



## Recent Improvements to U.S. Data on International Services

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The following material describes several recent improvements to U.S. data on international services. "Technical Notes" is excerpted from an article on U.S. International transactions that appeared in the June 1989 issue of the *Survey of Current Business*. It describes the most recent improvements to Bureau of Economic Analysis data on international services transactions; Table 3 summarizes the information now provided for services, and Table F shows in detail the improvements in data on "other private" services transactions with unaffiliated foreigners. The article "International Services: New Information on U.S. Transactions With Unaffiliated Foreigners" is from the October 1988 *Survey*; it presents the detailed results of a new survey that was the basis for many of the improvements listed in Table F.

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### Technical Notes

As is customary each June, estimates of U.S. international transactions are revised to incorporate new source data and improved methodologies. Several major improvements were introduced this year.

(1) Other private service receipts and payments for 1986-88 incorporate the results of the recently completed benchmark and annual follow-on surveys of selected service transactions with unaffiliated foreigners. The new estimates, the culmination of one phase of a program to improve estimates of international service transactions, provide greatly expanded coverage of service transactions and much greater detail by type of transaction. The new estimates raise other private service receipts \$4,201 million and other private service payments \$3,088 million in 1988.

(2) Travel and passenger fare receipts and payments for 1984-88 incorporate results of a survey administered by the United States Travel and Tourism Administration (USTTA). The estimates replace those based on BEA surveys that had been discontinued and brought forward by interim estimation techniques. The new estimates raise travel and passenger fare receipts \$12,353 million and travel and passenger fare payments \$7,772 million in 1988.

(3) Estimates of foreign students' expenditures in the United States and U.S. students' expenditures abroad are incorporated for 1981-88. Previously, they had not been included in the accounts. The estimates are based on information about characteristics of the student populations and students' expenditures for tuition and other living expenses. The new estimates for education raise other private service receipts \$4,111 million and other private service payments \$555 million in 1988.

(4) Noninterest income earned by banks is reclassified from portfolio income receipts to other private service receipts beginning with estimates for 1986. The amount of income reclassified is \$1,995 million in 1988.

(5) Commissions on securities transactions are revised for 1987-88. Although the basic methodology introduced 2 years ago is unchanged, information on key parameters has been updated. The changes reduce commission payments \$401 million and reduce commission receipts \$126 million in 1988.

### Other private services

Estimates of other private service transactions with unaffiliated foreigners have been revised significantly. The results are presented along with other selected service transactions in table 3. Major improvements to other private services with unaffiliated foreigners include (a) coverage for the first time of many business, professional, and technical services, and improved measurement of telecommunications services and of insurance services (lines 20, 21, 22 and 43, 44, 45); (b) a reclassification of certain bank income from portfolio income to other private services (line 19); (c) coverage for the first time of education services (lines 18 and 41); and (d) an updating of key parameters used in the estimation of commissions on securities transactions. These and other improvements are discussed in the paragraphs that follow.

#### Business, professional, and technical services.—

Estimates of many business, professional, and technical services for 1986-88 have been developed from a BEA benchmark survey for 1986 and annual follow-on surveys of selected service transactions with unaffiliated foreigners. The new surveys provide greater detail by type of transaction than was previously available and they expand coverage of receipts to such key areas as computer and data processing services; installation, maintenance, and repair of equipment; and management and consulting services (table F). The surveys also provide first-time coverage of payments for many types of services, presented by the same categories as for receipts. Estimates of telecommunications benefited from new survey data on channel leasing and enhanced services. Estimates of primary insurance, based largely on survey data, were prepared for the first time to supplement existing estimates of reinsurance transactions.<sup>1</sup>

#### Reclassification of noninterest income of banks.—

Noninterest income of banks has been reclassified from portfolio income (table 1, line 13) to other private service receipts, where it is included as a component of financial services (table 1, line 9, and table 3, line 19). Noninterest income includes estimates for fees received by banks on bankers' acceptances, commercial letters of credit, standby letters of credit, undrawn funds under commitment, and items for collection. The reclassification was effected because this income was more similar

1. Estimates for 1986, developed from the benchmark survey, were first presented and discussed in detail in the October 1988 *Survey of Current Business*. These estimates—along with estimates for 1987 and 1988 developed from the annual follow-on surveys—are now incorporated into the accounts.

to other types of service income than to returns (interest earned) on portfolio investments. The coverage of the estimate is incomplete in that it does not include all types of fees, largely because source data that can be organized into a framework appropriate for the international accounts are not available. As part of financial services, noninterest income is combined with commissions and fees on securities and commodities transactions. The amount reclassified was \$1,995 million in 1988. No estimates of payments are included in the accounts at the present time because source data appropriate for the international accounts are not available.

**Royalties and license fees.**—Beginning in 1987, estimates of receipts and payments of royalties and license fees with unaffiliated foreigners are available by type of intangible property. The estimates, developed from the expansion of an existing survey, include royalties and license fees related to industrial processes; books, records, and tapes; trademarks; broadcasting and recording of live performances and events; and franchising (table G). Similar detail for transactions with affiliated foreigners is not available.

Beginning in 1986, certain management fees received from or paid to unaffiliated foreigners, amounting to less than \$25 million for receipts and less than \$5 million for payments, have been removed from royalties and license fees (table 1, lines 8 and 23) and have been included in other private services (table 1, lines 9 and 24, and table 3, lines 13 and 38).

**Repairs and alterations.**—The value of repairs and alterations of equipment physically exported from, and imported into, the United States was transferred (reclassified) from the merchandise trade accounts and added to estimates of the installation, maintenance, and repair of equipment in the other private service accounts.

**Expenditures and receipts of students.**—New estimates have been developed for foreign students' expenditures in the United States (receipts) and for U.S. students' expenditures abroad (payments) for 1981–88. No estimate of these transactions has previously been included in the accounts. Receipts are entered in other private services in table 1, line 9, and are shown separately in table 3, line 18. Payments are entered in other private services in table 1, line 24, and are shown separately in table 3, line 41.

For the estimates of *foreign students' expenditures in the United States*, foreign students are defined as individuals enrolled in institutions of higher education in the United States who are not U.S. citizens, immigrants, or refugees. The population of students is obtained from an annual survey of about 2,900 U.S. accredited institutions conducted by the Institute for International Education (IIE); the response rate is about 95 percent. Characteristics of the population used in the estimates include the geographic area of origin (residence), type of institution (public or private), enrollment status (part-time or full-time), and academic level of institution (2-year, 4-year, or university).

