and engineering doctorates in the United States between 1985 and 1996 from countries accounting for about three quarters of such doctorates. An intention to stay in the United States was expressed by half of such students in 1985, rising to 70 per cent in 1995 and 1996. A "firm plan to stay," meaning that the student had accepted a definite offer of a postdoctoral appointment or employment in the United States was reported by from 36 to 46 per cent of the doctoral recipients (National Science Foundation, 1998b).

Recipients of doctorates were only a small part of the 13 per cent foreign-born share in R&D scientists and engineers in the United States in 1993, although the foreign-born were more important among Ph. Ds than among those with less education. At all degree levels, about two thirds of the foreign-born scientists and engineers employed in the United States had received their training in the United States (National Science Foundation, 1998a, Table 1).

The idea that there is a human capital flow missing from the balance of payments data was suggested a long time ago. "England exports to India a good many able young men: they do not enter in India's list of imports; but it is claimed that they render to her services whose value exceeds that of her total payments to them. They return to England (if they come back at all) after their best strength has been spent: they are unreckoned exports from England. But that part of their incomes, which they have saved, is likely to come back sooner or later in the form of material goods which enter into her imports. On the other hand, India counts those material goods among her exports to England: but of course she makes no entry among her imports for the expensive young men who have been sent to her. (Marshall, 1923, pp.134-135).

Tax havens and trade in services

There is a considerable literature, some of which is summarized in Hines (2005), that describes the effect of low rates of host country taxation in attracting investment and economic activity by multinationals from the United States and probably, even more from other countries. Some of the activity attracted is production, but much of it involves the shifting of income to avoid or reduce taxes. Hines refers to "an impressive concentration of financial activity in tax havens." The tax havens he lists accounted in 1999 for 0.7 per cent of the world's population and 2.1 per cent of world GDP, but for 4.8 per cent of net property, plant, and equipment of U.S. affiliates, 3.4 per cent of employee compensation, and 3.7 per cent of employment. These shares probably represent production taking place in the tax havens and are not of concern in connection with the measurement of their production or export of services. However, these same tax haven affiliates accounted for 15.7 per cent of gross foreign assets of these U.S. affiliates, 13.4 per cent of sales, and "...a staggering 30 per cent of total foreign income..." (*ibid.* p. 78). "Much of reported tax haven income consists of financial flows from other foreign affiliates that parents own indirectly through their tax haven affiliates. Clearly, American firms locate considerable financial assets in foreign tax havens, and their reported profitability in tax havens greatly exceeds any measure of their physical presence there" (*ibid.*). Hines goes on to suggest that firms in other countries, such as Germany and the Netherlands, that largely exempt foreign income from taxation, have even stronger incentives to locate investment and income production in tax havens (*ibid.*, p. 79). Desai, Foley, and Hines (2003, p. 68) refer to this flexibility as " the ability of multinational firms to adjust the reported location of their taxable profits."

This ability of firms to shift the location of assets and profits by paper transactions makes the location of production ambiguous, especially in industries, such as banking and other financial services, in which production is intangible. The ambiguity in the location of production produces a corresponding ambiguity in measures of exports and imports, which involve the movement of goods and services across international borders, ultimately from producers to consumers. How well do reported exports and imports of services by affiliates of U.S. multinationals fit the criterion given earlier that exports are supposed to represent demands on the exporting country's resources and imports, demands by a country on other countries' resources?

Reported service exports by U.S. affiliates for the world, main regions, and a few selected countries are shown in Table 3, with comparisons to the service exports reported by the same countries to the IMF. The affiliate "exports" are not reported as exports in the BEA surveys, but as sales by affiliates other than local sales, divided between sales to the United States and sales to other areas outside the host countries. The comparisons are very imprecise for a number of reasons. The U.S. affiliate non-local sales of services are incomplete in several respects. One is that they do not include banking, an important part of service exports worldwide, because the BEA surveys of banks do not include the extensive list of questions asked of non-banking parents and their affiliates. Secondly, the BEA data are confined to majority-owned affiliates, because minority-owned affiliates are not asked the questions about destination of sales. Third, the BEA data are heavily suppressed, with very little country detail available for Caribbean countries that account for much of trade in financial services. That problem could be solved to some extent by making use of the unpublished and confidential data that have been collected by the BEA but cannot be examined outside the BEA. Within the BEA, the affiliate data could be compared with such sources as the fairly detailed accounts published, for example, in Eastern Caribbean Central Bank (2004).

