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U.S. International Trade and Investment in Services: Data Needs and Availability

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U.S. DEPARTMENT OF COMMERCE
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in Services:
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by
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INTERNATIONAL services transactions have received widespread attention during the last several years as they have grown in volume, value, and variety. One consequence of this attention has been the emergence of new uses for, and the need for improvement in, statistics on services transactions. This paper describes and evaluates available Bureau of Economic Analysis (BEA) data on U.S. trade and investment in services, discusses recent efforts by BEA to improve its data, and makes suggestions for further improvement.

The paper has six major sections. The first reviews the growing interest in international services transactions and statistics over the last decade, and BEA's responses to the need to improve such statistics. The second presents a summary and overview of the paper. The third section discusses definitional and methodological issues, and lays out a framework for evaluating the existing U.S. statistics. The fourth section describes the two major sources of BEA services data--balance of payments data and direct investment financial and operating data--and evaluates them in the context of the framework laid out in the third section. The fifth section discusses methods of combining data from the two sources to obtain a measure of total sales between U.S. and foreign residents, whether made through trade or investment channels. The last section presents illustrative data on services from both the balance of payments accounts and the 1977 benchmark survey of U.S. direct investment abroad.

Interest in Services Statistics

The heightened interest in international services transactions, from both policy and statistical standpoints, may be documented by developments over the last decade. Responding to concerns expressed by representatives of service industries about barriers to international trade in services, the Trade Act of 1974 gave the President, for the first time, the authority to negotiate reductions in such barriers. In 1978, an International Services Division (later the Office of Service Industries) was established in the Commerce Department's International Trade Administration to focus on policy issues affecting the international operations of service industries. In 1980, the Division published a study, Current Developments in U.S. International Service Industries, that included a discussion of the need for more comprehensive statistics on U.S. international services transactions. Subsequently, the Departments of State and Commerce and the Office of the U.S. Trade Representative (USTR) commissioned two studies dealing specifically with services statistics. The studies were: (1) The International Operations of U.S. Service Industries: Current Data Collection and Analysis, by Economic Consulting Services, Inc. (ECS); and (2) International Services Transactions of the United States: Proposals for Improvement in Data Collection, by Evelyn Parrish Lederer, Walther Lederer, and Robert L. Sammons. The ECS study identified and evaluated available official and unofficial data on U.S. international services transactions and, using these data, attempted to estimate independently the value of the transactions. Although not comparable conceptually to the official statistics, the ECS estimates did suggest that efforts to make those statistics more comprehensive would be

worthwhile. The Lederer, Lederer, and Sammons study examined conceptual problems and developed specific proposals for Government collection and compilation of data.

Continuing and expanding upon the work begun in these studies, two groups--one Government and one private--were established to review the data needed to measure more precisely the magnitude of U.S. international trade and investment in services, and to relate the data to information on barriers to trade and investment in services. The Government group is the Interagency Task Force on Services Trade Data Needs. It is chaired by the USTR and is composed of representatives of several executive-branch agencies, including the Departments of Commerce, Treasury, State, and Labor; the Office of Management and Budget; and the U.S. International Trade Commission. The private group is the Services Trade Data Working Party. It was established by the U.S. Chamber of Commerce and composed of representatives of service companies and trade associations.

Several other Government research projects related to services are underway or have been completed. In the November 1981 Survey of Current Business, BEA published an article on international services in which data were presented in more detail than previously; updated tables, covering 1977-82, from that article have recently been made available.^{1/} The USTR and the Office of Service Industries have prepared a number of working papers dealing with individual service industries; several of the papers discuss the availability of, or need for, data covering particular industries. In September 1982, the U.S. International Trade Commission published a study dealing with the relationship of exports in selected service industries to total U.S. merchandise exports.

Heightened interest in services has also become evident in Congress. Congressional committees have held hearings in which data needs, and the Government's legal authority to collect services data, have begun to be explored.

Among international organizations, the General Agreement on Tariffs and Trade (GATT) and the Organization for Economic Co-operation and Development (OECD) have shown increased interest in services. At a ministerial meeting of the GATT in November 1982, it was agreed that interested member countries would prepare study papers on services. The U.S. study, U.S. National Study on Trade in Services, was submitted to GATT in December 1983; it included material on both services statistics and policy issues. Further discussion in GATT is scheduled for late 1984 to determine if negotiations to reduce barriers to international trade in services are appropriate and desirable. In February 1983, the Working Party of the Trade Committee of the OECD held the first of what is expected to be a series of meetings devoted exclusively to services statistics.

1. Anthony J. DiLullo, "Service Transactions in the U.S. International Accounts, 1970-80," Survey of Current Business 61 (November 1981): 29-46. To order the tables, write to Balance of Payments Division (BE-58), Bureau of Economic Analysis, U.S. Department of Commerce, Washington, DC 20230 and enclose a check or money order for \$10.00 payable to BEA, U.S. Department of Commerce.

Responding to the demonstrated need for, and interest in, better data on services, BEA has, as noted throughout the paper, already taken several steps to improve its data. The most significant of these is a new annual survey of U.S. direct investment abroad. The survey, the BE-11, was approved by the Office of Management and Budget in July 1984, and the first year of coverage will be 1983. It will provide, among other items, annual data on sales of services by U.S. parent companies and their foreign affiliates. Previously, such data were available only from benchmark surveys taken at 5-year intervals. Because sales of services through foreign affiliates are so large relative to direct transactions between U.S. and foreign residents, development of a regular, up-to-date source of information on sales by such affiliates was among the most needed data improvements. Reporting in the new survey is mandatory under the International Investment Survey Act of 1976, which provides for mandatory reporting in all of BEA's investment surveys.

Other data improvements, including some that would require new legal authority to implement, are under way. Foremost among these is a benchmark survey of services transactions between U.S. residents and unaffiliated foreign residents. This survey, which is now being designed, is needed to delimit the universe of transactions with unaffiliated foreigners. Existing surveys cover only a sample of such transactions and, because a benchmark survey has never been taken, the sample data cannot be expanded to universe estimates. Also, the major general purpose sample survey--the BE-47--covers only U.S. sales of services; no comparable survey covers U.S. purchases of services. Furthermore, although the BE-47 survey conceptually covers a wide variety of services (including construction and all types of business, technical, personal, and professional services), responses tend in practice to be restricted largely to those from U.S. construction, engineering, and architectural companies. Finally, certain types of services transactions are not covered by any survey.

The results of the benchmark survey will provide the basis for subsequent efforts to improve BEA's system of ongoing sample surveys of transactions with unaffiliated foreigners. The improvements might include expanded coverage of the companies engaging in such transactions, collection of information on types of transactions not covered by existing surveys, consolidation or integration of surveys (now, separate surveys tend to be used for each type of transaction), and possibly increasing the frequency of reporting from annual to quarterly for items needed on a quarterly basis for inclusion in the balance of payments accounts or national income and product accounts. (Now, quarterly data are not reported for several items; rather, annual data are allocated among quarters using statistical interpolation routines.)

For the benchmark survey to be taken, however, or for significant improvements to be made to the sample surveys, it will first be necessary to obtain the authority for mandatory reporting, as the response rate in voluntary surveys has generally been found to be too low to yield valid estimates. The best way to provide such authority is probably through a broadening of the International Investment Survey Act to cover trade in services between unaffiliated parties. This approach

would provide a single legal basis for all of BEA's international surveys, with a consistent set of confidentiality requirements and penalties for noncompliance. Also, it would give BEA flexibility in integrating or consolidating its various surveys.

Summary and Overview

Services are generally defined as economic outputs that are intangible and invisible. In presenting data on services in this paper, this definition is interpreted broadly to include the output of such diverse industries as petroleum services; construction; transportation, communications, and public utilities; wholesale and retail trade; banking; finance (except banking), insurance, and real estate; agricultural services; hotels and lodging places; and a variety of business, technical, professional, and personal services.

Two types of problems affecting services data are identified: (1) Conceptual problems, which show the difficulty of isolating services activity, and (2) more practical problems, which relate to the collection and tabulation of data.

Four conceptual problems are identified. First, goods and services may be sold jointly, and may not be separately priced. This may make it impossible to separate the goods component of the sale from the services component, and the entire transaction may have to be shown either as a good or as a service. Second, services performed both by and for the same company--in-house accounting or legal services, for example--generally will not be identified as such; thus, available data generally cover only services performed for sale outside the firm. Third, tangible outputs, such as phonographic records or motion picture film, may serve as media for the delivery of intangible outputs; then the value of the tangible and intangible outputs generally must be combined and recorded as either a good or a service. Fourth, classification of an output may depend not only on the nature of the output, but also on how it is packaged or delivered; depending upon the latter, it may be classified as either a good or a service. None of these conceptual problems is particularly easy to solve, and they are listed more to provide insight into the inherent limitations of data than to identify needed improvements.

Four more practical problems are identified. These problems--classification, aggregation, coverage, and recording of the data--are used as a framework for evaluating the existing U.S. statistics.

The primary classification problem is that, instead of being classified--as they are often needed--by type of service performed, data are often classified by industry of the covered enterprises. It is noted that, where enterprises are highly specialized, data classified by industry of enterprise may be a satisfactory proxy for data classified by type of good or service; data from BEA's 1977 benchmark survey of U.S. direct investment abroad are presented to illustrate the extent of specialization by U.S. parent companies and their foreign affiliates.

The problem of data that are too aggregated for a particular purpose is noted as three separate cases: (1) when the data are actually available within BEA in the desired detail, but are published at a more aggregated level; (2) when the level of detail at which the data are collected combines industries, countries, or types of transactions that the user wishes to examine separately; and (3) where expansion of sample data to universe estimates has been done only at the published level of aggregation.

Two types of coverage problems are identified. The first occurs when services transactions that conceptually should be covered by the reporting system are, in fact, not covered and have not been estimated. The second occurs when universe estimates have been made based on inadequate samples.

Finally, two types of recording problems are identified. The first is "net recording," which refers to situations in which debit and credit entries associated with particular transactions, or types of transactions, have been netted against one another and recorded only as a single amount, rather than being recorded separately. Information on the individual debit and credit entries may thus be lost. The second is "commingled recording," which refers to situations in which related transactions cannot be associated because they have been commingled with other transactions. In both cases, the method of recording may be of little consequence from the standpoint of balance of payments analysis, for which the data have traditionally been used, but may impair the usefulness of data for other purposes, such as trade negotiations or market analysis.

The two major sources of BEA services data--(1) the international transactions, or balance of payments, accounts and (2) direct investment financial and operating data--are described and evaluated in the context of the above framework. The balance of payments data cover transactions, including services transactions, between U.S. and foreign residents. The direct investment financial and operating data cover various aspects, including services-related aspects, of the financing and operations of U.S. parent companies, their foreign affiliates, and U.S. affiliates of foreign companies.

Table 1 shows the different categories of services transactions discussed in the paper and indicates their size and growth since 1970; more detailed data are provided for several of the categories in tables 2-16, which appear at the end of the paper. The data on sales by affiliates, shown in the addenda to table 1, are direct investment financial and operating data; the other data in the table are balance of payments data. For completeness, table 1 includes data on investment income, because it is sometimes included as a service in discussions of balance of payments current-account transactions other than merchandise trade. Strictly speaking, however, such income does not represent "trade in services" in the sense of the sale or purchase of currently performed services, and, in fact, a substantial portion of it represents a return on investment in goods-producing industries.

Table 1.--Selected Current-Account Transactions, 1970-82

	Millions of dollars													Percent
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	Average annual rate of growth, 1970-82
Exports														
Travel.....	2,331	2,534	2,817	3,412	4,032	4,697	5,742	6,150	7,183	8,441	10,131	12,163	11,293	14.1
Passenger fares.....	544	615	699	975	1,104	1,039	1,229	1,366	1,603	2,156	2,582	2,991	2,979	15.2
Other Transportation.....	3,125	3,299	3,579	4,465	5,697	5,840	6,747	7,090	8,136	9,971	11,647	12,593	12,437	12.2
Royalties and fees.....	2,331	2,545	2,770	3,225	3,821	4,300	4,353	4,920	5,885	6,184	7,082	7,293	7,139	9.8
Other private services.....	1,294	1,546	1,764	1,985	2,321	2,920	3,584	3,848	4,296	4,403	5,408	6,167	6,576	14.5
Income on direct investment.....	8,169	9,160	10,949	16,542	19,157	16,595	18,999	19,673	25,458	38,183	37,146	32,446	22,888	9.0
Income on other private investment.....	2,671	2,641	2,949	4,330	7,356	7,644	8,955	10,881	14,944	23,654	32,737	50,113	57,127	29.1
Addenda:														
Sales by service-industry foreign affiliates of U.S. companies.....	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	275,719	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Of which: Sales by majority-owned nonbank foreign affiliates of nonbank U.S. parents	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	195,477	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Local sales.....	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	127,106	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Sales to the United States.....	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	21,289	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Sales to other countries.....	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	47,082	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Sales by service-industry foreign affiliates of U.S. companies, excluding sales by wholesale trade affiliates.....	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	114,387	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Imports														
Travel.....	3,980	4,373	5,042	5,526	5,980	6,417	6,856	7,451	8,475	9,413	10,397	11,479	12,394	9.9
Passenger fares.....	1,215	1,290	1,596	1,790	2,095	2,263	2,586	2,748	2,896	3,184	3,607	4,487	4,772	12.1
Other Transportation.....	2,843	3,130	3,520	4,694	5,942	5,688	6,852	7,972	9,124	10,906	11,790	12,379	11,638	12.5
Royalties and fees.....	255	241	294	385	346	473	482	505	670	832	817	711	337	3.4
Other private services.....	827	956	1,043	1,180	1,262	1,551	2,006	2,190	2,573	2,822	3,094	3,183	3,700	13.3
Income on direct investment.....	875	1,164	1,284	1,610	1,331	2,234	3,110	2,834	4,211	6,357	9,470	7,454	4,844	15.3
Income on other private investment.....	3,617	2,428	2,604	4,209	6,491	5,788	5,681	5,841	8,795	15,481	20,893	28,553	33,769	20.5
Addenda:														
Sales by service-industry U.S. affiliates of foreign companies 1/.....	N.A.	N.A.	N.A.	N.A.	100,280	N.A.	N.A.	126,962	164,564	227,492	297,807	345,347	N.A.	N.A.
Sales by service-industry U.S. affiliates of foreign companies, excluding sales by wholesale trade affiliates.....	N.A.	N.A.	N.A.	N.A.	22,101	N.A.	N.A.	30,058	40,963	62,963	82,407	102,709	N.A.	N.A.

N.A. Not available.

1. Universe estimates for 1977-79 were derived by applying to sample data for these years sample-to-universe ratios estimated from the 1980 benchmark survey. Later, more formal estimates may differ somewhat from those shown here. Also, the figures for 1977-79 and 1981 include estimates for affiliates in banking, even though such affiliates were not covered by the annual sample surveys for these years; the estimates assume that the share of bank affiliates in total sales was the same in 1977-79 as in the 1980 benchmark survey.

Ideally, the table should be examined in connection with the detailed discussion of the data later in the paper. As noted there, the data in table 1 are incomplete in some cases, and, in others, have not been recorded in the way most suitable for analyzing trade in services. Notwithstanding these difficulties, it can be noted that most types of current-account transactions shown have grown rapidly. For U.S. exports (sales), average annual growth rates for 1970-82 ranged from 9.0 percent for direct investment income to 29.1 percent for income on other private investment. Excluding investment income, growth rates ranged from 9.8 percent for royalties and fees to 15.2 percent for passenger fares. For imports (purchases), the growth rates were somewhat lower, ranging from 3.4 percent for fees and royalties to 20.5 percent for income on "other private" investment.

The major part of U.S. sales of services to, and purchases of services from, foreigners is not covered by the above figures on current account transactions, which consist only of direct transactions between U.S. and foreign residents. To sell services abroad, it is often necessary to establish a foreign affiliate (which would be considered a resident of its country of location), either because the nature of the service dictates that it be performed at the purchaser's location or because the sale of services by nonresidents may be restricted. Available data on sales of service-industry foreign affiliates of U.S. companies and U.S. affiliates of foreign companies are shown in the addenda to table 1.

Sales by foreign affiliates of U.S. companies are now available only for 1977. (Data covering 1982 have been collected in a benchmark survey, but they are not yet available.) In 1977, sales by service-industry foreign affiliates of U.S. companies were \$275.7 billion (\$114.4 billion excluding sales by wholesale trade affiliates, which, although in a service industry, are mainly engaged in the sale of goods). In contrast, direct current-account transactions between U.S. and foreign residents shown under "exports" in table 1 totaled only \$53.9 billion in 1977 (\$23.4 billion excluding investment income, which, as noted earlier, should not be considered "trade in services"). Although existing data on sales by foreign affiliates cover only years for which a benchmark survey was taken, the new BE-11 survey will, as noted earlier, provide such data on an annual basis.

For U.S. affiliates of foreign companies, an annual survey has existed since 1977, so that more up-to-date data are available for these sales than for sales by foreign affiliates of U.S. companies. The latest year for which data could be shown in the table is 1981. (Data covering 1982 have been collected, but they will not be ready for release until later this year.) In 1981, sales by service-industry U.S. affiliates were \$345.3 billion (\$102.7 billion excluding sales by wholesale trade affiliates). In contrast, the direct current-account transactions shown under "imports" totaled only \$71.5 billion (\$32.8 billion excluding investment income).

With the new annual investment survey in place, the most pressing need for data improvement is probably in the area of "other private services." As discussed above, improvement in this account is the primary purpose of the planned benchmark survey of U.S. services transactions with unaffiliated foreigners. This survey, as well as improvements in the system of ongoing sample surveys, is needed to give BEA the capability to produce reliable estimates of the universe of transactions, complete with detail by country, industry or activity, and type of transaction.

Following the description and evaluation of the data, the paper illustrates how the balance of payments data and the direct investment financial and operating data might be combined to derive sales totals that would include all sales between U.S. and foreign residents, whether made directly (as measured by the balance of payments data) or through affiliates (as measured by the direct investment financial and operating data). Tabulating schemes, using engineering services as an example, show how the necessary information can be derived by utilizing, and building upon, BEA's system of international surveys.

Finally, the paper presents selected balance of payments and direct investment financial and operating data on services. The balance of payments data are presented without analysis because they have been analyzed in detail elsewhere (see footnote 1). They are included in this paper primarily to illustrate the types of data available. The financial and operating data are from the 1977 benchmark survey of U.S. direct investment abroad. They provide greater detail for service industries than previously available from the benchmark survey. Also, they are used to address two analytical questions raised in the paper. The first is whether data classified by industry of enterprise (parent or affiliate) are satisfactory proxies for data classified by industry of activity. The data suggest that they are satisfactory for foreign affiliates, whose operations tend to be highly specialized, but are not, except perhaps at high levels of aggregation, for U.S. parents, which tend to have much less specialized operations. The second question is to what extent, and in which industries, data on sales can substitute adequately for data on production, or value added. The answer appears to be that, where value added is the desired measure, sales are likely to provide a poor substitute. One implication of this finding for BEA statistical programs is that information needed to estimate affiliate value added should be included in both the direct investment benchmark surveys and annual surveys of financial and operating data.