Estimates of expenditures for tuition and for room and board are developed from annual surveys of most accredited institutions, conducted by the College Board and adjusted by the Center for Education Statistics, U.S. De-

partment of Education, and matched by BEA to the characteristics of the student population. Data on living expenses are based on Bureau of Labor Statistics estimates of low-income level family budgets in metropolitan and nonmetropolitan areas, reduced to a single person and adjusted for inflation. These receipts are shown separately in table 3, line 18.

Other transactions in the current account partly offset these receipts. Surveys of the foreign student population by IIE indicate that most of their education is financed from sources abroad. A small amount of their education, however, is financed from sources within the United States—through scholarships from colleges, universities, private corporations, or other nonprofit institutions. These payments to foreigners are entered as private remittances in table 1, line 34. Financial contributions (grants) from the U.S. Government are already included in the accounts (table 1, line 32) and are not separately identifiable. In addition, wages earned from employment, also developed from the IIE survey, are entered in other private service payments, table 1, line 24.

The estimates of *U.S. students' expenditures abroad* are obtained in a manner similar to that for foreign students' expenditures in the United States. A student is defined as anyone who receives academic credit for studying abroad from an accredited institution of higher education in the United States. The population of students is obtained from a biennial survey of about 2,900 U.S. institutions conducted by the IIE; the response rate is about 65 percent. BEA makes an estimate of nonresponse to the survey. Characteristics of the population used in the estimates include country of study, type of institution (public or private), and academic level of institution in the United States (2-year, 4-year, or university).

Most students who earn academic credit abroad do so through a U.S. institution that has established a formal study abroad program with institutions of higher education abroad. The payments students make to U.S. colleges and universities for tuition and for room and board are assumed to be forwarded to the foreign institution. Estimates are developed from an annual survey of most accredited U.S. institutions conducted by the College Board and adjusted by the Center for Education Statistics, U.S. Department of Education. A small number of students who study abroad make their own arrangements with foreign institutions, yet they still receive academic credit from a U.S. institution. These students are assumed to pay the same tuition as those enrolled in a formal program of a U.S. institution. A separate estimate of living expenses for these students is developed by constructing a ratio between U.S. and foreign living costs, which then is multiplied by the low-income level family budget series developed for foreign students who study in the United States. Payments for both groups of students are shown separately in table 3, line 41.

The coverage of students in these estimates has been narrowly defined to include only those who receive academic credit from a U.S. institution. The estimates do not include students who may participate in study-abroad programs of U.S. institutions but who do not receive academic credit. Nor do the estimates include

those individuals who visit the United States or those U.S. residents who go abroad to study on a more casual basis. This student population is much larger than that discussed previously, and the expenditures and airfares paid are included indistinguishably in the travel and passenger fare accounts. In principle, overlap between the other private service accounts and travel and passenger fare accounts could occur, although current survey techniques for the travel and passenger fare accounts make it unlikely that any significant overlap exists in practice.

**Commissions on securities transactions.**—Commissions on securities transactions (table 1, part of lines 9 and 24, and table 3, part of lines 19 and 42) were revised for 1987–88 to reflect the general lowering of commission rates that has occurred in the past several years and to incorporate new information on transfer taxes abroad. For U.S. transactions in foreign securities, underwriting fees on new Eurobond issues were reduced, as were commission rates on foreign stocks. Some transfer tax rates on stock transactions abroad were reduced and others were introduced. Commission rates on transactions in Canadian securities were reduced to reflect a larger share of institutional trading relative to retail trading. For foreign transactions in U.S. securities, commission rates on U.S. stocks were reduced. These changes reduce U.S. payments \$401 million and reduce U.S. receipts \$126 million in 1988.<sup>2</sup>

#### *Travel and passenger fares*

Travel and passenger fare receipts (table 1, lines 5 and 6, and table 3, lines 2 and 3) and payments (table 1, lines 20 and 21, and table 3, lines 25 and 26) have been revised for 1984–88 to include the results of a new travel survey administered by the United States Travel and Tourism Administration (USTTA) and designed in part to meet balance of payments estimation needs. The survey is conducted aboard a randomly chosen sample of scheduled flights departing the United States of those U.S. and foreign flag carriers who voluntarily choose to participate in the survey. About 70 percent of the U.S. carriers and 35 percent of the foreign carriers participate. Sample results are expanded to universe estimates to account for nonresponse of passengers on each sampled flight, for coverage of all flights on each major airline route, and for all international routes. The basis for the expansion is the number of passengers departing the United States obtained from the Immigration and Naturalization Service (INS).

**Receipts.**—For U.S. travel receipts, average travel receipts from each major area or country overseas (defined to exclude Canada and Mexico), which are developed from the survey, are multiplied by the number of visitors from each major area or country, obtained from data from the INS. The sum of all major areas and countries is the estimate of overseas travel receipts. For those who travel on a tour package, only expenditures on land are included as travel receipts; the airfare paid to U.S. carriers is included in passenger fare receipts.

The procedure is similar for U.S. passenger fare receipts. Average passenger fares, which are developed from the survey, are multiplied by the number of foreign visitors on U.S. flag carriers from each major area or country, obtained from data from the INS, and the results are summed. In order to develop an adequate measure of average passenger fares, it was necessary to combine the average fares on both U.S. and foreign flag carriers, even though, in principle, only the average fare on U.S. flag carriers should be used in the estimates.

Although overall coverage is improved from the earlier BEA surveys, coverage of individual areas or countries in the new survey is highly uneven in quality. The unevenness is due in part to the voluntary participation of air carriers and cannot be compensated for fully in the estimation procedure. The unevenness is reflected in the overseas totals, which are the sum of the individual area and country estimates.

**Payments.**—For U.S. travel payments, average travel payments from each major area or country overseas, which are developed from the survey, are multiplied by the number of travelers to each major area or country, obtained from data from the INS, and the results summed. Information on single and multiple destinations of travelers, also developed from the survey, served as the basis for the allocation of expenditures abroad. For tours, an estimate of commissions paid to U.S. travel agents and tour operators was deducted before the computation of travel payments was made, and the airfare included in tour packages that was paid to foreign carriers was removed and placed in passenger fare payments.