The data reported by the countries to the IMF have other deficiencies. They lack detail, and more important, several important countries in international trade in services, such as the Cayman Islands and Bermuda, do not report to the IMF at all.

For the world as a whole, sales outside host countries reported by U.S. affiliates account for less than 10 per cent of aggregate exports. In a few cases, the share of U.S. affiliates is much higher. One example is Switzerland, where they are more than a third. For western hemisphere countries outside of Central and South America, sales outside the host countries by U.S. affiliates were much larger than those reported to the IMF, mainly because of the omission of Bermuda from the IMF total. However, in the case of Barbados in 2002, the reported affiliate sales outside the host country were 23 per cent larger than the total service exports reported to the IMF.

Within Europe, where much more country detail is available, the notable change between 1999 and 2002 is that the growth of U.S. affiliate sales outside their host countries was, in a number of cases, large relative to country reports of increases in service exports. In the Netherlands, U.S. affiliate external sales rose by almost \$3 billion, while total reported service exports rose by \$6.8 billion. In Switzerland, affiliate external sales increased by \$10 billion, while reported service exports rose by less than a \$ billion. And in the United Kingdom, U.S. affiliate external sales grew by over \$11 billion, while total service exports increased by \$12 billion.

My plan with respect to the use of data on U.S. multinational firms is to try to use them to estimate what distortions take place in the firms' allocation of activity to various locations and to understand the implications of these distortions for estimates of the amount of trade in services. The comparisons with reported exports may not reveal the distortions, if the reporting countries accept the firms' allocations in their national accounts and their balance of payments accounts,

but they may be revealed by comparisons across host countries in profit rates, ratios of assets to employment physical capital, and other internal comparisons.

If there are what appear to be large distortions in the trade data, or extreme flexibility in assigning production of services to locations, they raise questions about the meaning and purpose of the balance of payments accounts. Procedures for measurement are often justified by conformity with IMF manuals and the SNA, without much discussion of the implications, if any, of moving from a world in which production and trade consist mostly of commodities to a world in which most production is in the form of services.

Table 1: Service Exports and Imports as Percent of Goods Exports and Imports

	22 Countries ^a		30 Countries ^b	
Year	Exports	Imports	Exports	Imports
1972	24.25	27.06	n.a.	n.a.
1973	22.12	25.17	n.a.	n.a.
1974	18.77	21.39	n.a.	n.a.
1975	20.69	24.17	n.a.	n.a.
1976	21.19	23.80	n.a.	n.a.
1977	21.46	23.55	22.21	24.09
1978	22.21	24.20	22.93	24.89
1979	20.78	24.24	21.70	24.45
1980	20.09	23.36	21.33	23.73
1981	20.79	25.11	21.90	25.68
1982	23.17	26.50	23.48	26.35
1983	23.95	26.06	23.67	26.20
1984	23.29	24.41	22.72	24.86
1985	23.85	24.14	22.99	24.47
1986	25.32	24.64	23.86	25.44
1987	25.41	24.54	24.28	25.74
1988	24.21	24.19	23.37	25.85
1989	24.36	24.11	23.78	25.99
1990	25.72	25.73	25.22	27.38
1991	26.75	26.95	26.14	28.68
1992	28.12	27.48	27.28	29.60
1993	28.59	27.35	27.64	30.06
1994	27.51	25.98	26.18	28.07
1995	25.88	24.75	24.51	26.45
1996	26.60	25.34	25.23	26.81
1997	26.91	25.03	25.38	26.40
1998	27.88	25.31	26.33	26.81
1999	28.38	25.37	26.75	26.77
2000	26.87	24.09	25.73	25.26
2001	27.60	25.34	26.72	26.33
2002	28.87	25.91	27.68	27.10
2003	28.53	26.01	27.47	26.95

a. 22 countries include Australia, Austria, Barbados, Canada, Colombia, Dominican Rep., Germany, Haiti, Israel, Italy, Jordan, Malta, Netherlands, New Zealand, Romania, Saudi Arabia, Singapore, South Africa, Sweden, United Kingdom, United States and Venezuela.

Source: IMF (2005).

b. 30 countries include the same countries as 22 countries, plus Argentina, Belgium-Luxembourg, Brazil, Denmark, Finland, France, India and Japan.