Definitional and Methodological Issues

Services defined

Services are generally defined as economic outputs, either final or intermediate, that are intangible and invisible. They may be contrasted with goods, which are both tangible and visible. The industries whose outputs most closely correspond to this definition of services, and which will be considered within the scope of this paper, are those shown under "service industries" in the stubs to tables 8-16, together with mining services, which could not be separated from goods-producing mining activity. One of the industries--construction--ordinarily is considered goods-producing. However, construction often has a large services component, particularly where international operations are concerned, and has therefore been included as a service industry in this paper.

Although it is necessary to adopt a working definition, such as the above, to be used as a guide in compiling data, the classification of actual outputs as goods or services is inevitably an imperfect process. A number of problems that may be encountered are discussed below. None of them is particularly easy to solve, and they are listed more to provide insight into inherent limitations of data than to identify improvements that should be made.

1. Goods and services may be sold jointly, and may not be separately priced. For example, a meal served in a restaurant is a combination of goods (the food itself) and services (preparing and serving it). Similarly, the sale of an automobile with "free" scheduled maintenance or a 5-year warranty is a sale of both a good and a service. In such cases, it generally is not feasible to separate the goods component from the services component, and a decision must be made as to which single category is most appropriate. In the above examples, the automobile would be classified as a good, whereas the meal might be classified as either a good or a service, depending upon the conventions of the data set in which it was recorded.

2. Services performed both by and for the same company generally will not be identified as such. For example, a goods-producing company may have its own accounting and legal departments, or may contract with specialized firms to provide it with accounting and legal services. Except in occupational statistics, which are not covered by this paper, the performance of services will ordinarily be identified only in the latter case.

3. Tangible outputs may serve as media for the delivery of intangible outputs. For example, artistic performances may be delivered through the media of phonographic records or motion picture film. A novel may be published in the form of a book, and a consultant's evaluation may be transmitted to a client through a printed report. Here again, decisions must be made as to which single category, goods or services, is most appropriate. In the above examples, the record and the book would typically be considered goods, the film and the report,

services. Although similar conceptually, the examples differ in the proportion of the price accounted for by production of the medium, as opposed to production of the service it embodies. These differences provide some rationale for the different treatment.

4. Classification may depend not only on the nature of the economic output in question, but also on how it is packaged or delivered. For example, electricity is considered a good if purchased in the form of a storage battery but may be considered a service if purchased from a public utility.^{2/} Similarly, bottled water is a good, but water from a public utility may be considered a service.

Measures of services activity

For services industries, as for all other industries, the preferred measure of economic activity is generally production, or value added. Estimates of value added are not always available, however, and data on sales (or another sales-related accounting measure, such as total income or gross operating revenue) are often used instead. When they are, production is overstated, particularly in industries comprised of companies engaged primarily in trade or financial intermediation. Whereas production by such companies represents only the services of bringing buyers and sellers together and, in some cases, of absorbing certain risks and carrying inventory, sales represent funds received, not just for these services, but, more importantly, for the purchase or use of the goods or financial assets intermediated. Service industries in which intermediation may be important include wholesale and retail trade, banking, other finance, insurance, real estate, and petroleum wholesale trade. The data from the 1977 benchmark survey of U.S. direct investment abroad presented later compare data on both sales and value added of the service industry firms covered by the survey.

Although value added is generally the preferred measure of services activity, sales are sometimes used, not for the lack of better alternatives, but because they are of interest in their own right. For example, in the balance of payments accounts, sales are the appropriate measure of certain international services transactions. Also, marketing analyses often utilize data on sales. In some contexts, still other measures, such as assets or employment, may be preferred.

2. Electricity exchanged between utility companies in the United States and Canada and Mexico is included as a good, and thus under merchandise trade, in the U.S. balance of payments accounts.

Framework for evaluation of data

In order to provide background and a frame of reference for later evaluation of specific data items, four problems that may be encountered in using existing BEA data to analyze services are identified and discussed in this section. First, however, it should be noted that some known problems may have been allowed to persist because the benefits from solving them were judged insufficient to justify the associated reporting burden and processing costs.^{3/} Also, aspects of the data that may not have been problems in balance of payments analysis become problems when the data are put to other uses. In view of the increased interest in services, the apparent growth in services transactions, and the emergence of new uses for the data, solving some of the problems may now be justified.

The problems, which are discussed in general terms here and in relation to specific data items or accounts in the next section, concern: (1) the basis used for classifying data, (2) the detail in which data are, or can be, disaggregated by country, industry, and type of transaction, (3) the coverage of transactions by the existing reporting system, and (4) the basis used for recording transactions.

1. Classification.--For many purposes, data classified by type of service performed are needed. Available data are often classified, instead, by industry of the covered enterprises. Typically, such data are used as a proxy for data classified by type of service performed. For example, sales of enterprises classified in service industries might be used as a proxy for sales of services. Then the data for a given service industry would exclude sales of the industry's services by enterprises not classified in the industry, and would include sales of other services, and, in some instances, of goods, by companies classified in the given industry.

3. Two examples can be cited. The first concerns unaffiliated leasing transactions, for which no data are presently collected. In 1975, a special survey was conducted to determine the magnitude of such transactions. The results suggested that their magnitude, at least at that time, was insufficient to justify an ongoing survey. The second case involves financial and operating data of U.S. parent companies and their foreign affiliates. Presently, such data are available only with a considerable lag to allow time for processing and only for years covered by comprehensive quinquennial benchmark surveys of U.S. direct investment abroad. In 1980, BEA requested approval to collect selected financial and operating data on an annual basis in a new sample survey, so that an up-to-date time series would become available. Although, as noted earlier, it has since been approved, approval was denied at that time, mainly because of concerns over reporting burden.

Where enterprises are highly specialized, data classified by industry of enterprise may be a satisfactory proxy for data classified by type of good or service. The data from the 1977 benchmark survey of U.S. direct investment abroad presented later illustrate the extent of specialization by U.S. parent companies and their foreign affiliates.

2. Aggregation.--Aggregation of data creates obvious problems for users requiring more detail, whether by country, industry, or type of transaction. Several cases where BEA data may be too aggregated for a particular purpose should be distinguished. The first is when the data are actually available in the desired detail, but are published at a more aggregated level. In this case, BEA will, upon request, provide the data at cost, within the limits of available resources and subject to legal confidentiality requirements. In some instances, such as when coverage problems exist or when estimates required for one purpose must be made using data originally generated for other purposes, the reliability of estimates below the published level of detail may be questionable. Then BEA might be reluctant to make more detailed estimates public, even if they are available internally.

A second case is where the level of detail at which the data are collected combines industries, countries, or types of transactions that the user wishes to examine separately. To solve this problem, new industry or country codes or more detail by type of transaction can be added in future surveys. Where a series consists of universe estimates prepared by linking sample survey data to census, or benchmark survey data, new codes or more detail can be added only when a new benchmark survey is taken, since the previous benchmark survey would not provide, at the more detailed level, universe data to which the sample data could be linked.^{4/} Note that, although new industry codes can be added, they cannot and should not be proliferated without limit. As codes are added, enterprises become more likely to be classified in industries accounting for only a small portion of their total operations. Also, disclosure problems become more numerous.

A third case, related to the second, is where sample data have been expanded to universe estimates only at the published level of aggregation. Because the estimation procedure includes a year-by-year linking of (matched) sample data, more detailed estimates could be provided only by re-estimating the entire series, beginning with the period following the most recent benchmark survey; then disclosure analysis, required to preserve the confidentiality of individual-company data, would have to be performed on the more detailed estimates. This

4. An example of this problem, relating to classification by country, arises when one country splits into two: For instance, when Bangladesh became a separate country, its data could not be shown separately from those of Pakistan until a new benchmark survey had been taken.

would generally be costly and time-consuming. Also, because service-industry companies tend to be smaller, on average, than companies in most other industries, and thus more likely to be exempt from the sample surveys, the effect of greater disaggregation on the reliability of the estimates would also have to be considered.

3. Coverage.--Coverage problems may be of two types. The first occurs when services transactions that conceptually should be covered by the reporting system are, in fact, not covered and have not been estimated. The second occurs when universe estimates have been made based on inadequate samples.

4. Recording.--Recording problems may result from either (1) the obscuring of data because of "net recording," as defined below, or (2) "commingled recording," which refers to situations in which related transactions cannot be associated because they have been commingled with other transactions.

"Net recording" refers to a situation in which debit and credit entries associated with particular transactions, or types of transactions, have been netted against one another and recorded only as a single amount, rather than being recorded separately. Information on the individual debit and credit entries is thus lost. For example, the fulfillment by a U.S. company of a contract to provide services to a resident of a foreign country may entail expenditures in the foreign country by the U.S. company. Net recording would require only that net funds remaining in the United States--i.e., the value of the receipts less the funds expended abroad in fulfilling the contract--be recorded. Recording on a gross basis, in contrast, would require that both the value of the receipts and the foreign expenditures be separately recorded.

Another example is fees and royalties received or paid by U.S. parent companies from or to their foreign affiliates. With gross recording, the receipts and payments would be recorded separately. With net recording, payments would be netted against receipts and only a single amount--net receipts (or payments)--would be recorded. The single amount would, of necessity, be classified in a single industry, even though the classification best describing receipts may differ from that best describing payments.

In both examples, the method of recording may be of little consequence from the standpoint of the balance of payments accounts. Netting has no effect on the statistical discrepancy, and, even if the transactions were recorded separately, they would likely be combined for purposes of balance of payments analysis. For use in trade negotiations, market analysis, or for other similar uses, however, it is desirable to record the transactions separately.

BEA Data

Existing BEA data on U.S. international trade and investment in services are from two sources. The first is the international transactions, or balance of payments, accounts. The second is direct investment financial and operating data.

The balance of payments accounts cover transactions, including services transactions, between U.S. and foreign residents. The covered transactions may be either affiliated or unaffiliated transactions. "Affiliated" transactions are those between U.S. parent companies and their foreign affiliates and between foreign parent companies and their U.S. affiliates. All other U.S. international transactions are "unaffiliated."

Data on the U.S. international investment position and its components are generally considered in connection with the balance of payments data because these items are built up largely through balance of payments flows and are measured using surveys that collect balance of payments information.

The direct investment financial and operating data cover various aspects, including services-related aspects, of the financing and operations of U.S. parent companies, their foreign affiliates, and U.S. affiliates of foreign companies.^{5/} Companies wishing to sell services abroad frequently must establish foreign affiliates to do so, both because the nature of the services being traded often dictates that they be performed at the purchaser's location and because many countries restrict the sale of services by nonresidents. Thus, financial and operating data covering the parents and affiliates involved are essential to any analysis of U.S. international services business. For

5. Logically, the foreign parents and ultimate beneficial owners of U.S. affiliates also should be covered by these data, but BEA lacks legal authority to survey such foreign entities and, consequently, has little information on them--only their names, countries of location, and major industries.

example, they are the source of data on sales of service-industry foreign affiliates of U.S. companies, U.S. affiliates of foreign companies, and U.S. parent companies. They include general indicators of economic size, such as assets and employment, of the service-industry firms covered, which help gauge the importance of the firms to the U.S. and foreign economies.

Financial and operating data covering other U.S. companies--i.e., those that are neither U.S. parents nor U.S. affiliates--engaging in international services transactions are not now collected in BEA's international surveys. Such data would, however, in the same way as for the direct investment data, assist in analyzing the economic effects of these companies' international services transactions by permitting the transactions to be viewed within the context of the companies' overall operations.

The following discussion of the available data has two primary aims: (1) To describe what is included conceptually in each account or data item discussed and (2) to evaluate the available data with reference to the four problem areas identified earlier--classification, aggregation, coverage, and recording methods.

Balance of payments data

This account-by-account discussion of BEA data on U.S. international services transactions covers the current account of the U.S. balance of payments, less the merchandise trade, Government, and unilateral transfers accounts. Not all of these covered transactions represent "trade in services"--that is, the sale or purchase of currently performed services. They also include investment income, which represents services in a different sense--namely, payment for the services of invested capital. Such transactions are included here for completeness, not because they are considered trade in services.^{6/}

6. Perhaps because all the items discussed in this section are included in the official accounts under the headings "exports of goods and services" or "imports of goods and services," "trade in services" is often used to refer to all current account transactions that are not trade in goods. To reduce the possibility for confusion, alternatives to the phrase "goods and services" in the presentation might be considered. One possibility is "goods, services, and income," which is used in the International Monetary Fund's list of standard balance of payments components.

1. Travel

a. Description

- (1) Exports.--This account measures expenditures in the United States by foreign travelers (excluding foreign government personnel and their dependents and other foreign citizens residing in the United States) for lodging, food, transportation within the United States, entertainment, personal purchases, gifts, and other outlays associated with travel in the United States. Transocean passenger fares are included elsewhere; however, fares received by U.S. carriers from Canadian and Mexican travelers visiting the United States are included.
- (2) Imports.--This account measures expenditures in foreign countries by U.S. travelers (excluding U.S. Government personnel and their dependents and other U.S. citizens residing abroad) for lodging, food, transportation within foreign areas, entertainment, personal purchases, gifts, and other outlays associated with travel abroad. Transocean passenger fares are included elsewhere; however, fares paid to Canadian and Mexican carriers by U.S. travelers visiting Canada and Mexico are included.

b. Classification.--"Travel," as used here, is not an industry, but an activity. The travel account contains expenditures made in conjunction with this activity, and reflects travelers' purchases of the outputs of a variety of industries--both goods-producing and service-producing. No data are collected by BEA on the specific goods and services purchased by travelers. Thus, it is not possible, using the BEA data, to say how much of the expenditures were for lodging, food, transportation within the area visited, and so forth. However, data by type of expenditure have recently begun to be collected by another Commerce Department agency--the U.S. Travel and Tourism Administration (USTTA)--in an in-flight survey of U.S. and foreign travelers departing from the United States. BEA classifies travelers, but not their expenditures, by primary purpose of visit--business, personal, transit, or student. Because of the high incidence of multiple-purpose trips and the inability to allocate the expenditures associated with such trips among the different purposes, no analogous classification of expenditures has been attempted.

c. Aggregation.--Survey articles on travel show U.S. receipts from visitors in 14 separate countries or areas and payments of U.S. travelers to 31 separate countries or areas. This level of detail is the greatest at which estimates of acceptable quality can now be produced.

- d. Coverage.--All travel is covered, although concerns have been expressed about low response rates and problems associated with the distribution of the voluntary survey forms to travelers. The survey data are used to estimate average expenditures per traveler; that figure is multiplied by universe data, obtained from the U.S. Immigration and Naturalization Service (INS), on numbers of travelers to provide universe estimates of travel expenditures. Thus, universe estimates of expenditures are available even though the proportion of travelers from whom expenditures data are collected is lower than desired.

Early results of the USTTA in-flight survey suggest different results than estimates based on BEA's travel surveys. After the USTTA surveys have been conducted over a sufficient time period, a thorough comparison of estimates from the two sources will be prepared and evaluated. Until that time, BEA's travel estimates should be interpreted cautiously.

- e. Recording.--Travel expenditures are recorded on a gross basis; thus, there is no "net recording" problem in the travel accounts. A "commingling" problem exists, however, in that expenditures for different purposes--for example, business travelers as against tourists--cannot be segregated, either in total or by individual transaction. Therefore, they cannot be related to the purchase or sale of goods or services (included in other accounts) associated with such travel. Thus, for example, it is not possible to determine the net amounts spent in the United States by foreigners, or in foreign countries by U.S. residents, in conjunction with a given set of related business transactions. This problem is probably not significant quantitatively--that is, expenditures for business travel are probably small in relation to the associated trade in goods and services. In any event, it is not likely to be solved. As noted earlier, BEA has not estimated, even at the aggregate level, expenditures for business travel, largely because of the inability to allocate the expenditures of multi-purpose travelers. Also, it would be unrealistic to expect business travelers to provide voluntarily detailed information on either the intended purpose or the ultimate results of their travels.

2. Passenger fares

a. Description

(1) Exports.--This account measures passenger fares received by U.S. ocean and air carriers from foreign residents traveling between the United States and foreign countries and between two foreign points. Excluded are passenger fares received by U.S. carriers from Canadian and Mexican travelers visiting the United States; such fares are, by convention, included in the travel account.

(2) Imports.--This account measures passenger fares paid to foreign ocean and air carriers by U.S. residents traveling between the United States and foreign countries. Excluded are passenger fares paid to Canadian and Mexican carriers by U.S. travelers visiting Canada and Mexico; such fares are, by convention, included in the travel account.

b. Classification.--In any disaggregation by industry, "industry" would refer to the mode of transportation for which the fares were paid. In practice, most of the fares are for air travel. For exports, U.S. receipts are almost entirely receipts of U.S. air carriers; scheduled U.S. ocean passenger liners have virtually ceased operations. As mentioned earlier, receipts and payments for land transportation between the United States and Canada and between the United States and Mexico, as well as transportation within an area being visited, are included in the travel accounts. For imports, U.S. payments include payments by U.S. residents to foreign air carriers, as well as relatively small amounts for payments to foreign cruise operators.

c. Aggregation.--Passenger fares are disaggregated by balance of payments area for inclusion in the official accounts.^{7/} Separate estimates of air fares--the major type of fare included in the account--are made available upon request. Producing reliable estimates in significantly greater detail is not feasible, given present sources and methods.

7. The areas shown in the accounts are Western Europe; European Communities(10); United Kingdom; European Communities(6) (the 6 original member countries); Eastern Europe; Canada; Latin American Republics and other Western Hemisphere; Japan; Australia, New Zealand, and South Africa; other countries in Asia and Africa; and international organizations and unallocated. Data for each account are available in at least this detail by area.

- d. Coverage.--The only coverage problems, in the sense of omitted transactions, are minor. An example is the omission from U.S. receipts of fares from foreigners for travel on any unscheduled U.S. ocean carriers. Although most fares, as estimated, are covered in principle (that is, BEA has what purport to be universe estimates), coverage problems may arise in practice. For example, payments to foreign cruise operators are estimated by taking estimates of the number of U.S. cruise travelers on foreign vessels in 1975--the last year covered by an INS survey that has since been discontinued--and multiplying it by a current estimate of average fares. Using this procedure, the estimates reflect changes in payments due to changes in average fares, but not due to changes in the number of travelers since 1975. Reinstatement of the INS survey, or development of a new source of information on numbers of cruise travelers, would enable BEA to provide more accurate estimates. Obviously, the need for more current information becomes greater as the 1975 data become more out of date.
- e. Recording.--Receipts and payments of passenger fares are recorded on a gross basis. Recording problems occur, not when the interest is in passenger fares alone, but when the fares need to be examined as part of a larger set of transactions. For example, passenger fares, like travel expenditures, may include business expenses incurred in conjunction with the provision of goods and services by or to foreigners. Because the passenger fares paid by business travelers can be segregated neither in total nor by individual transaction, they cannot be related to the specific goods and services in question.

3. Other transportation

a. Description

- (1) Exports.--This account measures (1) freight revenues of U.S.-operated ocean, air, and other carriers (including rail, pipeline, and Great Lakes shipping) for the international transportation of U.S. exports; (2) freight revenues of U.S.-operated carriers for the transportation of foreign freight between foreign points; (3) port expenditure receipts for goods and services purchased in the United States by foreign-operated carriers; and (4) receipts of U.S. owners from foreign operators for the charter of vessels and rental of freight cars and containers.