For U.S. passenger fare payments, average passenger fares, which are developed from the survey, are multiplied by the number of travelers on foreign flag carriers to each major area or country, obtained from data from the INS, and the results summed. In order to develop an adequate measure of average passenger fares, it was necessary to combine the average fares on both U.S. and foreign flag carriers, even though, in principle, only the average fare on foreign flag carriers should be used in the estimates. Use of only the average fare for foreign flag carriers would have resulted in a substantial understatement of passenger fare payments. Like receipts, the overseas totals reflect the unevenness in quality of area and country detail.

The survey questionnaire for payments asks how much travelers departing the U.S. intend to spend while abroad; thus it is a survey of *intended* rather than of actual expenditures. The relationship between intended and actual expenditures is unknown. Consequently, for balance of payments purposes, the estimates of payments may be less reliable than those of receipts.

Because of the newness of the source data, the estimates are subject to considerable revision. Major problems occurred in establishing comparability of survey results before and after the first quarter of 1985, when procedures in USTTA's survey were changed.

<sup>2</sup> See the technical notes in June 1987 Survey for a description of this methodology.

Table 3.—Selected Service Transactions

(Millions of dollars)

Line		1986	1987	1988	Not seasonally adjusted					Seasonally adjusted				
					1988				1989	1988				1989
					I	II	III	IV	I*	I	II	III	IV	I*
1	Exports of selected services	70,886	79,485	92,858	21,087	22,842	25,346	33,591	24,087	21,799	22,485	22,433	24,412	24,867
2	Travel (table 1, line 5)	20,454	23,505	29,207	5,751	7,031	9,118	7,302	6,999	6,518	6,968	7,826	8,090	7,847
3	Passenger fares (table 1, line 6)	5,546	6,882	8,860	1,771	2,180	2,858	2,051	1,979	2,113	2,085	2,321	2,339	2,348
4	Other transportation (table 1, line 7)	15,458	16,989	18,930	4,605	4,769	4,800	4,757	4,944	4,675	4,769	4,710	4,776	5,014
5	Freight	3,969	4,700	5,345	1,370	1,372	1,289	1,315	1,481	1,370	1,372	1,289	1,313	1,481
6	Port services	10,480	11,275	12,830	3,054	3,209	3,319	3,248	3,281	3,124	3,209	3,229	3,267	3,351
7	Other	1,009	714	755	181	188	193	194	182	181	188	192	194	182
8	Royalties and license fees (table 1, line 8)	7,254	9,070	10,755	2,377	2,548	2,556	3,254	2,734	2,517	2,610	2,697	2,911	2,885
9	Affiliated, net	5,412	6,900	8,319	1,797	1,954	1,945	2,623	2,079	1,938	2,016	2,086	2,279	2,230
10	U.S. parents' receipts	5,518	7,049	8,431	1,831	1,980	1,964	2,656	2,104	1,984	2,043	2,103	2,300	2,265
11	U.S. parents' payments	106	130	112	34	26	19	33	35	46	27	17	21	15
12	Unaffiliated	1,842	2,171	2,416	580	594	611	631	655	580	594	611	631	655
13	Other private services (table 1, line 9)	22,174	22,939	24,331	6,583	5,514	6,008	6,227	7,431	5,974	5,975	6,078	6,306	6,773
14	Affiliated services, net	3,024	2,196	2,858	651	726	699	782	849	677	722	717	743	823
15	U.S. parents' receipts	5,573	5,108	6,168	1,435	1,523	1,491	1,702	1,674	1,491	1,542	1,501	1,634	1,717
16	U.S. parents' payments	2,551	2,910	3,310	801	797	792	919	825	814	830	784	891	836
17	Unaffiliated services	19,150	20,763	21,471	5,731	4,788	5,510	5,445	6,581	5,297	5,251	5,362	5,564	5,891
18	Education	3,480	3,804	4,111	1,628	1,401	1,610	1,628	1,787	1,594	1,603	1,662	1,653	1,697
19	Financial services	3,301	3,731	3,835	972	924	977	952	1,125	972	934	937	992	1,125
20	Insurance	2,041	2,285	1,564	440	388	365	370	405	440	368	365	370	405
21	Telecommunications	1,327	2,105	1,357	364	579	597	618	640	564	579	597	618	640
22	Business, professional, and technical services	4,368	4,270	4,787	1,135	1,153	1,205	1,295	1,345	1,135	1,153	1,205	1,295	1,345
23	Other unaffiliated services*	4,133	4,568	4,817	1,192	1,194	1,196	1,236	1,279	1,192	1,194	1,196	1,236	1,279
24	Imports of selected services	59,281	67,655	73,073	16,158	18,984	21,167	16,784	16,652	18,538	17,796	18,142	18,596	19,176
25	Travel (table 1, line 20)	26,000	29,215	32,112	6,181	8,679	10,598	6,654	6,398	8,092	7,643	8,064	8,293	8,372
26	Passenger fares (table 1, line 21)	6,774	7,423	7,872	1,702	2,062	2,547	1,761	1,769	2,037	1,903	1,932	2,031	2,152
27	Other transportation (table 1, line 22)	16,715	18,062	19,641	4,883	5,005	4,923	4,830	4,964	5,013	4,995	4,836	4,787	5,144
28	Freight	10,687	10,999	11,341	3,042	3,022	2,895	2,882	2,839	3,042	3,022	2,895	2,882	2,839
29	Port services	5,201	6,360	7,059	1,671	1,799	1,837	1,733	1,913	1,816	1,784	1,741	1,714	2,103
30	Other	527	703	741	170	184	191	195	192	175	183	190	191	302
31	Royalties and license fees (table 1, line 23)	1,063	1,365	2,048	474	539	550	485	458	474	539	550	485	437
32	Affiliated, net	802	843	968	247	236	242	242	257	247	236	242	242	257
33	U.S. affiliates' receipts	171	240	238	41	56	63	78	74	41	56	63	78	74
34	U.S. affiliates' payments	773	1,083	1,205	289	292	305	320	351	289	292	305	320	331
35	Unaffiliated	461	522	1,080	227	303	308	243	180	227	303	308	243	180
36	Other private services (table 1, line 24)	8,730	11,390	11,400	2,918	2,699	2,749	3,034	3,083	2,902	2,718	2,780	3,000	3,066
37	Affiliated services, net	-1,284	-616	-694	18	-255	-245	-213	-211	18	-255	-245	-213	-211
38	U.S. affiliates' receipts	2,808	2,683	3,028	628	761	765	874	852	628	761	765	874	852
39	U.S. affiliates' payments	1,524	2,067	2,334	646	506	521	661	642	646	506	521	661	642
40	Unaffiliated services	10,014	12,006	12,094	2,899	2,953	2,994	3,247	3,295	2,884	2,972	3,026	3,212	3,278
41	Education	461	513	555	133	130	131	160	147	135	136	140	144	148
42	Financial services	1,769	2,077	1,656	342	387	435	492	489	342	387	435	492	489
43	Insurance	2,301	3,168	2,781	727	688	677	689	735	727	688	677	689	735
44	Telecommunications	3,252	3,701	4,264	1,002	1,042	1,086	1,133	1,165	1,002	1,042	1,086	1,133	1,165
45	Business, professional, and technical services	1,252	1,425	1,646	389	402	415	442	426	389	402	415	442	426
46	Other unaffiliated services*	1,079	1,122	1,192	306	304	252	331	333	289	313	275	312	315