Table 2: Service Exports and Imports (\$US, Billions)

	22 Countries ^a		30 Countries ^b	
Year	Exports	Imports	Exports	Imports
1972	52.3	-56.9	n.a.	n.a.
1973	66.0	-70.8	n.a.	n.a.
1974	80.0	-86.3	n.a.	n.a.
1975	92.0	-98.8	n.a.	n.a.
1976	104.7	-112.6	n.a.	n.a.
1977	118.9	-128.4	170.8	-180.3
1978	142.7	-154.1	206.0	-216.6
1979	171.4	-194.8	241.9	-269.3
1980	202.7	-223.7	288.7	-315.2
1981	208.1	-235.1	301.1	-335.9
1982	211.8	-234.5	295.6	-324.4
1983	207.2	-230.2	288.2	-316.2
1984	211.2	-237.8	293.2	-324.3
1985	218.1	-238.0	301.2	-322.7
1986	258.2	-270.1	354.8	-372.8
1987	304.9	-314.6	421.5	-443.9
1988	335.6	-350.1	468.1	-505.7
1989	364.3	-373.3	509.5	-547.3
1990	444.6	-451.4	619.2	-657.9
1991	469.2	-480.6	653.7	-695.0
1992	519.9	-522.3	725.1	-757.0
1993	516.5	-504.6	718.6	-740.0
1994	558.4	-538.4	766.1	-783.9
1995	632.8	-607.2	857.0	-883.9
1996	683.2	-645.7	909.0	-930.4
1997	712.4	-666.2	938.3	-944.1
1998	729.9	-690.1	961.3	-968.1
1999	760.1	-733.7	1001.3	-1017.8
2000	787.2	-775.2	1048.0	-1069.4
2001	780.9	-777.8	1040.2	-1062.1
2002	830.3	-815.5	1105.7	-1114.1
2003	936.9	-931.0	1260.8	-1269.9
World (2003, 135 countries)	1836.7	-1800.1	1836.7	-1800.1

a. 22 countries include Australia, Austria, Barbados, Canada, Colombia, Dominican Rep., Germany, Haiti, Israel, Italy, Jordan, Malta, Netherlands, New Zealand, Romania, Saudi Arabia, Singapore, South Africa, Sweden, United Kingdom, United States and Venezuela.

Source: IMF (2005).

b. 30 countries include the same countries as 22 countries, plus Argentina, Belgium-Luxembourg, Brazil, Denmark, Finland, France, India and Japan.

Table 3: Exports of Services Reported by US Firms' Affiliates and by Host Countries (\$US, Millions)

	1999		2002	
	Sales by Nonbank Majority-owned Affiliates to US and Other Foreign Countries	Exports of Services Reported by Host Countries	Sales by Nonbank Majority-owned Affiliates to US and Other Foreign Countries	Exports of Services Reported by Host Countries
All countries ³	52,167	1,152,601	92,890	1,333,678
Canada	2,482	36,117	2,811	37,195
Europe				
Netherlands	2,715	49,210	5,578	56,011
Switzerland	648	28,459	10,643	29,378
United Kingdom	12,440	113,944	23,652	125,464
Latin America and Other Western				
Hemisphere	11,652	53,326a,c	14,607	58,261a,b,c
Central & South America	1,883	42,718°	1,810	43,787°
Other Western Hemisphere	9,769	7,885a	12,797	7,871a,b
Barbados	(D)	1,029	1,282	1,041
Bermuda	6,311	n. a.	(D)	n.a.
United Kingdom Islands, Caribbean ¹	881	n. a.	1,540	n. a.
Other ²	(D)	8,375a	(D)	8,458 ^{a,b}
Bermuda & Other ²	(D)	n. a.	9,975	n. a.
Barbados & Other ²	2,577	7,885ª	(D)	7,871 ^{a,b}

^{1. &}quot;United Kingdom Islands, Caribbean" comprises British Antilles, British Virgin Islands, Cayman Islands, Montserrat.

Source:

- 1. Data for Nonbank Majority-owned Affiliates Sales are from US Department of Commerce, Bureau of Economic Analysis, www.bea.doc.gov .
- 2. Exports of Services Reported by Host Countries are from IMF Balance of Payments Statistics, 2004.

^{2. &}quot;Other" refers to Anguilla, Antigua and Barbuda, Aruba, Bahamas, Cuba, Dominica, French Islands (Carribean), Grenada, Haiti, Jamaica, Netherlands Antilles, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, United Kingdom Islands (Atlantic).

^{3.} US is excluded.

a. Data include all the countries in "Other" except Cuba, French Islands (Carribean) and United Kingdom Islands (Atlantic).

b. The Bahamas uses 2003 data.

c. French Guiana is excluded.