- (2) Imports.--This account measures (1) freight payments to foreign-operated ocean, air, and other carriers (including rail and Great Lakes shipping) for international transportation of U.S. imports; (2) port expenditure payments for goods and services purchased in foreign countries by U.S.-operated carriers; and (3) payments to foreign owners by U.S. operators for the charter of vessels and rental of freight cars and containers. Transportation by foreign carriers of freight between U.S. points is largely prohibited and therefore is not included. (The major potential source of such payments--coastal shipping--is reserved by law for U.S. carriers.)
- b. Classification.--"Other transportation" receipts and payments can be classified according to the specific transportation services just enumerated. No disaggregation by industry of either the providers or the users of these services is available. The focus of the data on the type of service, however, is, for most purposes, probably more useful than one based on the industries of the transactors.
- c. Aggregation.--Estimates of receipts and payments are available in detail, by type, as shown by the following list. More aggregated data have been published in DiLullo (p. 36).

U.S. Receipts:

Ocean transportation
Export freight earnings
Freight earnings on shipments between
foreign countries
Port expenditures
Charter hire

Air transportation
Export freight earnings
Freight earnings on shipments between
foreign countries
Passenger fares
Port expenditures

Other transportation

U.S. Payments:

Ocean transportation
 Import freight payments
 Passenger fares
 Port expenditures
 Charter hire

Air transportation
 Import freight payments
 Passenger fares
 Port expenditures

Other transportation

Total receipts and payments are published by balance of payments area. In constructing the published estimates, each of the items shown above is also separately estimated by balance of payments area. However, both because of disclosure problems and because of difficulties in allocating global totals among areas, the detailed estimates are not published and only some are available to the public upon request.

- d. Coverage.--Receipts and payments relating to truck transportation between the United States, Canada, and Mexico are not covered. No data on such receipts and payments now exist. Even if they did exist, it would be difficult to apportion the receipts and payments between transportation to the border of the exporting country (which should be included in the merchandise trade account) and transportation within the importing country (which should be included in this account). Also not covered are U.S. receipts from the sale of port services to foreign carriers stopping at U.S. ports en route from one foreign port to another. The omission of these receipts largely reflects the fact that they do not involve U.S. merchandise trade and related statistics, which are used in estimating the transportation accounts. Neither omission is likely to be large in relation to the universe of transactions covered by the account.

This account primarily covers transactions between unaffiliated parties. However, it also covers at least two types of transactions between affiliated parties: (1) Receipts by U.S. affiliates from their Canadian pipeline parent companies for transporting oil and gas from U.S. ports to Canada or through the United States en route between two Canadian locations, and (2) payments of U.S. petroleum companies to their international shipping affiliates for transportation of petroleum. These transactions, together with transactions in reinsurance (which are included in "other private services"), are exceptions to the practice of segregating affiliated and unaffiliated services transactions in the balance of payments accounts.

Ideally, it should be possible to separate the affiliated from the unaffiliated transactions in this account. Some analytical or policy questions may best be answered with affiliated and unaffiliated transactions separated. Also, as discussed later, the 1982 benchmark survey of U.S. direct investment abroad contains a new question on sales of services between affiliated parties that will cover all such sales, including the ones now shown outside the direct investment accounts. To insure that data on the latter transactions are not duplicated, as they would be if they were added to the appropriate direct investment account as a result of the new question but were not removed from the accounts where they now appear, it will be necessary that they be separately identifiable.

- e. Recording.--Recording is on a gross basis. Commingling may be a problem, however. As noted earlier, this account contains items that one might wish to examine together with items in other accounts (such as passenger fares), but one is unable to do so, because the required disaggregations cannot be made. For example, the port expenditures included in this account are not restricted to those associated with the transportation receipts and payments included in this account alone; they also include expenditures made in connection with transportation covered by the passenger fares account. This problem is not likely to be solved, if for no other reason than that a given airplane or ship may carry both passengers and freight. Thus, for some purposes, it is necessary to view the passenger fares and "other transportation" accounts together. For example, if a foreign country placed restrictions on the operations of U.S. carriers, and U.S. trade negotiators wanted to point to the port expenditures in that country in enumerating the economic benefits of those operations to the country, the negotiators would need to present the

two accounts together.

- f. Comment.--Several improvements in the "other transportation" account have recently been made. The improvements primarily involve ocean freight payments, which are now based on import charges tabulated by the Census Bureau. Previously, estimates were based largely on BEA annual sample surveys of foreign ship operators and their U.S. agents. Because the Census Bureau information covers the universe of import charges, it is the preferred basis for estimation. Use of this information became possible in January 1980, when import charges began to be classified by flag of ship. (BEA converts these data to a nationality-of-operator basis, which is the correct one for measuring international transactions.) This and other changes in methodology, all of which are described in the June 1983 Survey (p. 67), resulted in sizable revisions to the transportation accounts for 1977-82. Revisions for 1981-82 are based directly on the new information; revisions for 1977-80 were extrapolated from 1981-82.

4. Royalties and Fees from and to affiliated foreigners

a. Description

- (1) Exports.--This account measures net receipts of U.S. direct investors from their foreign affiliates for (1) the use or sale of intangible property or rights (patents, trademarks, copyrights, manufacturing rights, techniques, etc.); (2) the rental of tangible property, and motion picture films and television tapes; and (3) the provision of management, professional, and technical services, research and development assessments, and allocated expenses.
- (2) Imports.--This account measures net payments to foreign direct investors from their U.S. affiliates for (1) the use or sale of intangible property or rights (patents, trademarks, copyrights, manufacturing rights, techniques, etc.); (2) the rental of tangible property, and motion picture films and television tapes; and (3) the provision of management, professional, and technical services, research and development assessments, and allocated expenses.

- b. Classification.--Fees and royalties are classified by industry of affiliate--the foreign affiliate of a U.S. company for U.S. direct investment abroad (exports) and the U.S. affiliate of a foreign company for foreign

direct investment in the United States (imports). In addition, for years covered by a benchmark survey, fees and royalties received from or paid to foreign affiliates can be classified by industry of U.S. parent, and those paid by or received from U.S. affiliates can be classified by major industry of foreign parent or ultimate beneficial owner. For any given fee or royalty, the industry of the affiliate may not be the industry most closely associated with the given fee or royalty. Instead, the industry could be that of the parent, or secondary industries of either the parent or the affiliate.

c. Aggregation.--For this account, as well as for other direct investment accounts, disaggregation can be viewed from four standpoints: (1) The level of detail at which the data are collected, which places a limit on the disaggregation of existing data, (2) detail published in conjunction with benchmark surveys, (3) detail published in annual time series, and (4) unpublished detail.

(1) Detail collected.--Data are collected by individual country. As for industry detail, tables 8-16 list the service-industry codes used in collecting the most recently published statistics on direct investment. Several new codes were added to that list for the 1982 benchmark survey of U.S. direct investment abroad, which is now being processed. Specifically, separate codes were added for 12 service-producing industries that had shared codes in previous surveys. The new codes are listed later, in the discussion of aggregation of the direct investment financial and operating data.

(2) Benchmark survey publications.--Benchmark survey data covering fees and royalties and its components, as well as other items, are generally published in two formats. One has considerable geographical detail but little industry detail. The other has considerable industry detail but little geographical detail. At present, even the second format combines many service industries into a single category ("services").^{8/} With the addition of new service-industry codes in the 1982 benchmark survey, it may be possible to publish more industry detail in the future.

8. See U.S. Department of Commerce, Bureau of Economic Analysis, U.S. Direct Investment Abroad, 1977 (April 1981), and Foreign Direct Investment in the United States, 1980 (October 1983).

- (3) Annual time series.--In recent years, annual data on fees and royalties have been published in the Survey in aggregated form, because of space limitations. For U.S. direct investment abroad, estimates are published for five geographical areas, four of which show crossclassification by three major industries (petroleum, manufacturing, and "other").^{9/} The estimates are further crossclassified by type into three categories: (1) royalties and license fees, (2) service charges and rentals for tangible property, and (3) film and television tape rentals. For foreign direct investment in the United States, estimates of total fees and royalties are published for four geographical areas, crossclassified by five major industries (petroleum, manufacturing, trade, insurance, and "other").
- (4) Unpublished detail.--For both U.S. direct investment abroad and foreign direct investment in the United States, fees and royalties are available internally for nonbenchmark years in a format identical or very similar to that of the benchmark survey publication tables that show considerable country detail but little industry detail. In these tables, most services are included in a single residual category that also contains non-service industries. Disclosure analysis is performed on these tables, and data from them are available to the public, only for U.S. direct investment abroad.^{10/} Estimates in this same format are also made for the three components of

9. Greater industry detail, without crossclassification by area, has occasionally been published in separate articles on affiliated and unaffiliated fees and royalties. See, for example, Meryl L. Kroner, "U.S. International Transactions in Fees and Royalties," Survey, 60 (January 1980): 29-35.

10. These and other data collected under the International Investment Survey Act of 1976 are not permitted to be published "in such a manner that the person to whom the information relates can be specifically identified." Access to the data is limited to officials and employees (including consultants and contractors and their employees) of the Government agencies that are specifically designated by the President to perform functions under the act. The act further specifies that the information collected under it must be used for statistical and analytical purposes only. In published tables, data in each cell are tested to determine whether they should be suppressed (that is, not shown) for confidentiality reasons.

fee and royalty receipts for which more aggregated estimates are published annually; however, because these estimates have not been "suppressed" or subjected to disclosure analysis, they are not publicly available. For foreign direct investment in the United States, detailed estimates exist, in unsuppressed form, only for the royalties and license fees component of fees and royalties. For U.S. direct investment abroad, total fees and royalties have been estimated, and checked for disclosure problems, for every country in which fees and royalties have been reported, but with no crossclassification by industry. Such extended country detail is not available for foreign direct investment in the United States.

- d. Coverage.--Fees and royalties to and from affiliated foreigners cover all areas and industries, as do the BEA investment surveys generally. The coverage by type of transaction may not be complete, however, and transactions that probably should be viewed separately are combined.

As now defined, fees and royalties to and from affiliated foreigners include both a property-income component, reflecting a return on tangible property and nonfinancial intangible property, and a component representing payment for services rendered. The latter component may more appropriately be shown separately from fees and royalties. This approach is followed for unaffiliated transactions. Unaffiliated fees and royalties include only an intangible-property-income component, and (with one minor exception) the payment-for-services-rendered component is included under "other private services."¹¹ This approach is generally in accordance with the recommendations of the International Monetary Fund's Balance of Payments Manual (4th edition), and, for policy or analytical purposes, the two components would seem clearly to be most useful if kept separate.

11. The exception is that management, professional, and technical services performed in connection with the transfer of intangible assets or rights are generally included in unaffiliated fees and royalties, rather than in "other private services."

Whether all services rendered are captured by the present quarterly report forms is questionable. These forms ask for receipts and payments of "fees for services rendered, including fees for management, professional, or technical services, R&D assessments, and allocated expenses." In practice, responses to this question often do not appear to cover the full range of services rendered by parents and affiliates on one another's behalf, especially those that might be considered "sales" rather than overhead-type charges, assessments, or allocations. To clarify the intent of the question and to improve coverage, on the 1982 benchmark survey of U.S. direct investment abroad, the question has been divided into two separate questions. The first asks for allocated expenses and specifically relates them to "other income," where they would normally appear, in the income statement of the provider. The second asks for sales of services and specifically relates them to "sales or gross operating revenues," where they would normally appear, in the income statement of the provider; it also provides a specific definition of "services." If reporting on these questions is satisfactory, the quarterly report forms will eventually be revised accordingly, and a decision will be made on whether to record payments for services rendered--consisting of both "sales of services" and allocated expenses--in an account separate from fees and royalties in the balance of payments.

- e. Recording.--The data are collected on a gross basis. For foreign direct investment in the United States, they are, as of June 1984 (commencing with data for 1980), also published on this basis. For U.S. direct investment abroad, however, fees and royalties are, except in a benchmark year, estimated, and published, on a net basis. Thus, U.S. parents' receipts of fees and royalties from their foreign affiliates are shown net of their payments of fees and royalties to their foreign affiliates. When the data are benchmarked to the 1982 benchmark survey, estimates on a gross basis will begin to be made for U.S. direct investment abroad as well.

For trade negotiations, or for the investigation of issues such as those related to the transfer of technology, estimates on a gross basis will offer significant advantages. For example, they will enable one to determine if a small net figure for a particular country and industry reflects the smallness of both receipts and payments or if receipts and payments are large, but offsetting. More generally, it will facilitate calculation of the value of services provided by one country to another, as can be done with goods because exports and imports are shown separately in the merchandise trade account.

5. Royalties and fees from and to unaffiliated foreigners

a. Description

- (1) Exports.--This account measures receipts of U.S. residents from foreign residents who are not affiliated with the U.S. residents collecting the receipts, for the sale or use of intangible property or rights (patents, trademarks, copyrights, manufacturing rights, techniques, etc.), and the provision of related management, professional, and technical services.
- (2) Imports.--This account measures payments to foreign residents by U.S. residents who are not affiliated with the foreign residents collecting the payments, for the use or sale of intangible property or rights (patents, trademarks, copyrights, manufacturing rights, techniques, etc.), and the provision of related management, professional, and technical services.

- b. Classification.--Fees and royalties to and from unaffiliated foreigners are classified according to the primary industry of the U.S. firm making or receiving the payment. For any given fee or royalty, the industry of the U.S. transactor may differ from the industry most closely associated with the given fee or royalty, particularly where large, multi-industry companies are involved.

A U.S. transactor's primary industry is the industry that, on form BE-93, on which unaffiliated fee and royalty transactions are reported, it indicates most clearly describes its "activities." Because this self-classification by industry is not identical to the method of classification based on sales used in the direct investment surveys, some inconsistencies in classification may exist for companies reporting on both types of surveys.

- c. Aggregation.--Unaffiliated fees and royalties are collected in considerable detail by country and by industry of U.S. transactor. Form BE-93 lists 41 industry codes, 12 of which are for service industries (including construction). On the form, respondents specify each country with which they had transactions and, for each country, report separately (1) "royalties, license fees, etc., for the use or sale of franchises, patents, copyrights, trademarks, designs, know-how, formulae, techniques, processes, manufacturing rights, and other intangible assets and proprietary rights," (2)

"licensing fees derived from the leasing of motion picture and television films and tapes, or proceeds from their outright sale," and (3) "compensation for professional, administrative, and management services that are not a part of, or included in, the amounts reported in (1) and (2), above." (Data for the second item--mainly film rentals--are included in the "other private services" account.) Although published data have tended to utilize rather aggregated formats, more detailed data are available upon request.

- d. Coverage.--Form BE-93 instructs reporters to exclude data on "reciprocal exchange(s) of intangible assets or rights where no monetary or in kind compensation is paid." This exclusion may unnecessary. The existence of a reciprocal exchange and the absence of monetary transfers need not imply that the transactors have not assigned a value to the transaction. Where they have, it probably should be reported, both as a receipt and a payment, in order that the services involved in the transaction may be recorded. In practice, the absence of a book or other (e.g., tax) value for such transactions is becoming increasingly rare, due to pressures from both the accounting profession and the tax authorities.

It should be noted that the management, professional, and technical services included in this account are only those services performed in conjunction with the transfer of intangible assets or rights. Most management, professional, and technical services are not performed in conjunction with the transfer of such assets or rights and are included, at least conceptually, in "other private services." Possibly due to the absence of the word "related" in previously published definitions of fees and royalties, coverage problems in the "other private services" account may have been obscured by an impression that some service transactions missing from that account were included in fees and royalties (which is where similar transactions with affiliated parties appear in the direct investment accounts).

For consistency, consideration should be given to including all management, professional, and technical services, even those performed in conjunction with the transfer of intangible assets or rights, in "other private services." An example of the type of transaction involved is the sale to a foreign company of the rights to a manufacturing process along with the services of engineers to assist in its implementation.

Under the alternative methodology, the rights to use the process would be included in fees and royalties, and the engineering services would be included in "other private services." This method would be consistent with that used in other accounts. For example, if a U.S. contractor's receipts include payment for U.S. goods exported in conjunction with a foreign contract operation, the value of the goods is included in the merchandise trade accounts, and the value of the services performed abroad (less the contractor's expenditures for local goods and services) are included in "other private services."

If management, professional, and technical services performed in conjunction with the transfer of intangible assets or rights were to be included in "other private services," rather than in fees and royalties, data on them should be fully consistent with data on other sales of services. Consistency might best be achieved if both fees and royalties and sales of services--whether related to the transfer of intangibles or not--were collected on one form.

- e. Recording.--Fees and royalties from and to unaffiliated foreigners are recorded on a gross basis, with receipts and payments recorded separately.

6. Other private services

a. Description

- (1) Exports.--This account measures receipts of U.S. private residents from unaffiliated foreign residents for services rendered in the United States or abroad. Included are: (1) Receipts from foreign contract operations of U.S. construction, engineering, consulting, and other technical services companies; (2) receipts from international cable, radio, telephone, and satellite services provided by U.S. communications companies; (3) expenditures in the United States by foreign governments and international organizations; (4) premiums paid, net of losses recovered, by U.S. insurance companies in international reinsurance transactions; (5) film rentals; (6) commissions; (7) expenditures in the United States of foreign residents employed in the United States; (8) U.S. workers' earnings abroad; and (9) dues paid by Canadian local trade unions to U.S. national trade unions.

(2) Imports.--This account measures payments to unaffiliated foreign residents by U.S. private residents for services rendered in the United States or abroad. Included are (1) payments for international cable, radio, telephone, and satellite services provided by foreign communications companies; (2) premiums received, net of claims paid, by U.S. insurance companies in international reinsurance transactions; (3) wages of temporary resident aliens; (4) expenditures abroad of U.S. residents employed abroad; (5) film rentals and fees for television broadcasting rights; (6) consular fees paid by U.S. residents for visas, licenses, permits, etc.; (7) partial estimates of direct insurance transactions with foreign insurance companies; (8) film companies' outlays abroad for film productions; and (9) payments by U.S. national trade unions to Canadian local unions.

b. Classification.--Generally, the transactions in this account either are not classified by industry or pertain only to a single industry, such as communications or insurance. An exception is receipts from foreign contract operations of U.S. construction, engineering, consulting, and other technical services companies, which are classified by type of service, including engineering and design, general construction, technical assistance, consulting, and "other" (such as dredging, drilling, and diving).

In the existing survey on the foreign contract operations of U.S. firms, a "brief description of project" is requested. This approach may suffice as long as the respondents consist, as they now do, primarily of construction, engineering, and architectural firms. If the survey were expanded to cover many respondents, spread among many industries, however, providing respondents with a list, together with definitions, of industry codes would seem essential. Also, the use of industry codes would facilitate comparisons, by industry, between data on contract operations and data on the sales of U.S. affiliates of foreign companies or foreign affiliates of U.S. companies.

Data on the foreign expenditures of U.S. contractors began to be collected in 1983. Data needed to classify these expenditures by industry or by type are not currently collected. Ideally, one would like to know the types of goods and services purchased, but it is uncertain whether the cost of obtaining this information would be justified. Perhaps a few broad

categories of expenditures might be given, such as expenditures for goods, employee compensation, services, taxes, and "other."

Similar information on the U.S. contract operations of foreign firms would be desirable, if a survey of these operations were initiated, as suggested below. Because it would likely be the U.S. purchaser of services, rather than the foreign seller, who would be surveyed, it is difficult to see how even the limited detail suggested above could be provided in any new survey of such operations.