Table F.—Other Private Services, Unaffiliated

(Millions of dollars)

	1986				1987				1988			
	Receipts		Payments		Receipts		Payments		Receipts		Payments	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current	Previous	Current	Previous	Current
Total	9,293	19,158	7,252	16,814	18,851	30,743	8,408	12,006	15,214	21,471	8,714	12,094
Education		3,480		461		3,804		513		4,111		553
Financial services	1,654	3,301	1,274	1,749	2,232	3,731	2,443	2,877	1,966	3,835	2,057	1,654
Insurance <sup>1</sup>	479	1,041	1,486	2,281	998	2,283	1,634	3,184	833	1,544	1,912	1,741
Primary insurance, net		1,800		477		1,596		352		1,511		602
Reinsurance, net	479	441	1,486	1,724	690	689	1,634	2,616	833	233	1,922	2,179
Telecommunications	1,628	1,877	1,877	1,352	1,791	2,105	3,334	3,781	1,978	2,357	3,681	4,264
Business, professional, and technical services	1,614	4,348		1,252	1,498	4,278		1,425	1,704	4,787		1,444
Accounting, auditing, and bookkeeping...		21		29		27		37		n.a.		n.a.
Advertising		94		77		106		140		n.a.		n.a.
Computer and data processing		985		32		629		61		n.a.		n.a.
Data base and other information services		124		23		138		28		n.a.		n.a.
Engineering, architectural, construction, and mining, net <sup>2</sup>	1,124	857		379	1,174	934		368	1,163	n.a.		n.a.
Installation, maintenance, and repair of equipment		973		466		1,023		506		n.a.		n.a.
Legal services		97		40		148		56		n.a.		n.a.
Management consulting, and public relations		306		60		379		30		n.a.		n.a.
Medical services	490	490			516	516			541	541		
Research and development, commercial testing, and laboratory services		282		76		182		127		n.a.		n.a.
Other		139		70		184		52		n.a.		n.a.
Other	4,016	4,133	945	1,079	4,448	4,568	995	1,122	4,751	4,817	1,854	1,192
Wages of temporary workers	104	104	696	833	120	120	740	888	129	129	793	950
In rentals	550	656	77	73	654	740	73	48	724	776	70	30
Expenditures of foreign governments and international organizations	3,006	1,013			3,293	3,332			1,487	1,504		
Other	356	357	170	173	377	376	182	186	411	406	193	192
Memoranda:												
Amount of change (current less previous):		9,757		2,762		9,912		3,600		10,247		3,278
New information		2,478		2,094		1,763		1,442		8,244		2,873
Transferred from other accounts		2,394		321		2,266		415		2,855		514
Revisions		-115		347		-117		743		-852		-9

n.a. Not available.

1. Insurance receipts are published net of losses paid, and payments are published net of losses recovered.

2. Engineering, architectural, construction, and mining receipts are published net of merchandise exports, which are included in the merchandise trade account, and net of outlays abroad for wages, services, materials, and other expenses.

## International Services: New Information on U.S. Transactions With Unaffiliated Foreigners

A new BEA benchmark survey of selected U.S. international services transactions indicates that, for the services covered, including several newer ones such as computer and data base services, the United States sold more to unaffiliated foreigners than it purchased from them in 1986. For 16 services for which data were collected on both U.S. sales and U.S. purchases, sales exceeded purchases—\$4,418 million compared with \$3,692 million (table 1). In contrast, for telecommunications services, which accounted for the largest share of both sales and purchases, sales were less than purchases—\$1,890 million compared with \$3,069 million. For the other 15 services combined, sales, at \$2,528 million, were much larger than purchases, at \$623 million.

For two services—(1) primary insurance and (2) construction, engineering, architectural, and mining services—only data on U.S. purchases were collected; data on U.S. sales are being collected in other BEA surveys. U.S. purchases of these services were \$1,693 million, over one-half of which was insurance. Comparable data on sales are not available for 1986, but they are available for 1987. Judging from the 1987 data, sales of both services were likely to have been much larger than purchases in 1986.

NOTE.—The benchmark survey was conducted by the staff of the Special Surveys Branch of the International Investment Division. John P. Bogumull, Chief, succeeded by Ralph Kozlaw, had overall responsibility for conducting the survey. Christopher J. Emond was the survey project leader. Past and present Branch members who helped process the survey were Faith M. Brannan, Shirley J. Davis, Maynard R. Guss, Kimberly Kirkman, and Gwendolyn B. Singleton. Arnold A. Gilbert of the Data Retrieval and Analysis Branch established a data retrieval system, designed disclosure programs, and was responsible for the computer generation of tables for this article.

The benchmark survey was conducted mainly in response to the increased emphasis on services in U.S.

Table 1.—U.S. Sales To, and Purchases From, Unaffiliated Foreigners of Selected Services, 1986

(Millions of dollars)		
	U.S. sales	U.S. purchases
Total <sup>1</sup>	4,418	3,692
Advertising	94	77
Through agencies	76	n.a.
Direct sales by media	18	n.a.
Computer and data processing services	968	32
Data entry, processing, and tabulation	6	n.a.
Systems analysis, design, engineering, and custom programming	112	n.a.
Software services, excluding custom programming	646	n.a.
Equipment leasing (except financial leasing)	22	n.a.
Integrated hardware/software systems	174	n.a.
Other	28	n.a.
Data base and other information services	109	16
Business and economic data base services	27	n.a.
Miscellaneous data base services	45	n.a.
General news services	8	n.a.
Other	24	n.a.
Telecommunications	1,890	3,069
Message telephone services	1,480	2,721
Private leased channel services	16	33
Telex, telegram, and other jointly provided (basic) services	358	289
Value-added services	33	3
Support services	4	22
Research, development, and testing services	306	76
Management, consulting, and public relations services	272	44
Legal services	33	41
Industrial engineering	36	76
Industrial maintenance, repair, installation, and training	448	143
Other	135	96
Agricultural services	4	5
Management of health care facilities	1	(*)
Accounting, auditing, and bookkeeping services	21	26
Educational and training services	62	7
Mailing, reproduction, and commercial art	(*)	12
Personnel supply services	(*)	25
Sports and performing arts	32	21
Addenda: <sup>2</sup>		
Primary insurance	(*)	955
Construction, engineering, architectural, and mining services	(*)	738

n.a. Not available because detail not reported separately.