⁽D): refers to the suppression of data.

^{(*):} indicates a value between -\$500,000 and +\$500,000, or fewer than 50 employees, as appropriate.

References

- Borga, Maria, and Michael Mann (2004), "U.S. International Services: Cross-Border Trade in 2003 and Sales Through Affiliates in 2002," <u>Survey of Current Business</u>, Vol. 84, No. 10, October, pp. 25-76.
- Desai, Mihir A., C. Fritz Foley, and James R. Hines, Jr. (2003) "Chains of Ownership, Regional Tax Competition, and Foreign Direct Investment," in Heinz Hermann and Robert E. Lipsey, Editors, <u>Foreign Direct Investment in the Real and Financial Sector of Industrial Countries</u>, Berlin-Heidelberg, Springer-Verlag, pp.61-98.
- Eastern Caribbean Central Bank (2004), <u>Balance of Payments for Year Ending December 2003</u>, Basseterre, St. Kitts.
- Hines, James R., Jr. (2005), "Do Tax Havens Flourish?" in James M. Poterba, Editor, <u>Tax Policy</u> and the Economy 19, Cambridge, MA, MIT Press, pp. 65-99.
- International Monetary Fund (1993), <u>Balance of Payments Manual</u>, 5th <u>Edition</u>, Washington, DC, International Monetary Fund.
- _____(2005), <u>Balance of Payments Yearbook CD-ROM</u>, Washington, DC, International Monetary Fund.
- Marshall, Alfred (1923), Money, Credit, and Commerce. Reprinted by Augustus M. Kelley, New York, 1965.
- Meade, J.E. (1951), The Theory of International Economic Policy: Vol. 1, The Balance of Payments, London, Oxford University Press.
- National Science Foundation (1998a), <u>International Mobility of Scientists and Engineers to the</u>

 United States—Brain Drain or Brain Circulation? Division of Science Resources Studies

	Issue Brief, Washington, DC, Directorate for Social, Behavioral, and Economic Sciences
	June.
	(1998b), <u>Statistical Profiles of Foreign Doctoral Recipients in</u>
	Science and Engineering: Plans to Stay in the United States, Division of Science
	Resources Studies, Directorate for Social, Behavioral, and Economic Sciences,
	November
	(200),
Morth	Dauglass C (1060) "The United States Palence of Payments, 1700, 1860," in Trends in

- North, Douglass C. (1960), "The United States Balance of Payments, 1790-1860," in <u>Trends in the America Economy in the Nineteenth Century</u>, Studies in Income and Wealth, Vol. 24, Princeton, Princeton University Press, pp. 573-627.
- OECD (2001), <u>Trade in Goods and Services: Statistical Trends and Measurement Challenges</u>, by Andreas Lindner, Bill Cave, Lydia Deloumeaux, and Joscelyn Magdeleine, Statistics Brief, No. 1, Paris, October.
- Sauers, Renee M., and Kelly K. Pierce (2005), "U.S. International Transactions: First Quarter of 2005," Survey of Current Business, Vol. 85, No. 7, July,pp. 72-121.
- Simon, Matthew (1960), "The United States Balance of Payments, 1861-1900," in <u>Trends in the American Economy in the Nineteenth Century</u>, Studies in Income and Wealth, Vol. 24, Princeton, Princeton University Press, pp. 629-711.
- United Nations (2004), <u>International Merchandise Trade Statistics Compilers Manual</u>,

 Department of Economic and Social Affairs, Statistics Division, New York, United Nations.

- U.S. Congress, Office of Technology Assessment (1986), <u>Trade in Services: Exports and Foreign</u>
 <u>Revenues-Special Report, OTA-ITE-318</u>, Washington, D.C. U.S. Government Printing
 Office, September.
- U.S. Department of Commerce (1990), <u>The Balance of Payments of the United States: Concepts</u>,
 <u>Data Sources</u>, and <u>Estimating Procedures</u>, Washington, DC, Bureau of Economic
 Analysis, May.
- U.S. Review Committee for Balance of Payments Statistics (1965), The Balance of Payments
 Appraisal, Report of the Review Committee for Balance of Payments Statistics to the Bureau of the Budget, Washington, DC, April.
- Whichard, Obie G., and Maria Borga (2002), "Selected Issues in the Measurement of U.S. International Services," <u>Survey of Current Business</u>, Vol. 82, No. 6, June, pp. 36-56.