- c. Aggregation.--Because the transactions covered by this account are estimated using a variety of sources and methods, and produce estimates in varying detail by country, it is difficult to speak in general terms about the detail in which the account is available, except to note that the total is available by balance of payments area. Estimates by type of transaction have generally been published without crossclassification by area. Because of the coverage problems, noted below, in this account, more detail cannot be made available at this time.
- d. Coverage.--In the area of contract operations of services companies, this account has two major coverage problems. The first involves the existing voluntary survey on the foreign contract operations of U.S. construction, engineering, consulting, and other technical services companies. Although all services are conceptually within the scope of this survey, in practice, responses are received mainly from U.S. construction, engineering, and architectural companies. Consistently good coverage of other types of companies cannot be achieved without mandatory reporting. Such coverage is necessary if information on U.S. sales to unaffiliated foreigners of a variety of business, professional, and other services--such as advertising, accounting, legal, medical, and financial services--is to become available. The second coverage problem is that no analogous survey covers the U.S. contract operations of foreign firms--i.e., U.S. purchases of services from unaffiliated foreigners. Such a survey would also require mandatory reporting.

Coverage problems also exist in the area of rentals and leases of tangible assets. Except as noted below, such receipts and payments are included in this account conceptually, but, in fact, are not reported. A voluntary, exploratory survey conducted in 1975 suggested that such transactions were too small to

justify a separate survey. If the survey work on contract operations is expanded, questions on leasing could be added with less cost and burden than a separate survey would entail. (As noted earlier, other opportunities to consolidate reporting may exist as well.) This coverage problem is mitigated by the fact that some items leased (on financial leases) are, in effect, sold and are included under merchandise trade. In other instances, the items rented or leased may be deemed to constitute an "affiliate"--this is often true of petroleum drilling rigs, for example--so that they are included in transactions with affiliated parties. Also, some leasing activity, such as ship charters, is covered by the transportation accounts.

In the case both of rentals and leasing and of contract operations, any expanded survey work should be accompanied by the development of consistent guidelines to distinguish between affiliated and unaffiliated transactions, so that transactions of a similar nature are uniformly included in the appropriate category and are not duplicated. At present, the guidelines used in the direct investment surveys differ from those used in the survey of foreign contract operations of U.S. firms, so that some operations could conceivably be covered by both surveys. In particular, in the direct investment surveys, a foreign affiliate is deemed to exist if the duration of the operation exceeds 1 year. In contrast, in the survey of unaffiliated foreign contract operations, services provided at foreign job sites or by temporary foreign branches established by U.S. residents for the sole purpose of fulfilling a contract "are included regardless of whether they are provided over a period of more than one year, since some construction projects may take several years to complete and some retainer-type contracts may extend over an indefinite period." Development of consistent guidelines will become more important as the universe of firms surveyed expands and duplication becomes more difficult to detect. Affiliated and unaffiliated transactions would also have to be distinguished in any new survey of the U.S. contract operations of foreign firms. Because both the United Nations System of National Accounts and the International Monetary Fund's Balance of Payments Manual (4th ed.) use a 1-year rule in distinguishing between resident and nonresident enterprises, a similar rule might be used. Whatever rule is adopted, it should be applied on a consistent basis internally so that there is no duplication or omission.

Even though the terminology may suggest otherwise (and thus may require modification), the coverage of an expanded survey of foreign contract operations of U.S. firms should include contracts for services U.S. residents perform in the United States under contracts with foreign residents. As examples, advertising services might be provided in the United States for foreign firms, or consulting services for foreigners might actually be performed in the United States, with the consultant's report or other work-product being sent abroad to the foreign resident that commissioned the work. Similarly, a new survey of U.S. contract operations of foreign firms should include contracts for services foreign residents perform abroad under contracts with U.S. residents.

Ideally, the surveys would collect information on where the services are performed. Consultations with reporters will be needed during the design of any new survey forms to determine whether reporters can reasonably be expected to provide this information. As noted earlier, knowledge of where the services are performed is not necessary for compiling the balance of payments accounts but may be useful for analyzing trade in services.

- e. Recording.--Existing data on the foreign contract operations of U.S. construction, engineering, consulting, and other technical services firms are on a net basis. The form on which the data are collected-- form BE-47--has recently been changed, however, to request reporting on a gross basis. Before its revision, the "net amount of funds remaining in the United States or to the United States account" was requested for each contract. This amount was calculated, before entry on the form, as the U.S. contractor's gross accruals or actual receipts less the sum of U.S. exports and foreign disbursements associated with the project. Thus, the form was explicitly tailored to fit the needs of balance of payments accountants, not those of persons interested in the details of the international contract operations themselves. On the revised form, first used in 1983, both the gross accruals or receipts and the two deductions are requested separately.

The new information on gross accruals and receipts will greatly improve the analysis of foreign contract operations of U.S. firms. The old information on net receipts could not confidently be used to draw inferences about changes in the level of such operations. The problems associated with use of the net

receipts data can be illustrated by considering the early stages of an operation, when the U.S. contractor is disbursing funds to cover expenses, but has not begun to be paid for its work. During this period, there will be net payments associated with the operation, and users treating the net receipts data as indicators of the level of operations might erroneously conclude that it had declined. Focus on gross, rather than net, receipts, will eliminate this confusion.

A further refinement, from the standpoint of measuring the flow of contract services performed, would be to place reporting on an accrual basis, since accruals correspond more closely to services performed than do cash receipts, which may take the form of periodic lump sums.

7. Direct investment income

a. Description

- (1) Exports.--This account measures U.S. parent companies' shares in the net income of their foreign affiliates, less foreign withholding taxes on earnings distributed to U.S. parents by their foreign affiliates, plus interest (net of withholding taxes) on intercompany accounts of U.S. parents with their foreign affiliates (where interest is defined as interest received by U.S. parents from their foreign affiliates, net of interest paid by U.S. parents to their affiliates).
- (2) Imports.--This account measures foreign parent companies' shares in the net income of their U.S. affiliates, less U.S. withholding taxes on earnings distributed to foreign parents by their U.S. affiliates, plus interest (net of withholding taxes) on intercompany accounts of U.S. affiliates with their foreign parent groups (where interest is defined as interest paid by U.S. affiliates to their foreign parent groups, net of interest received by U.S. affiliates from their foreign parent groups).

- b. Classification.--Direct investment income is classified by industry of affiliate--the foreign affiliate of a U.S. company for U.S. direct investment abroad (exports) and the U.S. affiliate of a foreign company for foreign direct investment in the United States (imports). In addition, for years covered by a benchmark survey, income is also classified by industry of U.S. parent, for U.S. direct investment abroad, and

by major industry of both foreign parent and ultimate beneficial owner, for foreign direct investment in the United States.

- c. Aggregation.--Aggregation of the data on direct investment income is similar to that described earlier for fees and royalties to and from affiliated foreigners. The main difference is that the annual time series are published at a more disaggregated level for income than for fees and royalties; income is published essentially at the level of the benchmark survey publication format that shows considerable country detail but little industry detail. As noted, at this level, most service industries are included in a single residual category that also contains nonservice industries. When table formats for the annual time series are reviewed following future benchmark surveys, consideration should be given to adopting formats for published data that minimize combinations of service and nonservice industries, or to making more detailed estimates available in unpublished form.
- d. Coverage.--All industries are covered. However, for bank parents and affiliates, direct investment income only includes receipts and payments related to the parents' permanent debt and equity investment in their affiliates. All other income receipts and payments, largely interest that arises from the parents' and affiliates' normal banking business, are treated as income on portfolio investment and are included in "other private receipts and payments." This treatment is consistent with the practice of including only permanent debt and equity investment in bank affiliates in the direct investment position, and including investment arising in the normal course of the affiliate's banking business in the portfolio investment position.
- e. Recording.--Possible recording problems in the direct investment income accounts can best be examined by considering separately each of the two major components --earnings and interest. ("Earnings" is defined as the parent's share in the affiliate's after-tax net income.)

Earnings are recorded on a gross basis. For a given type of investment, U.S. abroad or foreign in the United States, earnings flow in only one direction--from the affiliate to the parent.

Data on interest are collected on a gross basis. For foreign direct investment in the United States, they are, as of June 1984 (commencing with data for 1980), also published on this basis. For U.S. direct investment abroad, however, except in a benchmark year, interest is estimated, and published, on a net basis. Thus, U.S. parents' receipts of interest from their foreign affiliates are shown net of their payments of interest to their foreign affiliates. When the data are benchmarked to the 1982 benchmark survey, estimates on a gross basis will begin to be made for U.S. direct investment abroad as well.

8. Other private receipts and payments

a. Description

(1) Exports.--This account measures (1) interest received by U.S. residents on their holdings of foreign debt securities; (2) interest received by U.S. residents on short- and long-term loans, deposits, and other claims on foreigners reported by U.S. banks and nonbanking concerns; (3) fees received by U.S. banks for services provided to foreign customers; and (4) dividends received by U.S. residents on holdings of foreign equity securities. Receipts are gross of foreign withholding taxes. Excluded are receipts by U.S. direct investors from their foreign affiliates.

(2) Imports.--This account measures (1) interest paid by U.S. residents on foreign holdings of U.S. debt securities; (2) interest paid on short- and long-term liabilities to foreigners reported by U.S. banks and nonbanking concerns; and (3) dividends paid by U.S. residents on foreign holdings of U.S. equity securities. Payments are net of U.S. withholding taxes. Excluded are payments to foreign direct investors from their U.S. affiliates.

b. Classification.--Existing data sources do not permit classification of this account by industry.

c. Aggregation.--Estimates are disaggregated by area as necessary for inclusion in the quarterly balance of payments accounts. The various types of income included in the account are now not shown separately in the published data. (It can be noted, however, that the major item in the account is bank interest.)

- d. Coverage.--In principle, all receipts and payments are covered by the estimates, which are made by applying information about interest rates and dividend payout rates to information on U.S. claims on, and liabilities to, unaffiliated foreigners. In practice, coverage depends upon the coverage of the underlying claims and liabilities that generate the income. Data on these claims and liabilities are collected by the Federal Reserve System and compiled by the Treasury Department. Changes in these claims and liabilities are difficult to monitor: Transactions may take place through channels not covered by the reporting system, or the transactors may be unaware of reporting requirements. Although the coverage may thus be incomplete, efforts to improve it are made on an ongoing basis. Several recent improvements to the account, both in coverage and in accuracy of estimation, may be noted. For convenience, both types of improvements are discussed here under "coverage."

In June 1981, dividend payments on foreign holdings of U.S. corporate stock for 1977 and subsequent years were revised to reflect the results of the U.S. Treasury Department's benchmark survey of foreign portfolio investment in the United States for 1978. This was the first such survey conducted under the International Investment Survey Act of 1976, which provides for surveys at 5-year intervals. The previous benchmark survey covered 1974; it was conducted under one-time authority provided by the Foreign Investment Study Act of 1974. Before that, the U.S. liabilities underlying the estimates of dividend payments were linked to a benchmark survey that had been conducted during World War II. Thus, in recent years, estimates have been based on much more up-to-date information than was previously available.

Conducting a benchmark survey of foreign portfolio investment in the United States was feasible because, for such investment, the issuers of the debt and equity instruments to be surveyed were under U.S. jurisdiction, and could thus be required to report. Without jurisdiction over foreign issuers, benchmark surveys of U.S. portfolio investment abroad, in contrast, would have to survey the very large number of potential U.S. holders of the instruments. Because of this, no recent benchmark survey of U.S. portfolio investment abroad has been taken. The 1976 act provided for a study of the feasibility of such a survey, but the Treasury Department, which undertook the study, determined that the cost of conducting such a survey would be prohibitive.

The Treasury Department's determination was based on the assumption that the survey would be truly comprehensive, covering essentially all U.S. holders of foreign debt and equity (exclusive of direct investment). Significant improvements to estimates of U.S. dividend receipts might be made, however, with a less comprehensive survey, covering primarily such entities as banks, insurance companies, mutual funds, pension funds, and brokerage houses. (The survey could also result in improved estimates of interest receipts, although benchmark surveys are less critical here than in the case of dividends.)

In June 1982, receipts and payments of income on claims and liabilities reported by U.S. banks were revised for 1978-81 to reflect more accurately recent developments in international financial markets. Financial innovations and increased integration of national and international capital markets had led U.S. banks to adopt alternatives to prime-rate-based pricing of business loans; many of these alternatives placed greater emphasis on market-determined rates. Also, the pricing of overdrafts and intra- and interbank lending had become more closely linked to the cost of funds (often the Federal funds rate) plus a small charge for administrative costs. Finally, there had been a growing tendency to price loans and loan services separately rather than on an all-inclusive basis.

The current method of estimating bank-reported receipts and payments of income, which utilizes information developed through periodic consultations with the larger banks, reflects this shift to market-determined rates. For U.S. receipts, the new methodology also estimates some noninterest income independently, rather than including it implicitly in yields on assets. Some components of noninterest income are estimated using data from the Federal Reserve System and the Treasury Department. However, because other components remain unestimated due to the current absence of adequate sources of information, the estimates of noninterest income are not complete enough to publish separately. If and when they are, they could be included in, or in special tabulations combined with, sales of services as shown in other current-account line items. This would be necessary to derive a clean sale-of-services figure, separate from factor income, for the current-account.

In June 1983, estimates of bank income receipts on U.S. portfolio investment abroad were lowered to reflect an improved method of estimating fees earned by banks on lines of credit. This change was carried back to 1980. Another change made at the same time, which affected estimates beginning with the year 1982, was in the average interest rates applied to average outstanding balances to derive estimated income receipts on term loans. The change reflected a trend toward shortened maturities and frequent repricing of loans, and permits the income estimates to respond more quickly to changing conditions in financial markets.

- e. Recording.--Recording is on a gross basis.

Direct investment financial and operating data

This section covers data, other than the balance of payments data just discussed, on the financing and operations of U.S. parent companies, their foreign affiliates, and the U.S. affiliates of foreign companies. The most detailed data are collected in BEA's quinquennial benchmark surveys of U.S. direct investment abroad and foreign direct investment in the United States (which also collect balance of payments data). For foreign direct investment in the United States, selected financial and operating data from the benchmark survey are updated in nonbenchmark years by means of an annual sample survey. A parallel annual survey of U.S. direct investment abroad was approved in July 1984.

This section gives a general description of the surveys as a group. It also notes certain changes instituted in the 1982 benchmark survey of U.S. direct investment abroad to improve information on services.

- a. Description.--The surveys collect information about U.S. parents, foreign affiliates, and U.S. affiliates. The information includes, among other items, balance sheets, income statements, U.S. merchandise trade, employment and employee compensation, and research and development expenditures. The 1982 survey of U.S. direct investment abroad included, for the first time, a disaggregation of sales by U.S. parent companies between sales of goods and sales of services, each broken down into sales to U.S. persons, sales to foreign affiliates, and sales to other foreign persons. For foreign affiliates, previous benchmark surveys had requested a disaggregation of sales by destination and by whether the sales were (1) sales to persons in the affiliate's country of location, (2) sales to persons in the United States, and (3) sales to persons in other countries. The 1982 survey requested an additional disaggregation between sales of goods and sales of services. The instructions to the survey state that when goods and services are sold jointly, and are not billed separately, the entire value of the sale should be classified as either a good or a service, depending upon which most likely accounted for more of the value.

- b. Classification.--The data are generally (exceptions are noted below) classified on an enterprise basis. Thus, data of a given parent or affiliate are generally classified in a single industry--usually the industry in which the enterprise's sales were largest. The information on sales, disaggregated by industry, used to perform this classification can also be used to show sales disaggregated by industry of sales (as opposed to the industry of the parent or affiliate). Also, beginning with the 1980 benchmark survey for U.S. affiliates and the 1982 benchmark survey for U.S. parents, data were obtained on employment by industry of sales.^{12/}

Sales data from the 1977 benchmark survey of U.S. direct investment abroad are presented later to indicate the degree of specialization of U.S. parents and foreign affiliates and, thus, the degree to which the data classified by industry of enterprise approximate data classified in the various industries in which the parents and affiliates operate.

- c. Aggregation.--Almost all service industries that had separate codes in the 1977 benchmark survey of U.S. direct investment abroad are shown in tables 8-16; the codes used in other recent surveys of inward and outward direct investment are almost identical. An exception is in the 1982 benchmark survey of U.S. direct investment abroad, in which codes were added for 12 services industries that had been combined or included in residual categories in previous surveys. The industries are: (1) metal mining services; (2) travel agents; (3) franchising; (4) research and development and commercial testing laboratories; (5) management, consulting, and public relations services; (6) equipment rental and leasing services, excluding automotive and computers; (7) employment agencies and temporary help supply services; (8) computer and data processing services; (9) automotive rental and leasing, without drivers; (10) health services; (11) legal services; and (12) educational services. (Obviously, the industries that these had been combined with are now changed in scope.) In addition, the insurance industry was split into three parts: (1) life, (2) accident and health, and (3) other.

12. A disaggregation of employment by industry of sales was not requested for foreign affiliates on the 1982 benchmark survey because foreign affiliates, which are generally reported on an unconsolidated basis, tend to be highly specialized--much more so than U.S. parents or U.S. affiliates, both of which are reported on a fully consolidated basis. Thus, most of an affiliate's sales and employment would appear in its own industry of classification.

Previous BEA publications have generally not shown separately data for each service industry for which a separate industry code is available. Tables 8-16 are provided to illustrate the detail available and to provide area by industry information more detailed than that previously published.

- d. Coverage.--Coverage by industry is complete (although, as noted above under "aggregation," not all possible industries are assigned separate codes). Fewer data items are requested for banks than for nonbanks because most of the data on banks needed for policy purposes are collected by other agencies. Because it is always possible to think of relevant information that could be collected, but is not, coverage by data item or type of transaction can never be said to be truly "complete." Coverage is determined by weighing the reporting burden and processing costs against the expected value of additional information. Such a process resulted in the added questions on services in the 1982 benchmark survey.

One type of information for which BEA considered adding questions, but did not, was on purchases of services by affiliates from unaffiliated parties. Such information is needed to obtain a complete picture of the services transactions of parents and affiliates and would have obvious uses in supporting efforts to liberalize international trade and investment in services. (For example, local purchases of services by foreign affiliates could be pointed to in describing the impact of the affiliates on the local economy.) BEA decided, though, that it would be best, first, to gain experience with the added questions on sales and to develop a better understanding of what specific information on purchases would be most useful and least burdensome to collect. One aspect of the latter effort will be the development of a manageable list of specific services for which purchases data would be collected.

Coverage of the direct investment financial and operating data might, in some cases, be expanded to collect additional information applicable only to particular industries, such as that needed to distinguish between interest and noninterest income of banks or between the premium and investment income of insurance companies. Because of processing costs, reporting burden, and the need for data that permit interindustry comparisons, adding such industry-specific items should probably be considered only in exceptional cases.

Except for a single item (capital expenditures of majority-owned foreign affiliates), which is largely unrelated to services, financial and operating data of U.S. parents and foreign affiliates have been collected only in the benchmark surveys. The lack of coverage of periods between these surveys has created two problems. First, time series analysis is impossible. Second, the usefulness of the data is often limited by its age. Because of the interval between benchmark surveys and the time required for processing, the

most recent data available at any given time cover a period from 3 to 8 years past. The institution of an annual sample survey of U.S. direct investment abroad will make annual time series data available, with less than 2 years between the year covered and the publication of survey results. The first year covered by the new survey will be 1983.