\* Less than \$500,000.

† Suppressed to avoid disclosure of data of individual companies.

1. Total of services for which both sales and purchases were collected in the benchmark survey.

2. Services for which only purchases data were collected.

3. Not collected in the benchmark survey; collected in another survey beginning with 1987.

4. Not collected in the benchmark survey; comparable data will be available from another survey beginning with 1987.

trade policy initiatives. It will also close a gap in information on services in the U.S. balance of payments accounts. A less detailed annual survey is being instituted to maintain the data series between benchmark surveys, which will be taken every 5 years. The new surveys are part of a larger effort by BEA to improve and expand the information it provides on U.S. international trade and investment in services.<sup>1</sup>

The benchmark survey covered transactions between U.S. persons and foreign persons other than the U.S. person's foreign affiliates or foreign parent company. These transactions are only a part of total U.S. international services transactions in the balance of payments accounts. They exclude some services transactions with unaffiliated foreigners, such as travel and transportation, that tend to be much larger but for which information is already available. They also exclude transactions between U.S. persons and their own foreign affiliates or foreign parent companies. Finally, they exclude sales of services made through affiliates in another country—that is, sales abroad by foreign affiliates of U.S. companies and sales in the United States by U.S. affiliates of foreign companies. These sales are not included in the U.S. balance of payments accounts because they are not transactions between U.S. and foreign persons; they are, however, a common means of delivering services to foreign markets. (See the accompanying box for a fuller discussion of how the survey data are related to other data series on international services.)

1. The major elements of BEA's international services program are outlined in "U.S. Sales of Services to Foreigners," *Survey of Current Business*, 67 (January 1987): 23–25.

The remainder of this article summarizes the survey results. A technical note at the end of the article describes the survey and indicates how a number of special reporting situations were handled.

## Summary of Results

### U.S. sales

Total sales of services are disaggregated in three ways—by type of service, by country of foreign customer, and by industry of the U.S. company reporting the sale.

**By type of service.**—Total sales of services were \$4,418 million. Telecommunications services, at \$1,890 million, accounted for by far the largest share—

43 percent of the total. Most of the telecommunications services were message telephone services; "telex, telegram, and other jointly provided (basic) services" were also significant. Both groups of services are generally subject to government regulation, involve the point-to-point transmission of voice or data, and are jointly provided to customers by U.S. and foreign carriers. The sales represent U.S. carriers' receipts from foreign communications companies and from postal, telephone, and telegraph agencies for the U.S. carriers' share of revenues for transmitting the following: (1) Messages originating in foreign countries to U.S. destinations, (2) messages originating in foreign countries and routed through the United States (for exam-

ple, from Caribbean countries via the United States to Western Europe), and (3) messages between foreign countries and not routed through the United States.

Sales of other types of telecommunications services—private leased channel services, value-added services, and support services—were small. They were largest for value-added services, which are telecommunications services that add value or function to the telecommunications transport services that deliver the value-added services to end users. Examples of such services include electronic mail, voice mail, code and protocol processing, management and operation of data networks, facsimile services, and videoconferencing. These services are not uncommon,

## Relationship of the New Data to Other Series

The data collected in the benchmark survey are U.S. balance of payments transactions; that is, they are transactions between U.S. persons and foreign persons. When incorporated into the U.S. balance of payments accounts, the data on sales will be recorded as U.S. exports of "other private services" to unaffiliated foreigners (line 10 in tables 1, 2, and 10 of the quarterly SURVEY OF CURRENT BUSINESS articles on U.S. international transactions) and the data on purchases as U.S. imports of "other private services" from unaffiliated foreigners (line 25).

Most of the services covered by the benchmark survey have not previously been included in the balance of payments accounts. The major exception is basic telecommunications transport services, on which information on both sales and purchases was previously provided to BEA by selected common carriers. Also, limited information on sales of industrial engineering services and industrial maintenance, repair, installation, and training services was obtained in a survey that also collected information on sales of construction, engineering, architectural, and mining services. (Beginning with 1987, the former services have been removed from that survey and are being reported in the benchmark and annual follow-on surveys of selected services transactions.)

In two cases, the information reported in the benchmark survey will need to be supplemented by estimates of related transactions that the survey did not cover but that are required for the balance of payments accounts. The transactions are: (1) Losses recovered from unaffiliated foreign insurance carriers on primary insurance, and (2) foreign contractors' exports to, and expenses in, the United States associated with U.S. purchases of construction, engineering, architectural, and mining services. These transactions will partly offset the gross purchases transactions in these services collected in the benchmark survey. The details of the balance of payments treatment of the benchmark survey data will appear in the SURVEY in June 1989, when available data will be incorporated into the accounts.

The services covered by the benchmark survey account for a relatively small portion of total private services transactions in the U.S.

balance of payments accounts. These transactions are accounted for largely by such traditional services as travel and transportation. In 1986, travel, passenger fares, and other transportation accounted for \$32.1 billion of U.S. exports of goods and services and for \$41.4 billion of imports—amounts much larger than for services reported in the benchmark survey. The survey excluded services transactions between U.S. persons and their own foreign affiliates or foreign parent company. In 1986, U.S. sales of services to affiliated foreigners were \$8.2 billion, and U.S. purchases of services from affiliated foreigners were \$3.9 billion.<sup>1</sup>

The survey also excluded sales of services abroad by foreign affiliates of U.S. companies and sales of services in the United States by U.S. affiliates of foreign companies. These sales are not included in the U.S. balance of payments accounts because they are not between U.S. persons and foreign persons. (Affiliates are considered residents of their country of location, rather than of their parent company's country.) Data on these sales are collected in BEA's direct investment surveys. Affiliates are often used to deliver services to foreign markets because they can communicate more easily with, and respond more quickly to, customers located in those markets than could a company located in another country. Thus, affiliate sales in foreign markets typically are much larger than the cross-border transactions covered by the benchmark survey.<sup>2</sup> For example, in 1986, sales of services to foreign (non-U.S.) persons by majority-owned foreign affiliates of U.S. companies were \$72.9 billion, of which \$62.7 billion were to unaffiliated foreigners. These figures pertain to all services, not just the ones on the benchmark survey, and they cannot be disaggregated by type of service. However, it is apparent from their overall magnitude and distribution by industry that, for the services covered, sales by foreign affiliates to unaffiliated foreigners were much larger than sales made directly by U.S. persons to unaffiliated foreigners.<sup>3</sup> Comparable data on sales of services in the United States by U.S. affiliates of foreign companies will become available beginning with 1987.