- e. Recording.--The problem of net recording essentially is not applicable to the direct investment financial and operating data.

Combining the Two Types of Data

One need expressed by users of the data on services is the ability to combine the balance of payments data on sales of services between U.S. and foreign residents with data on sales of services by affiliates collected in the surveys of direct investment financial and operating data. Combination would permit the derivation of sales totals that would include all sales between U.S. and foreign residents, whether directly (as measured by the balance of payments data) or through affiliates (as measured by the affiliate financial and operating data). Ideally, one would like to be able to compare the different types of sales and, for some purposes, to distinguish between sales to affiliated parties and sales to unaffiliated parties.

The following tabulation schemes show one way in which sales totals that combine the two types of data can be derived. Separate schemes are provided for U.S. sales and U.S. purchases. They show how the necessary information could be derived, primarily by utilizing and building upon BEA's existing international surveys; in one or two cases, new surveys are required. The information can be used to construct other measures or to combine the items in different ways. (For example, sales between affiliated parties might, for some uses, be eliminated to reduce duplication.) Tables either for total sales and purchases or for sales and purchases of specific services could be constructed. A later tabulation shows how sales and purchases could be viewed simultaneously.

To illustrate the specific data sources that could be used in constructing these tables, a summary of existing or proposed new sources of data for each of the various lines is given for engineering services. For other services, the sources would differ in some cases from those shown here for engineering. The 1982 benchmark survey of U.S. direct investment abroad is given as the source of several items; survey results will not become available until the end of 1985.

U.S. sales

The following tabulation scheme shows the derivation of a sales total that includes sales of services to foreign residents directly by U.S. residents, as well as through their foreign affiliates (which are considered foreign residents).

Sales of Services to Foreign Residents by U.S. Residents and Their Foreign Affiliates

	U.S. balance of payments transactions	Not U.S. balance of payments transactions	
		U.S.-to- U.S.	Foreign-to- foreign
1. Total.....	---	---	---
2. Sales by U.S. residents.....	x	---	---
a. To unaffiliated foreign residents.....	x	---	---
i. By U.S. companies that have foreign affiliates.....	x	---	---
ii. By foreign-owned U.S. companies.....	x	---	---
iii. By other U.S. companies.....	x	---	---
iv. Less adjustment to remove sales duplicated in i. and ii.....	x	---	---
b. To affiliated foreign residents..	x	---	---
i. By U.S. parent companies to their foreign affiliates....	x	---	---
ii. By foreign-owned U.S. companies to their foreign parent companies.....	x	---	---
3. Sales by foreign affiliates of U.S. companies.....	---	---	x
a. To persons in country of location of the affiliate.....	---	---	x
b. To persons in other foreign countries.....	---	---	x

The sources of information needed to complete each line for engineering services are as follows.

Line 1.--Sum of lines 2 (U.S. residents' sales of services to foreign residents, which are U.S. balance of payments transactions) and 3 (foreign affiliates' sales of services to foreign residents, which are not U.S. balance of payments transactions).

Line 2.--Sum of lines 2.a. and 2.b.

Line 2.a.--Survey on the foreign contract operations of U.S. construction, engineering, consulting, and other technical services firms (BE-47). The change from net to gross recording beginning in 1983 will permit the extraction of data on sales (as opposed to net U.S. receipts) from this survey. As noted, the response rate to this survey will have to be improved, particularly for industries other than construction, engineering, and architecture, if industry-by-industry estimates of sales are to be produced. As discussed under "other private services," expenditures on U.S.-produced services by foreigners conducting contract operations in the United States, which should be included in this line, probably cannot be included because of the difficulty of obtaining or disaggregating such data.

Lines 2.a.i.-2.a.iv.--The present reporting system does not make the distinctions called for by these four lines. To complete these lines, BEA would have to coordinate or conduct its various surveys so that companies that have foreign affiliates, that are foreign-owned, or that fall into neither or both of the first two groups can be identified. To insure that a given entity would be correctly assigned, the same rules for company consolidation should be applied in all of the surveys. (The BE-47 does not now contain rules for company consolidation.) The adjustment in line 2.a.iv. is for foreign-owned U.S. companies that, in turn, have direct investment abroad. Because their sales would appear twice in the table--once in line 2.a.i. and once in line 2.a.ii.--an adjustment would be needed to remove the duplication.

Line 2.b.--Sum of lines 2.b.i. and 2.b.ii.

Line 2.b.i.--New questions on the 1982 benchmark survey of U.S. direct investment abroad (BE-10). Similar questions may eventually be added to the quarterly balance-of-payments survey (BE-577). Until they are, the partial information collected in that survey's present question on "fees for services rendered, including fees for management, professional, or technical services, R&D assessments, and allocated expenses" may be used. For nonbenchmark years, a change to estimation on a gross basis will be required, as will estimation in greater detail by industry.

Line 2.b.ii--Data for this line would be collected initially through questions, analogous to the ones just discussed, on the next benchmark survey of foreign direct investment in the United States. Similar questions might subsequently be added to the quarterly balance of payments surveys (BE-605 and BE-606B). Until they are, the partial information collected in those surveys on "fees for services rendered, including fees for management, professional, or technical services, R&D assessments, and allocated expenses" may be used. For non-benchmark years, a change to estimation on a gross basis will be required, as will estimation in greater detail by industry.

Line 3.--Sum of lines 3.a. and 3.b. These data will be available beginning with the 1982 benchmark survey of U.S. direct investment abroad. To avoid repetition, three qualifications applicable to both lines 3a. and 3.b. are noted here. First, the data will be available only for majority-owned foreign affiliates. Second, the data are now available only from benchmark surveys. Thus, they are available only with a considerable lag, and only at 5-year intervals.^{13/} The new annual survey of financial and operating data for U.S. direct investment abroad will provide more timely data and make it possible to produce the sales total for each year. Third, the data would include sales by foreign affiliates to one another. Thus, duplication will exist that, for some purposes, one might like to eliminate.

Line 3.a.--1982 benchmark survey of U.S. direct investment abroad (BE-10).

Line 3.b.--1982 benchmark survey of U.S. direct investment abroad (BE-10). Note that affiliates' sales of services to persons in "other foreign countries" are not further disaggregated by destination in the survey. From a practical standpoint, this limitation is likely to cause only minor problems, because most sales of services are probably in the affiliate's country of location.

U.S. purchases

The following tabulation shows the derivation of a purchases total that includes U.S. residents' purchases of services directly from foreign residents as well as from foreign residents' U.S. affiliates.

13. Five years is the normal interval. Because of a postponement in the next benchmark surveys, the interval between the last and the next surveys will be 7 years, rather than 5. The postponement is needed to synchronize the benchmark surveys of foreign direct investment in the United States with the economic censuses conducted by the Census Bureau.

Purchases of Services by U.S. Residents from Foreign Residents and Their U.S. Affiliates

	U.S. balance of payments transactions	Not U.S. balance of payments transactions	U.S.-to- U.S.	Foreign-to- foreign
1. Total.....	---	---	---	---
2. Purchases from foreign residents.....	x	---	---	---
a. From unaffiliated foreign residents..	x	---	---	---
i. By U.S. companies that have foreign affiliates.....	x	---	---	---
ii. By foreign-owned U.S. companies..	x	---	---	---
iii. By other U.S. companies.....	x	---	---	---
iv. Less adjustment to remove purchases duplicated in lines i. and ii.....	x	---	---	---
b. From affiliated foreign residents....	x	---	---	---
i. By U.S. parent companies from their foreign affiliates.....	x	---	---	---
ii. By foreign-owned U.S. companies from their foreign parent companies.....	x	---	---	---
3. Purchases from U.S. affiliates of foreign companies.....	---	x	---	---

The sources of information needed to complete each line for engineering services are as follows.

Line 1.--Sum of lines 2 (U.S. residents' purchase of services from unaffiliated foreign residents, which are U.S. balance of payments transactions) and 3 (U.S. residents' purchases of services from U.S. affiliates of foreign companies, which are not U.S. balance of payments transactions).

Line 2.--Sum of lines 2.a. and 2.b.

Line 2.a.--These data are not now available; data would have to come from a new survey on the U.S. contract operations of foreign firms. This new survey would be parallel in form to an expanded BE-47 survey of the foreign contract operations of U.S. firms. Expenditures on foreign-produced services by U.S. firms conducting contract operations abroad, which should be included in this line, probably cannot be included because of the difficulty of disaggregating such expenditures by type.

Lines 2.a.i.-2.a.iv.--To make the distinctions called for by these lines, coordination between the new survey mentioned above and other BEA surveys would be required. A primary requirement would be consistent rules for company consolidation. The adjustment in line 2.a.iv. is for foreign-owned U.S. companies that, in turn, have direct investment abroad. Because their purchases would appear twice in the table--once in line 2.a.i. and once in line 2.a.ii.--an adjustment would be needed to remove the duplication.

Line 2.b.--Sum of lines 2.b.i. and 2.b.ii.

Line 2.b.i.--New questions on 1982 benchmark survey of U.S. direct investment abroad (BE-10). Similar questions may eventually be added to the quarterly balance-of-payments survey (BE-577). Until they are, the partial information collected in that survey's present question on "fees for services rendered, including fees for management, professional, or technical services, R&D assessments, and allocated expenses" may be used. For nonbenchmark years, a change to estimation on a gross basis will be required, as will estimation in greater detail by industry.

Line 2.b.ii.--Data for this line would be collected initially through questions, analogous to the ones just discussed, on the next benchmark survey of foreign direct investment in the United States. Similar questions might subsequently be added to the quarterly balance of payments surveys (BE-605 and BE-606B). Until they are, the partial information collected in those surveys on "fees for services rendered, including fees for management, professional, or technical services, R&D assessments, and allocated expenses" may be used. For nonbenchmark years, a change to estimation on a gross basis will be required, as will estimation in greater detail by industry.

Line 3.--Information needed for this line could be collected in the existing sample survey of financial and operating data of U.S. affiliates of foreign companies (BE-15), as well as in future benchmark surveys of foreign direct investment in the United States (BE-12). The necessary questions would distinguish between sales of goods and sales of services, each disaggregated to show separately sales to U.S. and foreign residents. As a practical matter, purchases of U.S. affiliates from one another would have to be included in this line. Thus, it will contain duplication that, for some purposes, one might like to eliminate.

Sales and purchases viewed simultaneously

The following tabulation scheme suggests one method of presenting data on sales and purchases simultaneously. In it, total sales and purchases are disaggregated to show balance of payments transactions separately from sales by affiliates. A separate table, covering all countries, could be compiled for each of several service industries. Such tables would be useful in multilateral discussions on individual industries.

U.S. Sales and Purchases of Services, _____ (industry)

	Sales to foreign residents ^{1/}			Purchases from foreign residents and their U.S. affiliates		
	Total	By U.S. residents	By foreign affiliates of U.S. companies	Total	From foreign residents ^{2/}	From U.S. affiliates ^{3/}
	(1)	(2)	(3)	(4)	(5)	(6)
Total.....	---	---	---	---	---	---
Developed Countries.....	---	---	---	---	---	---
Canada.....	---	---	---	---	---	---
Europe.....	---	---	---	---	---	---
etc.....	---	---	---	---	---	---

1. The total for these two columns should be used with caution as the sales in the second column, by U.S. residents, are classified by country of location of foreign purchaser and the sales in the third column, by foreign affiliates of U.S. companies, are classified by country of location of the affiliate making the sale. The latter may differ from the country of location of the foreign purchaser if the sale is not local. Thus, there is potential for including some sales that are not to residents of the given country, although most sales of services by affiliates are local sales. Classification of sales of foreign affiliates by country of foreign purchaser would require information that is not now collected by BEA.

2. Country is country of location of person from whom purchased.

3. Country is country of location of foreign parent of U.S. affiliate.

For use in bilateral discussions covering a range of industries, separate tables, covering all industries, could be produced for each U.S. trading partner. Although other formats could also be designed, disclosure and quality problems are likely to become more prevalent the greater the detail, or variety of ways, in which the data are presented.

When items are combined that are, in some significant respect, dissimilar, it may be inadvisable to show the total without also showing the component items. For example, sales by U.S. residents are classified by country of foreign purchaser, whereas sales by foreign affiliates of U.S. companies are classified by country of location of the affiliate making the sale. The latter may differ from the country of location of the foreign purchaser if the sale is not local. (Classification of affiliate sales by country of foreign purchaser would require information that is not now collected by BEA.) Also, the economic impact of U.S. sales of services to foreigners differs as between sales directly by U.S. residents and sales by their foreign affiliates: In the first case, the value added typically will be by factors of production resident in the United States; in the second, it typically will be by factors resident abroad. Thus, data on total U.S. sales to foreigners should probably be presented only in tables that also include the two components just described.

Examples of Available BEA Data

Balance of payments data for 1977-82

Tables 2-7 show, for 1977-82, additional detail for several of the current-account items listed in table 1 and discussed in the summary and overview section. These tables form a part of the supplementary data package referred to in footnote 1; some of the items shown here are shown in greater detail in that package. Comparable data covering 1970-76 may be found in the Survey article by DiLullo referred to in that same footnote. In addition, specialized articles appear in the Survey covering (separately) travel and royalties and fees; the articles provide both data and analysis of current developments.

Data from the 1977 benchmark survey.

To illustrate the types of direct investment financial and operating data that are available for analyzing international services transactions and to address analytical questions raised earlier, this section presents data on services from the 1977 benchmark survey of U.S. direct investment abroad in greater detail than previously published. Data are presented for both U.S. parents and their foreign affiliates. From the many data items available, four--sales, assets, employment, and value added--were selected for presentation because they were felt to be good general indicators of size and levels of activity. Also, the sales data are used to help determine whether data classified by industry of enterprise (parent or affiliate) are satisfactory proxies for data classified by industry of activity and, together with the value added data, help determine to what extent, and in which industries, sales data can substitute adequately for data on value added.

The question of classification is addressed by table 8, which shows, for U.S. parents, sales classified both by industry of parent and by industry of sales.^{14/} The industry of parent was determined, for any given parent, using a two-step procedure. First, the parent was classified in the one of ten major industry groups in which its sales were largest. It was then further classified in the subindustry, within that major group, in which its sales were largest. The figures on industry of sales were derived by multiplying total sales for each parent by the percentage of the total accounted for by each industry (up to the maximum of eight provided for by the survey form) in which the parent had sales. Sales not specified by industry--about 2 percent of the total--are shown as a reconciliation item in the last line of the table.

The table shows that U.S. parents classified in service industries accounted for \$518.7 billion, or 36 percent, of sales by all parents in 1977. Of the \$518.7 billion, 35 percent was accounted for by parents in trade; 23 percent by parents in finance (except banking), insurance, and real estate; and 19 percent by parents in transportation, communications, and public utilities. The shares for parents in petroleum services, construction, banking, and "other service industries" were each smaller than 10 percent.

By industry of sales, \$545.0 billion, or 38 percent, of total sales were in services. Of this amount, 37 percent was in trade, 21 percent in finance (except banking), insurance, and real estate, and 18 percent in transportation, communications, and public utilities. Less than 10 percent was in each of the remaining major service industries.

Sales by industry of parent and by industry of sales may differ because parents classified in a given industry may have sales in other industries and because parents classified in those other industries--both service and nonservice--may have sales in the given industry. In comparing the levels and distributions of sales classified in the two ways, it can be seen that, for service industries taken as a whole, or for the major service industries, the differences tend to be moderate. An exception is in "other service industries," where sales by industry of sales were over 50 percent larger than sales by industry of parent; the difference in this industry was largely due to sales in service industries by parents classified in nonservice industries. For subindustries within the major industries, the differences tend to be, in relative terms, greater. In a few industries, they are markedly so.

14. In this and subsequent tables, "sales" is, except for two industries, defined as net sales (sales minus returns, allowances, and discounts) or gross operating revenues, both exclusive of consumption taxes levied directly on the consumer, net value-added taxes, and excise taxes levied on manufacturers, wholesalers, and retailers. For banks and holding companies, total income, which includes nonsales sources of revenue, was used rather than sales.

To show the extent to which sales in a given service industry can be accounted for by parents classified in that industry or in other industries, whether service or nonservice, sales by industry of sales are broken down into several categories in the last 5 columns of table 8. Sales by parents classified in service industries and by parents classified in nonservice industries are shown in columns 3 and 7, respectively. Sales by parents classified in service industries are, in turn, disaggregated to show sales in the parents' own three-digit industry (the lowest level of disaggregation available) (column 4) separately from sales in other industries (column 5). The three-digit industry in which a given parent is classified is referred to in the table as the parent's "primary" industry.^{15/}

Of total sales in service industries of \$545.0 billion, \$480.6 billion, or 88 percent, were by parents classified in service industries. Of that amount, fully 90 percent was accounted for by parents selling in their own primary service industries. Parents classified in nonservice industries accounted for \$64.4 billion, or 12 percent, of total identifiable sales of services by parents.

Because the sales-by-industry figures show the industries with which the sales are associated from the standpoint of the productive activities of the seller, sales "in" services is not necessarily synonymous with sales "of" services. The difference is most evident in trade, where sales are "in" services (because trade is a service industry) but not "of" services (because the sales are of goods). As noted earlier, total sales "of" services by U.S. parents (and by their foreign affiliates) are being requested for the first time in the 1982 benchmark survey of U.S. direct investment abroad. It will be possible to disaggregate these sales by industry of parent or affiliate, but not by the specific service sold.

15. The focus of the table is on specialization at the three-digit level of aggregation. Entries for higher levels of aggregation were derived as the summation of entries for the separate three-digit industries, rather than being derived at the higher levels. Although the latter approach could have been used, the results would have been difficult to interpret, in view of the diversity of industries that comprise some of the industry groups. The difference between the two possible ways of constructing the table may be illustrated through an example. Finance (except banking), insurance, and real estate is shown as a subtotal consisting of four industries--(1) finance (except banking), (2) insurance, (3) real estate, and (4) holding companies. The table was constructed so that, for the subtotal, "sales in primary service industry" is the sum of sales in finance by finance companies, in insurance by insurance companies, and so on. Sales outside the three-digit industry of classification--sales in finance by insurance companies, for example--are excluded. Such sales would have been included under the alternative method.

In most individual service industries, a pattern similar to that observed for all service industries combined held. That is, sales tended to be accounted for largely by parents classified in service industries and, to a large extent, selling in their own primary industries. The most notable exception was in petroleum services, where the sales of several large, integrated companies were spread among several subindustries.

Parents' sales in nonservice industries are shown in the next-to-last line of table 8. Of total sales in these industries of \$871.9 billion, 96 percent were by parents classified in nonservice industries and only 4 percent by parents classified in service industries. Sales in nonservice industries by service-industry parents accounted for about 6 percent of sales by these parents. Thus, sales in nonservice industries by service-industry parents were small relative both to these parents' total sales and to sales in nonservice industries by all parents.

Table 9 shows sales, total assets, and employment of U.S. parents, each classified by industry of parent. Service-industry parents accounted for 61 percent of the assets and 35 percent of the employment, compared with 36 percent of the sales, of all parents. The share for assets was boosted by the very large assets of banks and insurance companies.

Service-industry parents had total assets of \$1,294.2 billion in 1977. Of this amount, 45 percent was held by parents in banking, 29 percent by parents in finance (except banking), insurance, and real estate, and 14 percent by parents in transportation, communications, and public utilities. Parents in trade had a 7-percent share. The shares in petroleum services, construction, and "other service industries" were each 2 percent or less.

Service-industry parents had 6.8 million employees. Of this number, parents in trade employed 36 percent, those in transportation, communications, and public utilities employed 26 percent, those in finance (except banking), insurance, and real estate employed 13 percent, and those in "other service industries" employed 11 percent. The shares employed by parents in petroleum services, construction, and banking were each less than 10 percent.

Table 10 shows sales by foreign affiliates classified by industry of affiliate and by industry of sales.^{16/} Service-industry affiliates accounted for \$275.7 billion, or 41 percent, of sales by all foreign affiliates. Of the \$275.7 billion, 37 percent was accounted for by affiliates in trade and 35 percent by affiliates in petroleum services. The shares for affiliates in each of the remaining service industries were less than 10 percent.

By industry of sales, \$288.8 billion, or 43 percent, of total sales were in services. Of this amount, 38 percent was in trade and 35 percent was in petroleum services. Less than 10 percent was in each of the remaining major service industries.

The levels and distributions among major industries of sales classified in the two ways were almost identical. Even at the level of subindustries, the differences tended to be minor. The main reason for the similarity was the tendency for affiliates to specialize. This tendency in part reflects the fact that, for reporting to BEA, foreign affiliates generally are not permitted to be consolidated across industry lines. Furthermore, consolidation across country lines is uniformly prohibited.

Of total sales in service industries of \$288.8 billion, \$272.9 billion, or 94 percent, were by affiliates classified in service industries. Of the latter amount, fully 95 percent was accounted for by affiliates selling in their own primary service industries. Affiliates classified in nonservice industries accounted for \$15.9 billion, or 6 percent, of total sales of services by affiliates. In almost all individual industries, sales were accounted for largely by service-industry affiliates, selling in their own primary industries.

Of total affiliates' sales in nonservice industries of \$383.8 billion, almost all--over 99 percent--were by affiliates classified in nonservice industries. Affiliates classified in service industries accounted for less than 1 percent. Sales in nonservice industries by service-industry affiliates accounted for about 1 percent of sales by these affiliates. Thus, sales in nonservice industries by service-industry affiliates were small relative both to these affiliates' total sales and to sales in nonservice industries by all affiliates.

16. Table 10 is identical in construction to table 8, which covered U.S. parents. A minor difference between the two tables may be noted, however. The benchmark survey forms allowed space for sales in a maximum of five industries to be shown for affiliates, as opposed to eight for U.S. parents. Even so, almost all of the sales of affiliates were specified by industry, so that the difference had no practical effect.

Tables 11 and 12 are extensions of table 10; they provide crossclassification by geographic area of the data shown in the first two columns of that table. Sales of foreign affiliates are shown by industry of affiliate in table 11 and by industry of sales in table 12. Although it is possible to find individual cells in which sales on the two bases differ significantly, the two tables are, on the whole, quite similar.

Having compared sales by industry of enterprise with sales by industry of sales, one can now answer, tentatively--for U.S. parents and foreign affiliates, at least--a question raised earlier--namely, whether data on services classified by industry of enterprise can substitute satisfactorily for data classified by industry of sales. For U.S. parents, the answer appears to be "yes" at a fairly high level of aggregation, but "no" at lower levels. The parent data reported to BEA cover fully consolidated business enterprises, and large, diversified enterprises account for much of the value. As noted earlier, some data on employment by industry of sales are already being collected from parents in acknowledgment of the diversity of their operations.

For foreign affiliates, the strong tendency toward specialization in their primary industries indicates that the primary industry is generally an adequate basis for classification. The limited information on sales by industry of sales that is now collected will provide a means of monitoring its adequacy on an ongoing basis.

Assets and employment of foreign affiliates are shown in tables 13 and 14, respectively. Both items are classified by industry of affiliate. Thus, in viewing them in conjunction with sales data, the appropriate comparison is with table 11, which shows sales classified by industry of affiliate. (Information needed to classify assets and employment by industry of sales is unavailable, but, judging from the high specialization of affiliates evident in the sales data, such a classification would probably yield a very similar distribution.)

Service-industry affiliates accounted for \$542.9 billion, or 65 percent, of the assets of all affiliates (table 13). Their share of assets was considerably higher than their share of sales, largely because bank affiliates held a much larger share of assets--62 percent--than of sales--8 percent. Affiliates in other industries held much smaller shares of assets.

Of the 7.3 million full-time and part-time employees of all foreign affiliates, service-industry affiliates accounted for 26 percent, or 1.9 million employees (table 14). Of the latter amount, 51 percent was in trade, 16 percent in "other service industries," and 9 percent in construction. Each of the remaining service industries had shares of 7 percent or less.

Table 15 shows sales and value added of the U.S. parents of nonbank majority-owned foreign affiliates (MOFA's) and their MOFA's.^{17/} The sales figures are lower than those shown in earlier tables because they cover only a subset of the universe of parents and affiliates. The sales data for MOFA's are shown here primarily for comparison with the estimates of value added, which are available only for MOFA's. The MOFA sales data are also of interest in their own right, because, for some purposes, one might want to exclude data for minority-owned affiliates, in which the U.S. ownership share may be as low as 10 percent, from total "U.S." sales to foreigners.

Service-industry parents accounted for \$141.1 billion, or 29 percent, of value added of all U.S. parents. Of the \$141.1 billion, parents in transportation, communications, and public utilities accounted for 45 percent, parents in trade for 22 percent, and parents in finance (except banking), insurance, and real estate for 16 percent.

Value added of service-industry parents was 32 percent of sales. This compares with 37 percent for all parents and 39 percent for parents in nonservice industries. The ratio of value added to sales varied considerably among industries, reflecting differences in the degree of integration of the production process and in the propensity to engage in intermediation-type activities. It was highest, at 67 percent, in transportation, communications, and public utilities. The ratio was lowest--20 percent or less--in petroleum services, in trade, and in finance (except banking), insurance, and real estate; in each of these industries, activities of parents included intermediation of goods or financial assets. (This statement is applicable to the petroleum services industry largely because it contains petroleum wholesale trade, for which value added was only 10 percent of sales.) Although value added was not estimated for parents in banking (the necessary data were collected only for nonbanks), these parents presumably would also have fallen into the low group.

For service-industry MOFA's, value added was 18 percent of sales, considerably below the 32-percent figure for their U.S. parents. Value added was 32 percent of sales for all MOFA's and 40 percent for MOFA's in nonservice industries. The latter figure was about the same as for U.S. parents. The value-added-to-sales ratio for MOFA's was highest, at 44 percent, in transportation, communications, and public utilities; it was next highest, at 43 percent, in "other service industries." It was lowest--below 20 percent--in petroleum services, in finance (except banking), insurance, and real estate, and in trade. Although, in each major industry, the ratio was lower for affiliates than for parents, the

17. The value added estimates were made by Ned G. Howenstine and published, with less detail for service industries, in "Gross Product of U.S. Multinational Companies, 1977," Survey 63 (February 1983): 24-29.

rankings of major industries on the basis of the ratio tended to be very similar for parents and MOFA's. In each case, the low group tended to be comprised of entities whose activities included intermediation.

These ratios clearly indicate that, for entities in intermediation-type industries, sales data cannot substitute satisfactorily for data on value added. Even for entities in other industries, the ratios are low enough to demonstrate that, where value added is the desired measure, sales are likely to provide a poor substitute. One implication of this finding for BEA statistical programs is that, for benchmark surveys and for annual surveys of financial and operating data, it would be desirable to continue to request the information needed to estimate value added, and to provide the resources needed to make the estimates. Barring this, it would be worthwhile to develop and collect measures for intermediation-type industries that would help segregate revenues related to the service of intermediation from those that represent payments for the sale or use of the goods or financial assets intermediated.

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Table 2.--U.S. International Travel Transactions, 1977-82

(Millions of dollars)

	Receipts			Payments		
	Total	Overseas	Canada and Mexico	Total	Overseas	Canada and Mexico
1977.....	6,150	2,684	3,466	7,451	4,100	3,351
1978.....	7,183	3,479	3,704	8,475	4,947	3,528
1979.....	8,441	4,374	4,067	9,413	5,354	4,059
1980.....	10,131	5,108	5,023	10,397	6,016	4,381
1981.....	12,163	5,716	6,447	11,479	6,547	4,932
1982.....	11,293	5,821	5,472	12,394	7,134	5,260

Table 3.--U.S. International Transportation Transactions, Other Than Passenger Fares, by Major Type, 1977-82

(Millions of dollars)

	1977	1978	1979	1980	1981	1982
Exports.....	7,090	8,136	9,971	11,647	12,593	12,437
Freight receipts.....	2,409	2,801	3,432	4,264	4,428	4,208
Ocean.....	1,734	2,033	2,571	3,229	3,364	3,104
Air.....	427	507	577	742	752	762
Other ¹	248	261	284	293	313	342
Port services.....	4,591	5,235	6,390	7,157	7,965	8,058
Ocean.....	3,137	3,511	4,235	4,435	4,552	4,468
Air.....	1,398	1,662	2,078	2,643	3,330	3,515
Other ²	56	62	77	79	82	75
Other.....	90	101	149	226	200	171
Imports.....	7,972	9,124	10,906	11,790	12,379	11,638
Freight payments.....	5,087	5,845	6,701	6,473	6,783	6,307
Ocean.....	4,611	5,295	6,084	5,809	5,978	5,450
Air.....	362	448	506	562	671	725
Other ²	114	102	111	102	134	132
Port services.....	2,475	2,836	3,684	4,770	5,034	4,755
Ocean.....	1,051	1,255	1,607	1,905	2,054	1,957
Air.....	1,357	1,509	2,016	2,804	2,914	2,731
Other ²	67	72	61	61	66	68
Other.....	410	443	521	547	562	575

1. Consists primarily of pipeline freight receipts from Canada and receipts from Canada related to Great Lakes traffic and rail traffic.

2. Consists of transactions related to Great Lakes traffic and rail traffic between Canada and the United States.

Table 4.--U.S. International Transactions in Royalties and Fees, 1977-82

(Millions of dollars)

	1977	1978	1979	1980	1981	1982
Receipts of royalties and fees.....	4,920	5,885	6,184	7,082	7,293	7,139
Affiliated.....	3,883	4,705	4,980	5,780	5,813	5,572
Royalties and licensing fees.....	2,173	2,697	3,002	3,693	3,658	3,172
Other.....	1,710	2,008	1,978	2,087	2,154	2,400
Unaffiliated.....	1,037	1,180	1,204	1,302	1,480	1,567
Royalties and licensing fees.....	1,031	1,177	1,196	1,286	1,469	1,545
Other.....	6	3	8	16	11	22
Payments of royalties and fees.....	505	670	832	817	711	337
Affiliated.....	243	393	523	514	413	42
Unaffiliated.....	262	277	309	303	298	295

Table 5.--U.S. International Transactions in Private Miscellaneous Services, 1977-82

(Millions of dollars)

	1977	1978	1979	1980	1981	1982
Exports.....	3,848	4,296	4,403	5,408	6,167	6,576
Contractors' fees.....	1,241	1,348	1,054	1,492	1,849	1,734
Reinsurance ¹	183	222	218	236	229	193
Communications.....	865	978	1,101	1,327	1,377	1,661
Expenditures of foreign governments and international organizations..	1,103	1,224	1,339	1,554	1,823	1,982
Trade union receipts from Canadian local trade unions.....	73	74	77	85	92	97
Wages of U.S. residents abroad ²	40	49	63	66	76	75
Expenditures of foreign residents employed in the United States.....	160	174	175	199	204	230
Film rentals ³	142	164	284	284	335	391
Commissions.....	42	62	93	166	182	212
Imports.....	2,190	2,573	2,822	3,094	3,183	3,700
Reinsurance ¹	597	754	835	865	789	706
Communications.....	894	1,043	1,244	1,452	1,572	2,071
Trade union payments to Canadian local trade unions.....	37	51	50	52	65	63
Wages of temporary resident aliens ²	442	478	473	536	544	618
Expenditures of U.S. residents employed abroad.....	49	54	54	54	55	55
Film rentals and fees for television broadcasting rights ³	66	90	63	430	54	82
Other ⁵	105	104	104	104	104	104
Addendum: Film rentals ⁶						
Receipts.....	442	613	619	547	671	655
Payments.....	37	76	61	92	149	94

1. Exports include premiums received less losses paid; imports include premiums paid less losses recovered.

2. Exports include gross receipts of wages of U.S. residents who commute to jobs in Canada and small amounts of earnings of U.S. residents temporarily employed in the United Kingdom. Receipts do not include wages and salaries of U.S. employees temporarily assigned to foreign affiliates of U.S. parents. These are included in receipts of royalties and fees from affiliated foreign residents and are not separately identified. Imports include payments of wages and salaries to Canadian and Mexican residents who commute to jobs in the United States and earnings of temporary resident aliens.

3. Includes receipts from and payments to unaffiliated foreign residents only. Film rental transactions with affiliated foreign residents are included in royalties and fees. See addendum for combined affiliated and unaffiliated receipts and payments.

4. Includes recovery of a large portion of fees paid in earlier years for rights to televise the Olympic games from the Soviet Union in 1980.

5. Includes estimates of consular fees paid by U.S. residents for visas, licenses, permits, etc.; partial estimates of direct insurance transactions with foreign insurance companies; and film companies' outlays abroad for film productions.

6. Includes combined affiliated and unaffiliated receipts and payments.

Table 6.--Net Receipts from Contract Operations of U.S. Construction, Engineering, and Other Technical Services Firms, 1978-82

(Millions of dollars)

	1978	1979	1980	1981	1982
Total.....	1,348	1,054	1,492	1,849	1,734
By type of service:					
Engineering and design ¹	971	753	1,072	1,369	1,268
General engineering.....	582	351	321	713	634
General design.....	39	99	123	182	180
Engineering and design.....	51	21	101	99	104
Engineering, design, and related construction ² ..	299	282	527	375	350
General construction ²	128	107	102	99	67
Technical assistance ³	168	111	200	258	247
Consulting ⁴	67	52	93	100	125
Other ⁵	15	31	25	23	27
By area:					
Western Europe.....	93	108	118	189	198
Eastern Europe.....	6	22	12	10	13
Canada.....	126	90	111	85	66
Japan.....	23	48	45	45	46
Australia, New Zealand, and South Africa.....	39	19	24	89	51
Latin America.....	162	209	470	538	232
Other areas.....	899	558	712	893	1,128
Memorandum:					
OPEC.....	824	441	607	657	727

1. Includes services of a professional nature in the fields of engineering, architecture, and land surveying.

2. Includes building construction--office buildings, farm buildings, hotels, dwellings, and stores--and heavy construction--bridges, highways and tunnels, port facilities, dams and water projects, air-fields, pipelines, and industrial facilities.

3. Includes training and supervision of personnel; management of hotels, plants, and other facilities; data processing; design and installation of computer and information systems; procurement; and installation, maintenance, and repair of equipment.

4. Includes economic and management consulting, research, feasibility studies (except physical studies), logistics planning, and other studies.

5. Includes diverse services such as dredging, certain types of drilling services, and underwater (diving) services.

NOTE.--Receipts are net of outlays abroad for wages, materials, and other expenses, and exclude U.S. merchandise exports that are included in the merchandise trade account. Receipts do not include contract receipts of U.S. parents for services provided to foreign affiliates and receipts from contracts written under the Foreign Military Sales program. The former are part of "other services" in the affiliated royalties and fees account, and the latter are included in the Government transactions account.

Table 7.--U.S. International Reinsurance Transactions, 1977-82

	Premiums (Millions of dollars)		Losses (Millions of dollars)		Loss ratios (Percent)	
	Receipts	Payments	Paid	Recovered	Paid ¹	Recovered ²
1977.....	784	1,272	601	675	77	53
1978.....	803	1,567	581	813	72	52
1979.....	828	1,819	610	984	74	54
1980.....	896	1,897	661	1,032	74	54
1981.....	964	2,092	735	1,302	76	62
1982.....	959	2,128	765	1,422	80	67

1. Losses paid as a percentage of premiums received.
2. Losses recovered as a percentage of premiums paid.

NOTE.--Premiums are net of cancellations and commissions charged to or by foreign insurance companies.

Table 8.--Sales by U.S. Parents, by Industry of Parent
and by Industry of Sales, 1977

[Millions of dollars]

	Sales by industry of parent	Sales by industry of sales				
		Total	Sales by parents classified in service industries			Sales by parents classified in non-service industries
			Total	Sales in primary service industry	Sales in other industries	
All industries.....	1,450,463	1,450,463	518,656	434,762	83,894	931,807
Service industries.....	518,656	545,001	480,558	434,762	45,796	64,443
Petroleum services.....	36,044	41,797	32,563	26,487	6,076	9,234
Oil and gas field services.....	1,987	4,274	2,754	1,413	1,341	1,520
Petroleum tanker operations.....	(D)	(D)	(D)	(D)	127	163
Pipeline transportation, incl. natural gas.....	11,051	8,098	7,469	7,211	259	629
Petroleum storage for hire.....	0	(D)	(D)	0	(D)	(*)
Petroleum wholesale trade.....	22,321	26,034	20,749	17,382	3,367	5,285
Gasoline service stations.....	(D)	(D)	(D)	(D)	(D)	1,637
Construction.....	17,165	16,834	13,520	12,549	971	3,314
Transportation, communications, and public utilities.....	100,314	97,124	88,696	85,476	3,220	8,428
Transportation.....	35,202	33,456	29,730	27,142	2,589	3,725
Water transportation (non-petroleum).....	2,244	4,185	2,452	1,499	953	1,734
Transportation by air.....	12,230	11,435	11,331	11,015	315	104
Transportation and related services, nec.....	20,727	17,835	15,948	14,627	1,321	1,887
Communications.....	48,587	(D)	44,683	(D)	(D)	(D)
Electric, gas, and sanitary services.....	16,525	(D)	14,282	(D)	(D)	(D)
Trade.....	183,706	201,089	170,989	150,427	20,563	30,099
Wholesale trade.....	77,683	88,586	70,710	56,166	14,544	17,876
Durable goods.....	29,252	38,411	28,060	21,028	7,031	10,352
Nondurable goods.....	48,431	50,175	42,651	35,138	7,513	7,524
Retail trade.....	106,023	112,502	100,279	94,260	6,019	12,223
Food stores and eating and drinking places.....	39,932	42,966	39,418	36,887	2,531	3,548
Retail trade, nec.....	66,092	69,536	60,861	57,373	3,488	8,675
Banking.....	37,878	37,827	(D)	36,608	(D)	(D)
Finance (except banking), insurance, and real estate.....	119,772	114,409	(D)	103,985	(D)	(D)
Finance (except banking).....	9,064	11,310	10,258	5,678	4,580	1,052
Insurance.....	108,088	97,935	96,988	95,804	1,184	948
Real estate.....	517	2,741	2,191	425	1,766	550
Holding companies.....	2,104	2,423	(D)	2,078	(D)	(D)
Other service industries.....	23,777	35,920	25,694	19,229	6,465	10,226
Agricultural services.....	0	97	(D)	0	(D)	(D)
Hotels and other lodging places.....	2,433	2,685	2,530	1,566	963	156
Advertising.....	2,034	2,367	(D)	2,031	(D)	(D)
Motion pictures, incl. television tape and film.....	1,793	2,591	2,002	1,254	748	589
Engineering, architectural, and surveying services.....	4,435	6,149	4,107	3,165	942	2,043
Accounting, auditing, and bookkeeping services.....	1,751	1,823	(D)	1,751	(D)	(D)
Other services provided on a commercial basis.....	11,332	20,207	13,212	9,462	3,750	6,995
Non-service industries, total.....	931,807	871,925	33,231	NA	33,231	838,694
Sales not specified by industry.....	NA	33,537	4,867	NA	4,867	28,670

NA Not applicable.