1. The sales figure is the sum of \$5.4 billion in U.S. parents' receipts from their foreign affiliates and \$2.8 billion in U.S. affiliates' receipts from their foreign parents. The purchases figure is the sum of \$2.4 billion in U.S. parents' payments to their foreign affiliates and \$1.5 billion in U.S. affiliates' payments to their foreign parents. See "U.S. International Transactions, First Quarter 1988," SURVEY 58 (June 1988): 55.

2. A major exception is basic telecommunications services. Foreign ownership of telecommunications carriers is uncommon, and carriers in both the sending and receiving countries must be involved in a transmission for it to cross national boundaries.

3. Data on total sales of services by majority-owned foreign affiliates to foreign persons in 1986 are in "U.S. Multinational Companies: Operations in 1986," SURVEY 68 (June 1988): 96. Data disaggregated by industry of affiliate are in table 42 of BEA's publication *U.S. Direct Investment Abroad: Operations of U.S. Parent Companies and Their Foreign Affiliates, Preliminary 1986 Estimates*. (This publication may be obtained from Economic and Statistical Analysis/BEA, U.S. Department of Commerce, Citizens and Southern National Bank, 222 Mitchell Street, P.O. Box 100606, Atlanta, GA 30384. The price is \$5.00, and the accession number, which should be included when ordering, is BEA IID 88-104.)



but international transactions involving them may tend to be structured in such a way that they were not covered by the benchmark survey.<sup>2</sup>

Sales of services other than telecommunications were largely accounted for by four services: Computer and data processing; industrial maintenance, repair, installation, and training; research, development, and testing; and management, consulting, and public relations. Sales of computer and data processing services were \$985 million. Software services, excluding custom programming, accounted for two-thirds of the total. This category consists of both prepackaged software and rights to use, reproduce, or distribute such software; a major portion of the funds received in 1986 were for the use, in prior years as well as in 1986, of programs on mainframe computers. Other sales of computer and data processing services were largely accounted for by integrated hardware-software systems and by systems analysis, design, engineering, and custom programming services.<sup>3</sup>

Sales of industrial maintenance, repair, installation, and training services were \$448 million.<sup>4</sup> Maintenance, repair, and training services provided by U.S. aircraft manufacturers accounted for a large share of the total.

2. For example, some value added services require a local presence and are thus likely to be sold through affiliates in the same country rather than across borders. In some cases, the services are provided as an integral part of a basic telecommunications service and may not be separately identifiable. In other cases, user-owned hardware (e.g., a facsimile machine) may substitute for the purchase of services from outside firms. Some understatement of sales of value-added services may also have occurred, both in absolute terms and relative to the basic services, because of the exemption level for the survey and the way it was applied. Because basic services transactions with a country are usually with a monopoly postal, telegraph, and telephone agency, the exemption level for transactions in these services was, in effect, applied at the country level. In contrast, value-added services transactions are more likely to have been with a number of different companies in a country and the exemption level would have been applied to each company individually.

3. Integrated hardware-software systems consists of purchased computers and peripheral equipment that are matched with software products or custom software to provide complete information systems for clients.

4. The installation and training services component of this category includes such services only if they are provided by a manufacturer in connection with the sale of goods; they are reported in other categories if they are not provided in connection with the sale of goods. (For example, training services provided by an educational services firm would be reported, not in this category, but in educational services.) Furthermore, such services were not to be reported in the benchmark survey if their cost was included in the price of the goods and was not separately billed or if their cost was declared as a part of the price of the goods on the shippers export declaration filed with the U.S. Customs Service.

Sales of research, development, and testing services were \$305 million. Government-sponsored research and development and consumer product testing accounted for significant shares of the total. Sales of management, consulting, and public relations services were \$272 million; consulting services accounted for the largest share of the total.

*By country of foreign customer.*—Of total sales of services, 55 percent were to developed countries, and 33 percent to developing countries (table 2). The remaining 12 percent consisted of small transactions (less than \$250,000) reported on a voluntary basis and not allocated by country.

In both developed and developing countries, telecommunications services accounted for a considerably larger share of sales than any other service. In many countries, sales of telecommunications services were larger than sales of all other services combined.

Of total sales of telecommunications services, 59 percent were to developed countries and 38 percent were to developing countries; the remaining 3 percent were not allocated by country. Among developed countries, sales to Canada, the United Kingdom, Japan, and Germany were largest. Among developing countries, sales to Mexico, Hong Kong, Taiwan, and South Korea were largest.

Of total sales of services other than telecommunications, 52 percent were to developed countries and 29 percent were to developing countries; 19 percent were not allocated by country.

Among developed countries, sales to Japan, the United Kingdom, and Canada were largest. A large share of the sales to Japan was of computer and data processing services, which included the previously mentioned payments for the use of programs for mainframe computers.

Among developing countries, sales to Saudi Arabia were considerably larger than those to any other country. These sales were largely of research, development, and testing services and of industrial maintenance, repair, installation, and training services.

Sales not allocated by country were largest in computer and data processing services. As a percentage of total sales within a category, however, they were largest in three other categories: Data base and other information services (68 percent of which were unallocated); management, consulting,

and public relations services (30 percent unallocated); and legal services (29 percent unallocated). Apparently, transactions in these types of services tend to be relatively small—below the \$250,000 threshold for mandatory reporting by country; the response rate to the request for voluntary information on such transactions is unknown.

*By industry of U.S. company.*—U.S. companies in communications, manufacturing, and "services," as narrowly defined in the Standard Industrial Classification (SIC), accounted for over 90 percent of total sales (table 3).<sup>5</sup> For companies in services-producing industries (broadly defined), the services sold were generally those characteristic of the industry of the seller: Communications companies sold telecommunications services; advertising agencies sold advertising services; law firms sold legal services, and so on. Sales of services by manufacturing companies tended to be related to the companies' primary activities. They consisted mainly of computer and data processing services provided by computer manufacturers and of industrial maintenance, repair, installation, and training services sold by the manufacturers of the goods maintained, repaired, installed, or for which personnel were being trained to operate or to service (for example, maintenance and training services provided by aircraft manufacturers).

#### U.S. purchases

As noted earlier, purchases data were collected both on the 16 services for which sales data were also collected and on 2 additional services—(1) primary insurance and (2) construction, engineering, architectural, and mining services. This section first discusses the 16 services for which both sales and purchases data were collected, and then it discusses the 2 additional services.

*By type of service.*—Total purchases of the 16 services were \$3,692 million (table 4). Telecommunications services accounted for 83 percent, or \$3,069 million, of the total. The remainder was spread among several services. The largest purchases, each falling in the

5. Here and in Tables 3 and 5, "services" corresponds to the narrowly defined services division of the SIC. Elsewhere in this article, other industries are also considered services, so that all industries can be categorized as either goods producing or services producing.



range of from \$60 million to \$150 million, were in industrial maintenance, repair, installation, and training; advertising; research, development, and testing; industrial engineering; and management, consulting, and public relations services.

Message telephone services accounted for most of the purchases of telecommunications services; "telex, telegram, and other jointly provided (basic) services" also were significant. Purchases of these services represent payouts to foreign communica-

tions companies and to postal, telephone, and telegraph agencies for the foreign carriers' share of the revenues for transmitting messages originating in, or routed through, the United States to foreign destinations. Private leased channel services and telecommunications support services almost entirely accounted for other purchases of telecommunications services. Reported purchases of value-added services were negligible (\$2 million). As noted in the section on sales, this result may reflect the manner in which these

transactions are structured, rather than a lack of activities that would add value or function to the basic services.

*By country of seller.*—Of total purchases of the 16 services, 50 percent were from developed countries, and 45 percent were from developing countries. The remaining 5 percent consisted of small transactions not allocated by country.

In both developed and developing countries, purchases of telecommunications services were considerably larger than the combined total for the

Table 2.—U.S. Sales of Selected Services to Unaffiliated Foreigners, Country of Customer by Type of Service, 1964

(Millions of dollars)

Country of customer	Type of service											
	Total	Telecommunications	Other selected services									
			Total	Advertising	Computer and data processing services	Data base and other information services	Research, development, and testing services	Management, consulting, and public relations services	Legal services	Industrial engineering	Industrial maintenance, repair, installation and training	Other <sup>1</sup>
All countries	4,418	1,898	2,520	94	865	192	396	212	53	96	444	134
Developed countries	2,431	1,122	1,308	63	718	24	124	116	42	44	113	74
Canada	292	(*)	(*)	22	52	6	7	15	5	14	9	(*)
Europe	1,374	670	504	22	150	12	77	73	26	15	85	35
European Communities (12) <sup>2</sup>	970	562	419	21	111	8	54	68	31	13	63	28
Belgium	51	19	32	0	1	0	1	1	(*)	0	(*)	0
France	125	77	48	1	12	2	6	7	(*)	1	(*)	(*)
Germany	204	(*)	(*)	1	22	1	30	9	2	7	18	(*)
Italy	190	66	34	0	17	0	3	5	1	0	7	2
Netherlands	82	33	29	2	9	0	4	8	(*)	1	1	2
Spain	28	21	16	1	3	0	(*)	6	2	1	5	(*)
United Kingdom	314	177	127	14	40	2	6	31	15	4	17	8
Other	77	(*)	(*)	3	4	(*)	4	2	(*)	(*)	(*)	(*)
Other Europe	204	119	85	1	39	3	22	5	4	1	2	7
Norway	16	15	22	0	19	0	1	0	0	0	1	1
Sweden	49	29	20	1	6	(*)	9	1	1	0	1	0
Switzerland	63	39	24	1	1	0	8	2	2	(*)	6	3
Other	54	35	19	0	9	0	4	1	1	1	0	0
Japan	747	136	611	8	(*)	6	42	19	18	5	12	(*)
Australia, New Zealand, and South Africa	117	(*)	(*)	(*)	(*)	1	(*)	8	1	0	5	(*)
Australia	75	(*)	(*)	(*)	(*)	1	0	6	1	0	4	(*)
New Zealand	13	2	0	0	0	0	0	1	0	0	1	(*)
South Africa	30	13	0	0	11	0	(*)	0	0	0	0	0
Developing countries	1,486	718	746	30	94	8	127	76	13	52	300	48
Latin America	549	362	186	20	34	5	5	11	4	2	36	5
South and Central America	419	268	152	(*)	32	5	6	8	2	2	31	(*)
Argentina	22	15	7	0	4	0	0	0	0	0	3	1
Brazil	32	40	12	0	4	0	0	1	1	(*)	5	1
Mexico	119	(*)	(*)	(*)	3	5	2	2	1	1	42	(*)
Venezuela	74	38	36	0	17	0	4	0	1	(*)	14	(*)
Other	152	(*)	(*)	0	(*)	0	(*)	5	0	0	27	(*)
Other Western Hemisphere	129	95	35	(*)	1	(*)	2	3	1	0	7	(*)
Bermuda	18	8	9	(*)	(*)	0	0	1	0	0	0	0
Other	112	86	25	9	1	(*)	2	3	1	0	7	2
Other Africa	84	26	58	6	0	0	3	6	(*)	3	36	8
Egypt	33	9	25	0	0	0	2	4	0	3	9	1
Other	61	18	33	6	0	0	2	2	(*)	(*)	28	(*)
Middle East	405	83	313	4	27	3	100	28	(*)	3	138	9
Israel	34	(*)	(*)	4	3	(*)	(*)	6	0	2	(*)	0
Saudi Arabia	237	29	208	0	22	3	(*)	7	(*)	1	73	(*)
Other	115	(*)	(*)	0	2	0	(*)	16	0	(*)	(*)	(*)
Other Asia and Pacific	417	229	188	1	33	1	26	29	9	44	28	17
Hong Kong	74	54	20	(*)	5	0	0	7	3	(*)	5	0
India	28	21	8	0	4	0	(*)	2	0	1	1	(*)
Indonesia	26	5	20	0	(*)	0	7	3	0	(*)	6	9
Malaysia	14	6	7	0	(*)	0	(*)	(*)	0	(*)	0	0
Philippines	30	16	14	0	0	0	(*)	(*)	0	1	0	0
Singapore	27	20	7	0	3	0	2	(*)	3	0	0	0
South Korea	96	29	37	1	1	(*)	3	(*)	1	(*)	8	0
Taiwan	58	40	18	0	3	0	(*)	1	0	(*)	2	0
Other	63	27	36	0	18	(*)	(*)	(*)	2	(*)	(*)	1
Unallocated	533	37	475	17	174	68	41	61	27	18	35	22

\* Suppressed to avoid disclosure of data of individual companies.