D Suppressed to avoid disclosure of data of individual companies.

Table 9.--Sales, Total Assets, and Employment of U.S. Parents
by Industry of Parent, 1977

[Millions of dollars, or number of employees]

	Sales	Total assets	Employment
All industries.....	1,450,463	2,128,470	19,415,065
Service industries.....	518,656	1,294,186	6,791,383
Petroleum services.....	36,044	27,682	135,486
Oil and gas field services.....	1,987	2,976	31,624
Petroleum tanker operations.....	(D)	(D)	(D)
Pipeline transportation, incl. natural gas.....	11,051	12,400	40,945
Petroleum storage for hire.....	0	4	(D)
Petroleum wholesale trade.....	22,321	11,572	57,638
Gasoline service stations.....	(D)	(D)	(D)
Construction.....	17,165	14,118	283,471
Transportation, communications, and public utilities.....	100,314	182,499	1,772,387
Transportation.....	35,202	38,444	682,420
Water transportation (non-petroleum).....	2,244	3,736	28,384
Transportation by air.....	12,230	11,235	205,643
Transportation and related services, nec.....	20,727	23,473	448,393
Communications.....	48,587	(D)	(D)
Electric, gas, and sanitary services.....	16,525	(D)	(D)
Trade.....	183,706	84,260	2,471,642
Wholesale trade.....	77,683	27,209	270,993
Durable goods.....	29,252	13,382	129,879
Nondurable goods.....	48,431	13,826	141,114
Retail trade.....	106,023	57,052	2,200,649
Food stores and eating and drinking places.....	39,932	11,348	725,934
Retail trade, nec.....	66,092	45,704	1,474,715
Banking.....	37,878	584,564	526,549
Finance (except banking), insurance, and real estate.....	119,772	380,071	862,244
Finance (except banking).....	9,064	51,949	145,677
Insurance.....	108,088	320,081	694,844
Real estate.....	517	2,105	6,167
Holding companies.....	2,104	5,936	15,556
Other service industries.....	23,777	20,991	739,604
Agricultural services.....	0	0	0
Hotels and other lodging places.....	2,433	2,902	83,132
Advertising.....	2,034	1,425	25,913
Motion pictures, incl. television tape and film.....	1,793	2,549	26,744
Engineering, architectural, and surveying services.....	4,435	3,015	93,726
Accounting, auditing, and bookkeeping services.....	1,751	575	44,920
Other services provided on a commercial basis.....	11,332	10,526	465,169
Nonservice industries, total.....	931,807	834,284	12,623,682

D Suppressed to avoid disclosure of data of individual companies.

Table 10.--Sales by Foreign Affiliates, by Industry of Affiliate
and by Industry of Sales, 1977

[Millions of dollars]

	Sales by industry of affiliate	Sales by industry of sales				
		Total	Sales by affiliates classified in service industries			Sales by affiliates classified in nonservice industries
			Total	Sales in primary service industry	Sales in other industries	
All industries.....	673,697	673,697	275,719	259,704	16,016	397,977
Service industries.....	275,719	288,839	272,933	259,704	13,230	15,906
Petroleum services.....	96,673	100,436	96,001	92,449	3,552	4,436
Oil and gas field services.....	3,156	3,104	3,039	3,016	23	65
Petroleum tanker operations.....	8,222	(D)	8,279	8,209	70	(D)
Pipeline transportation, incl. natural gas.....	1,517	2,010	1,978	(D)	(D)	33
Petroleum storage for hire.....	145	(D)	141	(D)	(D)	(D)
Petroleum wholesale trade.....	76,587	78,808	76,453	74,474	1,979	2,356
Gasoline service stations.....	7,047	7,841	6,112	5,098	1,014	1,729
Construction.....	10,021	10,144	9,836	9,693	143	307
Transportation, communications, and public utilities.....	13,207	13,103	12,850	12,561	289	253
Transportation.....	3,404	3,606	3,506	3,272	234	100
Water transportation (non-petroleum).....	1,902	1,932	1,927	1,843	84	5
Transportation by air.....	255	317	317	(D)	(D)	0
Transportation and related services, nec.....	1,247	1,357	1,262	(D)	(D)	95
Communications.....	(D)	(D)	(D)	(D)	(D)	(D)
Electric, gas, and sanitary services.....	(D)	(D)	(D)	(D)	(D)	(D)
Trade.....	103,009	109,934	100,677	92,966	7,711	9,258
Wholesale trade.....	84,745	90,911	82,270	75,825	6,445	8,641
Durable goods.....	45,152	52,241	44,904	40,424	4,480	7,337
Nondurable goods.....	39,594	38,670	37,366	35,402	1,965	1,304
Retail trade.....	18,263	19,023	18,407	17,141	1,266	617
Food stores and eating and drinking places.....	5,113	(D)	4,628	4,507	121	(D)
Retail trade, nec.....	13,150	(D)	13,779	12,634	1,145	(D)
Banking.....	23,250	23,192	23,192	23,188	4	0
Finance (except banking), insurance, and real estate.....	17,067	17,208	17,185	16,916	269	23
Finance (except banking).....	4,234	(D)	4,411	4,177	234	(D)
Insurance.....	10,077	10,079	10,079	10,074	5	0
Real estate.....	220	(D)	241	215	26	(D)
Holding companies.....	2,537	2,454	2,454	2,450	3	0
Other service industries.....	12,493	14,822	13,193	11,930	1,263	1,629
Agricultural services.....	(D)	(D)	(D)	(D)	(D)	(*)
Hotels and other lodging places.....	(D)	(D)	(D)	(D)	(D)	0
Advertising.....	1,420	1,410	1,410	1,408	2	(*)
Motion pictures, incl. television tape and film.....	1,013	971	971	969	2	0
Engineering, architectural, and surveying services.....	3,137	3,343	3,275	2,937	338	69
Accounting, auditing, and bookkeeping services.....	389	443	443	387	56	0
Other services provided on a commercial basis.....	4,769	6,918	5,358	4,557	800	1,560
Nonservice industries, total.....	397,977	383,765	2,701	NA	2,701	381,065
Sales not specified by industry.....	NA	1,092	85	NA	85	1,007

NA Not applicable.

D Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000 (±).

Table 11.--Sales by Foreign Affiliates, Industry of Affiliate by Country of Affiliate, 1977

[Millions of dollars]

	All countries	Developed countries								Developing countries					International
		Total	Canada	Europe			Japan	Australia, New Zealand & South Africa	Total	Latin America	Other Africa	Middle East	Other Asia & Pacific		
				Total	European Communities (9)	Other									
All industries.....	673,697	464,163	95,591	289,014	237,517	51,497	52,951	25,608	193,799	80,558	16,891	67,670	28,680	15,734	
Service industries.....	275,719	183,163	27,676	124,714	91,766	32,948	21,550	9,222	76,822	41,152	5,719	19,814	10,137	15,734	
Petroleum services.....	96,673	42,310	3,201	27,987	21,221	6,767	8,361	2,761	40,373	18,399	4,148	14,335	3,492	13,990	
Oil and gas field services.....	3,156	1,356	264	1,070	664	407	2	19	1,411	571	373	368	98	389	
Petroleum tanker operations.....	8,222	52	0	52	0	52	0	0	0	0	0	0	0	8,170	
Pipeline transportation, incl. natural gas.....	1,517	1,468	910	555	408	147	0	3	49	(D)	0	(D)	0	0	
Petroleum storage for hire.....	145	113	(D)	85	81	4	(D)	(D)	35	(D)	(D)	0	(D)	0	
Petroleum wholesale trade.....	76,587	33,965	1,977	21,055	14,901	6,154	8,336	2,597	37,190	16,748	3,502	13,698	3,243	5,431	
Gasoline service stations.....	7,047	5,358	(D)	5,169	5,167	3	(D)	(D)	1,688	(D)	(D)	(D)	(D)	0	
Construction.....	10,021	5,931	2,650	2,469	2,183	286	19	793	4,089	713	730	2,114	533	0	
Transportation, communications, and public utilities.....	13,207	10,312	1,720	(D)	(D)	146	(D)	41	1,151	481	8	382	280	1,744	
Transportation.....	3,404	923	501	360	290	70	(D)	(D)	737	302	7	361	67	1,744	
Water transportation (non-petroleum).....	1,902	117	45	72	(D)	(D)	0	0	41	24	3	(D)	(D)	1,744	
Transportation by air.....	255	(D)	(D)	18	18	0	(D)	(D)	(D)	(D)	1	0	(D)	0	
Transportation and related services, nec.....	1,247	(D)	(D)	270	(D)	(D)	22	(D)	(D)	(D)	3	(D)	37	0	
Communications.....	(D)	(D)	(D)	(D)	34	(D)	2	0	(D)	(D)	3	(D)	(D)	0	
Electric, gas, and sanitary services.....	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	(*)	(D)	(D)	0	
Trade.....	103,009	90,879	13,582	52,276	39,574	22,702	11,256	3,765	12,129	8,083	438	336	3,273	0	
Wholesale trade.....	84,745	74,248	6,387	54,874	32,778	22,115	10,449	2,518	10,498	6,658	396	320	3,123	0	
Durable goods.....	45,152	40,544	4,073	30,515	19,654	10,861	4,098	1,857	4,607	2,869	300	287	1,151	0	
Nondurable goods.....	39,594	33,703	2,313	24,378	13,124	11,254	6,351	661	5,891	3,789	96	33	1,972	0	
Retail trade.....	18,263	16,632	7,196	7,382	6,795	586	807	1,247	1,632	1,424	42	16	149	0	
Food stores and eating and drinking places.....	5,113	(D)	2,266	1,802	1,798	4	(D)	478	(D)	(D)	1	0	(D)	0	
Retail trade, nec.....	13,150	(D)	4,929	5,580	4,998	583	(D)	770	(D)	(D)	41	16	(D)	0	
Banking.....	23,250	13,467	456	11,765	11,058	707	868	377	9,783	6,653	141	1,061	1,928	0	
Finance (except banking), insurance, and real estate.....	17,067	11,108	4,504	5,179	3,812	1,367	609	816	5,959	5,373	99	173	314	0	
Finance (except banking).....	4,234	2,958	1,003	1,104	845	259	392	458	1,275	1,035	33	(D)	(D)	0	
Insurance.....	10,077	6,380	3,107	2,862	2,212	650	208	203	3,697	3,555	37	54	51	0	
Real estate.....	220	157	59	58	41	17	3	36	63	20	1	(D)	(D)	0	
Holding companies.....	2,537	1,612	335	1,155	714	441	5	117	925	763	28	1	132	0	
Other service industries.....	12,493	9,156	1,563	(D)	(D)	973	(D)	669	3,337	1,451	153	1,414	318	0	
Agricultural services.....	(D)	9	(D)	(D)	(D)	2	0	0	(D)	(D)	(D)	5	1	0	
Hotels and other lodging places.....	(D)	907	(D)	519	413	106	2	(D)	(D)	(D)	(D)	90	71	0	
Advertising.....	1,420	1,263	96	945	797	148	27	194	157	98	1	1	58	0	
Motion pictures, incl. television tape and film.....	1,013	887	196	566	543	23	39	86	126	105	6	2	13	0	
Engineering, architectural, and surveying services.....	3,137	1,864	167	1,555	1,360	195	33	110	1,273	267	14	961	30	0	
Accounting, auditing, and bookkeeping services.....	389	333	(D)	(D)	(D)	24	(D)	(D)	56	38	3	5	11	0	
Other services provided on a commercial basis.....	4,769	3,892	767	2,627	2,152	475	292	207	877	326	66	350	135	0	
Non-service industries, total.....	397,977	281,000	67,914	164,299	145,751	18,549	31,401	17,386	116,977	39,406	11,172	47,856	18,543	0	

D Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000 (†).

Table 12.--Sales by Foreign Affiliates, Industry of Sales by Country of Affiliate, 1977

[Millions of dollars]

	All countries	Developed countries							Developing countries					International
		Total	Canada	Europe			Japan	Australia New Zealand & South Africa	Total	Latin America	Other Africa	Middle East	Other Asia & Pacific	
				Total	European Communi- ties (9)	Other								
All industries.....	673,697	464,163	95,591	239,014	237,517	51,497	52,951	25,508	193,799	80,558	16,891	67,670	28,680	15,734
Service industries.....	288,839	195,397	33,860	129,088	95,894	33,194	22,936	9,513	77,708	41,508	5,693	20,194	10,314	15,734
Petroleum services.....	100,436	45,650	3,704	29,540	22,189	7,351	9,638	2,768	40,758	18,372	4,120	14,675	3,591	14,029
Oil and gas field services.....	3,104	1,356	293	1,038	633	405	1	23	1,359	522	372	367	98	389
Petroleum tanker operations.....	8,527	(0)	0	(0)	(0)	(0)	0	0	(0)	(+)	0	0	0	8,201
Pipeline transportation, incl. natural gas.....	2,010	(0)	928	(0)	(0)	147	0	(0)	(0)	25	1	(0)	(+)	0
Petroleum storage for hire.....	145	113	(0)	89	86	4	(0)	1	33	(0)	(0)	0	3	(+)
Petroleum wholesale trade.....	78,808	35,787	2,339	22,697	16,278	6,419	8,332	2,419	37,583	16,721	3,560	14,022	3,279	5,438
Gasoline service stations.....	7,841	6,160	(0)	4,412	(0)	(0)	(0)	(0)	1,681	(0)	(0)	(0)	210	0
Construction.....	10,144	6,048	2,773	2,395	2,121	274	77	803	4,096	695	727	2,146	528	0
Transportation, communications, and public utilities.....	13,103	10,127	1,712	(0)	(0)	124	(0)	74	1,276	507	8	404	357	1,700
Transportation.....	3,606	1,142	(0)	509	435	74	(0)	50	764	(0)	7	(0)	71	1,700
Water transportation (non-petroleum).....	1,932	194	44	(0)	110	(0)	5	(0)	48	31	3	(0)	(0)	1,690
Transportation by air.....	317	52	(0)	18	18	(+)	(0)	1	(0)	(0)	1	(0)	(0)	(0)
Transportation and related services, nec.....	1,357	897	(0)	(0)	307	(0)	24	(0)	(0)	(0)	3	298	41	(0)
Communications.....	(0)	(0)	674	98	(0)	(0)	2	(0)	166	84	(+)	(0)	(0)	0
Electric, gas, and sanitary services.....	(0)	(0)	(0)	(0)	(0)	(0)	0	(0)	347	(0)	1	0	(0)	0
Trade.....	109,934	97,477	18,830	63,558	41,551	22,007	11,177	3,912	12,457	8,380	425	411	3,241	0
Wholesale trade.....	90,911	80,039	11,689	55,257	33,880	21,376	10,350	2,743	10,872	7,000	381	397	3,095	0
Durable goods.....	52,241	47,298	8,772	30,113	20,097	10,016	6,376	2,037	4,943	3,095	292	358	1,198	0
Nondurable goods.....	38,670	32,741	2,916	25,144	13,783	11,360	3,974	706	5,929	3,904	90	39	1,896	0
Retail trade.....	19,023	17,438	7,141	8,301	7,671	630	827	1,169	1,585	1,380	44	14	147	0
Food stores and eating and drinking places.....	4,689	4,231	2,227	1,422	1,418	4	(0)	(0)	458	448	(0)	0	(0)	0
Retail trade, nec.....	14,334	13,208	4,914	6,880	6,253	626	(0)	(0)	1,127	932	(0)	14	(0)	0
Banking.....	23,192	13,433	452	11,740	11,035	706	868	373	9,759	6,647	143	1,060	1,909	0
Finance (except banking), insurance, and real estate.....	17,208	11,254	4,526	5,318	3,960	1,358	600	810	5,950	5,353	99	173	325	5
Finance (except banking).....	4,432	3,132	1,024	1,268	997	271	384	456	1,296	1,043	(0)	(0)	110	4
Insurance.....	10,079	6,381	3,107	2,862	2,212	650	208	203	3,698	3,555	37	55	51	0
Real estate.....	243	179	73	60	43	17	4	42	64	20	(0)	(0)	35	0
Holding companies.....	2,454	1,562	322	1,128	709	420	4	108	892	734	28	(+)	129	(+)
Other service industries.....	14,822	11,408	1,864	(0)	(0)	1,374	(0)	772	3,414	1,555	171	1,325	363	(+)
Agricultural services.....	(0)	9	(0)	(0)	(0)	2	0	(+)	(0)	(0)	(0)	5	1	0
Hotels and other lodging places.....	(0)	968	(0)	(0)	(0)	161	(0)	(0)	(0)	(0)	(0)	90	71	0
Advertising.....	1,410	1,253	88	943	795	148	27	194	157	98	1	1	58	0
Motion pictures, incl. television tape and film.....	971	845	159	561	537	24	39	86	126	105	6	2	13	0
Engineering, architectural, and surveying services.....	3,343	2,174	194	1,804	1,604	199	71	105	1,169	276	21	836	35	(+)
Accounting, auditing, and bookkeeping services.....	443	386	10	350	323	27	(0)	(0)	57	38	3	5	11	0
Other services provided on a commercial basis.....	6,918	5,772	1,081	3,992	3,180	812	386	314	1,145	509	76	386	175	(+)
Nonservice industries, total.....	383,765	267,786	61,225	159,510	141,231	18,279	30,007	17,045	115,979	38,940	11,198	47,477	18,364	0
Sales not specified by industry.....	1,092	980	506	416	392	24	8	51	112	109	(+)	0	2	0

D Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000 (±).

Table 13.--Total Assets of Foreign Affiliates, Industry of Affiliate by Country of Affiliate, 1977

[Millions of dollars]

	All countries	Developed countries								Developing countries					Inter-national
		Total	Canada	Europe			Japan	Australia, New Zealand & South Africa	Total	Latin America	Other Africa	Middle East	Other Asia & Pacific		
				Total	European Communities (9)	Other									
All industries.....	829,617	572,403	91,416	394,027	34,250	51,522	55,681	31,279	242,441	163,702	11,868	25,333	41,538	14,773	
Service industries.....	542,915	349,163	37,425	266,845	23,425	32,586	30,328	14,565	178,979	127,226	5,309	16,983	29,460	14,773	
Petroleum services.....	38,625	18,509	1,638	13,054	8,077	4,977	2,214	1,602	9,955	4,846	1,392	2,615	1,102	10,161	
Oil and gas field services.....	4,519	1,629	195	1,376	776	600	(D)	(D)	1,771	698	523	385	165	1,119	
Petroleum tanker operations.....	8,614	470	0	470	0	470	0	0	0	0	0	0	0	8,143	
Pipeline transportation, incl. natural gas.....	3,742	3,527	1,030	(D)	(D)	(D)	0	(D)	215	(D)	0	(D)	0	0	
Petroleum storage for hire.....	541	426	(D)	(D)	(D)	(D)	(D)	2	115	(D)	(D)	0	(D)	0	
Petroleum wholesale trade.....	19,206	10,984	392	7,005	4,589	2,416	2,124	1,463	7,322	3,827	708	(D)	(D)	899	
Gasoline service stations.....	2,005	1,472	(D)	1,378	1,377	(*)	0	(D)	533	(D)	(D)	(D)	(D)	0	
Construction.....	5,160	2,881	661	1,754	(D)	(D)	(D)	(D)	2,280	382	436	1,238	223	0	
Transportation, communications, and public utilities.....	14,133	8,223	3,472	4,627	(D)	(D)	(D)	(D)	1,298	750	(D)	(D)	264	4,611	
Transportation.....	6,549	1,264	465	(D)	574	(D)	(D)	24	674	339	(D)	(D)	73	4,611	
Water transportation (non-petroleum).....	4,763	(D)	(D)	(D)	(D)	(D)	0	0	(D)	19	(D)	(D)	5	0	
Transportation by air.....	238	(D)	(D)	(D)	(D)	0	1	(D)	(D)	(D)	2	1	(D)	0	
Transportation and related services, nec.....	1,548	1,137	396	633	539	94	(D)	(D)	411	(D)	4	230	(D)	0	
Communications.....	2,470	(D)	(D)	93	(D)	(D)	(*)	0	(D)	(D)	(D)	(D)	(D)	0	
Electric, gas, and sanitary services.....	5,113	(D)	(D)	(D)	(D)	3	0	(D)	(D)	(D)	(D)	(D)	(D)	0	
Trade.....	56,132	47,942	6,263	27,657	17,557	10,099	11,583	2,441	8,189	5,363	429	658	1,740	0	
Wholesale trade.....	46,594	39,526	3,017	24,051	14,355	9,696	10,658	1,801	7,068	4,408	398	650	1,611	0	
Durable goods.....	28,603	24,675	2,357	17,036	10,368	6,667	(D)	(D)	3,927	2,558	(D)	(D)	735	0	
Nondurable goods.....	17,991	14,850	660	7,015	3,986	3,029	(D)	(D)	3,141	1,850	(D)	(D)	875	0	
Retail trade.....	9,538	8,416	3,246	3,605	3,203	403	925	640	1,122	954	31	7	129	0	
Food stores and eating and drinking places.....	1,953	(D)	718	778	774	4	(D)	(D)	(D)	(D)	1	0	(D)	0	
Retail trade, nec.....	7,585	(D)	2,528	2,827	2,429	399	(D)	(D)	(D)	(D)	30	7	(D)	0	
Banking.....	335,006	209,186	4,565	136,527	17,356	9,171	13,203	4,891	125,820	88,328	2,047	10,737	24,708	0	
Finance (except banking), insurance, and real estate.....	80,585	52,631	19,231	25,822	19,677	6,145	2,926	4,651	27,954	25,647	753	608	946	0	
Finance (except banking).....	36,534	22,761	7,622	9,204	6,976	2,228	2,548	3,387	13,773	12,750	263	314	447	0	
Insurance.....	24,049	16,151	8,169	7,150	6,100	1,050	318	515	7,898	7,503	97	227	71	0	
Real estate.....	1,356	985	372	394	298	96	(D)	(D)	371	234	(D)	(D)	101	0	
Holding companies.....	18,646	12,733	3,068	9,074	6,303	2,772	(D)	(D)	5,913	5,161	(D)	(D)	328	0	
Other service industries.....	13,275	9,792	1,594	7,394	5,619	1,775	283	522	3,483	1,911	(D)	(D)	477	0	
Agricultural services.....	145	(D)	2	(D)	(D)	(D)	0	0	(D)	(D)	(*)	(D)	3	0	
Hotels and other lodging places.....	2,232	1,361	412	869	638	231	(D)	(D)	870	518	(D)	(D)	148	0	
Advertising.....	1,165	1,023	87	754	659	94	43	140	142	87	1	2	52	0	
Motion pictures, incl. television tape and film.....	903	788	(D)	537	497	40	(D)	55	115	104	4	1	6	0	
Engineering, architectural, and surveying services.....	2,280	1,461	76	1,326	862	464	22	36	819	292	12	484	31	0	
Accounting, auditing, and bookkeeping services.....	407	(D)	(D)	(D)	(D)	(D)	18	(D)	(D)	(D)	(D)	5	7	0	
Other services provided on a commercial basis.....	6,143	4,797	825	3,584	2,818	765	180	208	1,345	747	124	244	231	0	
Non-service industries, total.....	286,702	223,240	53,990	127,183	10,824	18,936	25,353	15,714	63,463	36,476	6,559	8,350	12,078	0	

D Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000 (±).

Table 14.--Employment of Foreign Affiliates, Industry of Affiliate by Country of Affiliate, 1977

[Number of employees]

	All countries	Developed countries										Inter-national		
		Total	Canada	Europe			Japan	Aus-tralia, New Zealand, & South Africa	Total	Latin America	Other Africa		Middle East	Other Asia & Pacific
				Total	European Communities (9)	Other								
All industries.....	7,342,050	5,052,363	1,067,775	3,171,168	2,741,612	429,556	392,331	421,089	2,248,783	1,379,554	168,591	145,094	555,544	40,904
Service industries.....	1,942,919	1,400,258	360,667	743,699	603,116	140,583	190,057	105,835	501,757	274,508	49,693	80,926	96,630	40,904
Petroleum services.....	139,590	64,833	(D)	44,794	29,169	15,625	(D)	10,020	49,065	20,111	14,328	9,474	5,152	25,692
Oil and gas field services.....	51,505	15,370	3,529	11,570	8,751	2,819	(D)	(D)	28,193	9,721	8,330	7,887	2,255	7,942
Petroleum tanker operations.....	18,470	(D)	0	(D)	0	0	(D)	0	0	0	0	0	0	(D)
Pipeline transportation, incl. natural gas.....	2,797	1,869	(D)	1,086	934	152	(D)	0	928	(D)	0	(D)	0	0
Petroleum storage for hire.....	1,149	(D)	(D)	594	514	80	174	(D)	(D)	(D)	(D)	(D)	(D)	0
Petroleum wholesale trade.....	55,901	39,370	831	24,588	12,792	11,796	(D)	(D)	(D)	8,528	5,312	(D)	0	(D)
Gasoline service stations.....	9,768	6,667	(D)	(D)	6,178	(D)	0	(D)	3,101	(D)	(D)	(D)	2,367	(D)
Construction.....	179,447	85,824	31,719	40,712	32,940	7,772	396	12,997	93,623	33,741	(D)	(D)	11,804	0
Transportation, communications, and public utilities.....	88,179	55,467	36,220	16,505	12,359	4,146	(D)	(D)	17,500	12,245	273	2,241	2,741	15,212
Transportation.....	48,228	21,841	12,448	(D)	6,135	(D)	(D)	(D)	11,175	7,090	(D)	(D)	2,015	15,212
Water transportation (non-petroleum).....	17,094	(D)	(D)	(D)	(D)	(D)	0	0	(D)	(D)	(D)	(D)	(D)	0
Transportation by air.....	5,086	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0
Transportation and related services, nec.....	26,048	19,179	10,713	5,833	5,336	497	(D)	(D)	6,869	3,346	178	1,688	1,657	0
Communications.....	28,009	(D)	(D)	(D)	(D)	(D)	(D)	0	(D)	(D)	(D)	(D)	(D)	0
Electric, gas, and sanitary services.....	11,942	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0
Trade.....	990,652	833,940	199,905	408,442	337,545	70,897	169,296	56,297	156,712	104,536	8,779	9,795	33,602	0
Wholesale trade.....	564,955	464,924	40,788	248,884	187,134	61,750	145,098	30,154	100,031	57,132	(D)	(D)	26,333	0
Durable goods.....	341,375	279,815	(D)	193,213	142,713	50,500	(D)	(D)	61,560	39,590	4,344	3,861	13,765	0
Nondurable goods.....	223,580	185,109	(D)	55,671	44,421	11,250	(D)	(D)	38,471	17,542	(D)	(D)	12,568	0
Retail trade.....	425,697	369,016	159,117	159,558	150,411	9,147	24,198	25,143	56,681	47,404	(D)	(D)	7,269	0
Food stores and eating and drinking places.....	119,836	106,314	42,005	40,129	39,967	162	(D)	(D)	13,522	(D)	(D)	0	(D)	0
Retail trade, nec.....	305,861	262,702	117,112	119,429	110,444	8,985	(D)	(D)	43,159	(D)	(D)	(D)	(D)	0
Banking.....	134,950	68,441	2,847	59,559	51,876	7,683	2,816	3,219	66,509	31,521	3,191	6,254	25,543	0
Finance (except banking), insurance, and real estate.....	96,818	77,818	33,152	33,311	24,531	8,780	5,288	6,067	19,000	11,898	822	1,096	5,184	0
Finance (except banking).....	27,196	22,975	9,744	8,149	6,710	1,439	1,940	3,142	4,221	3,037	(D)	(D)	1,129	0
Insurance.....	61,991	51,567	22,668	22,908	15,945	6,963	3,299	2,692	10,424	6,622	(D)	1,037	(D)	0
Real estate.....	1,593	631	364	183	(D)	(D)	(D)	(D)	962	526	(D)	(D)	419	0
Holding companies.....	6,038	2,645	376	2,071	(D)	(D)	(D)	(D)	3,393	1,713	(D)	(D)	(D)	0
Other service industries.....	313,283	213,935	(D)	140,376	114,696	25,680	6,396	(D)	99,348	60,456	(D)	(D)	12,604	0
Agricultural services.....	(D)	(D)	(D)	137	(D)	(D)	0	0	(D)	(D)	(D)	(D)	(D)	0
Hotels and other lodging places.....	66,138	26,355	5,294	18,649	14,199	4,450	(D)	(D)	39,783	25,771	(D)	(D)	6,596	0
Advertising.....	31,714	25,508	2,184	18,466	15,591	2,875	840	4,018	6,206	3,957	(D)	(D)	2,175	0
Motion pictures, incl. television tape and film.....	12,257	10,576	(D)	3,822	(D)	(D)	(D)	(D)	1,681	1,291	148	(D)	(D)	0
Engineering, architectural, and surveying services.....	39,980	25,478	2,178	20,649	17,507	3,042	858	1,793	14,502	4,865	(D)	8,011	(D)	0
Accounting, auditing, and bookkeeping services.....	(D)	(D)	263	5,131	4,103	1,028	588	(D)	(D)	(D)	138	143	470	0
Other services provided on a commercial basis.....	149,228	119,455	37,037	73,522	59,486	14,036	3,809	5,087	29,773	18,046	1,999	7,945	1,783	0
Nonservice industries, total.....	5,399,131	3,652,105	707,108	2,427,469	2,138,496	288,973	202,274	315,254	1,747,026	1,105,046	118,898	64,168	458,914	0

D Suppressed to avoid disclosure of data of individual companies.

Table 15.--Sales and Value Added of U.S. Parents and MOFA's, by Industry of Parent and Industry of Affiliate, 1977

[Millions of dollars, or percent]

	U.S. Parents			MOFA's		
	Sales	Value added	Value added sales	Sales	Value added	Value added sales
All industries.....	1,325,689	490,529	37.00	508,580	161,136	31.68
Service industries.....	436,308	141,124	32.35	195,476	36,094	18.46
Petroleum services.....	34,093	6,446	18.91	85,673	11,854	13.84
Oil and gas field services.....	(D)	(D)	66.51	2,210	1,103	49.90
Petroleum tanker operations.....	(D)	(D)	(D)	7,423	673	9.07
Pipeline transportation, incl. natural gas.....	11,051	2,974	26.91	(D)	130	(D)
Petroleum storage for hire.....	0	(*)	(1)	(D)	8	(D)
Petroleum wholesale trade.....	21,095	2,193	10.39	73,014	8,897	12.19
Gasoline service stations.....	0	0	(1)	2,796	1,043	37.30
Construction.....	16,684	(D)	(D)	7,871	2,416	30.70
Transportation, communications, and public utilities.....	95,112	63,823	67.10	3,629	1,590	43.82
Transportation.....	32,630	17,287	52.98	2,004	791	39.46
Water transportation (non-petroleum).....	1,873	889	47.47	1,343	469	34.93
Transportation by air.....	11,395	5,799	50.89	37	18	47.20
Transportation and related services, nec.....	19,363	10,600	54.74	624	304	48.76
Communications.....	47,616	(D)	(D)	(D)	(D)	(D)
Electric, gas, and sanitary services.....	14,865	(D)	(D)	(D)	(D)	29.15
Trade.....	157,243	31,308	19.91	77,362	14,316	18.51
Wholesale trade.....	62,356	5,058	8.11	64,463	11,301	17.53
Durable goods.....	18,876	1,939	10.27	38,174	8,825	23.12
Nondurable goods.....	43,479	3,119	7.17	26,288	2,476	9.42
Retail trade.....	94,887	26,251	27.67	12,899	3,015	23.38
Food stores and eating and drinking places.....	36,198	7,768	21.46	4,187	904	21.58
Retail trade, nec.....	58,690	18,483	31.49	8,712	2,112	24.24
Finance (except banking), insurance, and real estate.....	114,635	22,825	19.91	11,663	1,948	16.70
Finance (except banking).....	7,772	2,488	32.01	3,085	890	28.86
Insurance.....	104,736	19,866	18.97	6,266	969	15.47
Real estate.....	165	72	43.53	134	63	47.39
Holding companies.....	1,962	399	20.34	2,179	25	1.16
Other service industries.....	18,540	(D)	(D)	9,278	3,970	42.79
Agricultural services.....	0	0	(1)	(D)	(D)	(D)
Hotels and other lodging places.....	1,632	962	58.97	1,083	454	41.93
Advertising.....	(D)	(D)	45.09	(D)	(D)	47.92
Motion pictures, incl. television tape and film.....	1,703	702	41.23	857	161	18.73
Engineering, architectural, and surveying services.....	3,863	1,806	46.75	2,775	836	30.13
Accounting, auditing, and bookkeeping services.....	(D)	(D)	(D)	232	62	26.55
Other services provided on a commercial basis.....	9,344	5,398	57.78	3,215	1,991	61.93
Nonservice industries, total.....	889,382	349,405	39.29	313,204	125,042	39.92

D Suppressed to avoid disclosure of data of individual companies.

1. Ratio not defined because of zero in denominator.

Table 16.--Value Added of MOFA's, Industry of Affiliate by Country of Affiliate, 1977

[Millions of dollars]

	All countries	Developed countries							Developing countries					Inter-national
		Total	Canada	Europe			Japan	Australia, New Zealand & South Africa	Total	Latin America	Other Africa	Middle East	Other Asia & Pacific	
				Total	European Communities (9)	Other								
All industries.....	161,136	107,487	27,783	69,360	60,576	8,784	3,065	7,279	52,338	16,036	6,703	22,260	7,339	1,311
Service industries.....	36,094	25,793	5,613	16,295	11,561	4,734	1,598	2,288	8,989	4,000	939	3,076	974	1,311
Petroleum services.....	11,854	6,578	309	4,370	2,720	1,650	(D)	(D)	4,402	1,372	701	2,039	290	873
Oil and gas field services.....	1,103	456	113	341	(D)	(D)	(+)	2	460	161	141	129	30	187
Petroleum tanker operations.....	673	(D)	0	(D)	0	(D)	0	0	0	0	0	0	0	(D)
Pipeline transportation, incl. natural gas.....	130	(D)	49	(D)	(D)	0	0	0	(D)	(D)	0	(D)	0	(D)
Petroleum storage for hire.....	8	(D)	(D)	5	5	0	0	0	(D)	0	(D)	0	0	0
Petroleum wholesale trade.....	8,897	5,265	(D)	3,292	1,845	1,447	(D)	866	(D)	1,149	439	1,796	(D)	(D)
Gasoline service stations.....	1,043	735	(D)	665	665	0	0	(D)	338	(D)	(D)	(D)	(D)	0
Construction.....	2,416	1,543	(D)	515	479	36	(+)	(D)	873	225	103	404	141	0
Transportation, communications, and public utilities.....	1,590	1,035	(D)	133	(D)	(D)	(D)	0	118	64	(D)	(D)	(D)	438
Transportation.....	791	327	(D)	(D)	68	(D)	(D)	0	26	22	2	0	2	438
Water transportation (non-petroleum).....	469	(D)	(D)	(D)	(D)	0	0	0	(D)	(D)	(D)	0	0	438
Transportation by air.....	18	(D)	(D)	4	4	0	1	0	(D)	0	(D)	0	(D)	0
Transportation and related services, nec.....	304	284	221	(D)	(D)	(D)	(D)	0	20	(D)	0	0	(D)	0
Communications.....	(D)	(D)	(D)	(D)	8	(D)	0	0	(D)	42	0	(D)	(D)	0
Electric, gas, and sanitary services.....	(D)	(D)	(D)	(D)	(D)	(D)	0	0	(D)	0	(D)	(D)	(D)	0
Trade.....	14,316	12,185	1,944	8,897	6,290	2,607	434	910	2,131	1,495	116	106	415	0
Wholesale trade.....	11,301	9,524	875	7,628	5,150	2,478	375	646	1,776	1,195	(D)	(D)	(D)	0
Durable goods.....	8,825	7,534	703	6,013	3,985	2,028	239	579	1,290	867	101	95	227	0
Nondurable goods.....	2,476	1,990	173	1,615	1,165	450	135	67	486	328	(D)	(D)	(D)	0
Retail trade.....	3,015	2,661	1,069	1,269	1,140	129	59	264	354	300	(D)	(D)	(D)	0
Food stores and eating and drinking places.....	904	887	495	290	290	0	5	98	16	16	0	0	0	0
Retail trade, nec.....	2,112	1,774	574	979	850	129	55	166	338	283	(D)	(D)	(D)	0
Finance (except banking), insurance, and real estate.....	1,948	1,473	910	276	216	60	94	192	475	348	-8	(D)	(D)	0
Finance (except banking).....	890	727	303	235	192	44	(D)	(D)	164	70	-13	(D)	(D)	0
Insurance.....	969	709	595	22	17	5	(D)	(D)	260	248	4	4	5	0
Real estate.....	63	44	27	13	12	1	1	3	20	1	(+)	(D)	(D)	0
Holding companies.....	25	-5	-15	6	-4	10	1	2	32	29	1	-2	3	0
Other service industries.....	3,970	2,980	621	2,103	(D)	(D)	83	173	990	497	(D)	407	(D)	0
Agricultural services.....	(D)	(D)	0	(D)	(D)	(D)	(D)	0	(D)	(D)	0	(D)	0	0
Hotels and other lodging places.....	454	291	(D)	190	153	37	0	(D)	163	126	(D)	(D)	5	0
Advertising.....	(D)	396	38	288	263	26	(D)	(D)	(D)	(D)	0	0	8	0
Motion pictures, incl. television tape and film.....	161	(D)	(D)	(D)	(D)	(D)	3	18	(D)	(D)	0	0	0	0
Engineering, architectural, and surveying services.....	836	451	47	376	325	51	2	25	385	(D)	2	226	(D)	0
Accounting, auditing, and bookkeeping services.....	62	62	(+)	49	49	(+)	(D)	(D)	(+)	(+)	0	0	0	0
Other services provided on a commercial basis.....	1,991	1,638	409	1,132	906	226	53	45	353	142	12	158	41	0
Non-service industries, total.....	125,042	81,694	22,170	53,066	49,016	4,050	1,467	4,991	43,349	12,035	5,764	19,184	6,365	0

D Suppressed to avoid disclosure of data of individual companies.

+ Less than \$500,000 (±).