<sup>1</sup> Less than \$500,000.

<sup>2</sup> Corresponds to "other" in table 1.

<sup>3</sup> Comprises Denmark, Greece, Ireland, Luxembourg, and Portugal, in addition to the countries listed separately.

other 15 services. Of total purchases of telecommunications services, 45 percent were from developed countries, and 53 percent were from developing countries; the remaining 2 percent were not allocated by country. Among developed countries, purchases from Canada, Germany, Japan, and the United Kingdom were largest. Among developing countries, purchases from Mexico, South Korea, and the Philippines were largest.

Of \$623 million in purchases of services other than telecommunications, 75 percent were from developed countries, and 7 percent were from developing countries; 18 percent were not allocated by country. Among developed countries, purchases from the United Kingdom, Canada, and Japan were largest. Purchases from the United Kingdom were largest in management, consulting, and public relations services; industrial maintenance, repair, installation, and training; and industrial engineering. Purchases from both Canada and Japan were largest in industrial maintenance, repair, installation, and training. Among developing countries, purchases from Saudi Arabia, India, and Hong Kong were largest.

Purchases not allocated by country were largest in advertising and legal services. Unallocated purchases ac-

counted for 20 percent or more of the total reported purchases of five types of services shown in table 4—advertising services; data base and other information services; research, development, and testing services; legal services; and "other" selected services. The unallocated share was particularly high—51 percent—for legal services. As was the case for sales, the response rate to the request for voluntary information on smaller purchases transactions is unknown.

*By industry of U.S. company.*—By industry of U.S. company, a pattern similar to that for sales tended to hold: Services companies tended to purchase services of their own industry, and manufacturing companies tended to purchase services needed to support their own operations (table 5).

Services companies' purchases in their own industry often reflected operations in which U.S. and foreign companies jointly provide services to clients. Thus, the U.S. company reporting a purchase often would not be the ultimate user of the service. For example, payments by a U.S. advertising agency to a foreign advertising agency would typically reflect, not payments for promoting the services of the U.S. agency abroad, but rather, payments to the foreign agency

for its share in billings for an advertising campaign conducted jointly by the U.S. and foreign agencies on behalf of a U.S. client.

Purchases of services by manufacturing companies were largest in industrial engineering services; research, development, and testing services; and management, consulting, and public relations services. Such purchases occur when a manufacturer calls upon specialized outside firms for assistance in designing or testing products or in managing, operating, or promoting the company.

*Two additional services.*—Only purchases data were collected for primary insurance and for construction, engineering, architectural, and mining services, because sales data for these services are collected in other BEA surveys. These services can be purchased by many different types of companies and were included in the benchmark survey because of its wide distribution. (The sales surveys, in contrast, are sent only to the firms that sell the particular services covered.) For these services, preliminary data on U.S. sales comparable with the data on purchases collected in the benchmark survey are available for the year 1987. They suggest that, in 1986, sales of both services were probably much larger than

Table 3.—U.S. Sales of Selected Services to Unaffiliated Foreigners. Industry of Seller by Type of Service, 1986

(Millions of dollars)

Industry of U.S. seller	Type of service											
	Total	Telecommunications	Other selected services									
			Total	Advertising	Computer and data processing services	Data base and other information services	Research, development, and testing services	Management, consulting, and public relations services	Legal services	Industrial engineering	Industrial maintenance, repair, installation, and training	Other <sup>1</sup>
All industries.....	4,418	1,899	2,518	94	384	182	286	272	13	95	448	138
Petroleum.....	34	0	34	2	2	0	9	22	0	0	0	0
Manufacturing.....	1,191	( <sup>a</sup> )	( <sup>a</sup> )	10	618	( <sup>a</sup> )	( <sup>a</sup> )	18	0	76	308	22
Wholesale trade.....	28	0	28	0	( <sup>a</sup> )	0	0	0	0	0	( <sup>a</sup> )	0
Finance, insurance, and real estate.....	( <sup>a</sup> )	( <sup>a</sup> )	69	0	( <sup>a</sup> )	0	0	( <sup>a</sup> )	1	0	0	( <sup>a</sup> )
Services.....	1,160	( <sup>a</sup> )	( <sup>a</sup> )	30	322	65	225	182	92	15	100	( <sup>a</sup> )
Advertising.....	30	0	30	73	1	0	0	0	0	( <sup>a</sup> )	0	( <sup>a</sup> )
Research, development, and testing services.....	204	0	204	( <sup>a</sup> )	4	0	199	( <sup>a</sup> )	0	0	0	( <sup>a</sup> )
Management, consulting, and public relations services.....	158	0	158	0	4	0	4	145	0	2	5	( <sup>a</sup> )
Personal supply services.....	1	0	1	0	0	0	0	0	0	0	0	( <sup>a</sup> )
Computer and data processing services.....	314	1	313	0	( <sup>a</sup> )	0	0	0	0	0	0	( <sup>a</sup> )
Engineering, architectural, and surveying services.....	28	0	28	0	256	6	2	1	1	0	0	( <sup>a</sup> )
Health services.....	1	0	1	0	15	0	0	0	0	13	0	( <sup>a</sup> )
Accounting, auditing, and bookkeeping services.....	25	0	25	0	0	0	0	0	0	0	0	( <sup>a</sup> )
Legal services.....	92	0	92	0	0	0	0	( <sup>a</sup> )	0	0	0	( <sup>a</sup> )
Educational services.....	116	( <sup>a</sup> )	( <sup>a</sup> )	1	0	0	0	( <sup>a</sup> )	91	0	0	( <sup>a</sup> )
Other services provided on a commercial basis.....	140	0	140	0	2	58	0	3	0	0	0	( <sup>a</sup> )
Other industries.....	( <sup>a</sup> )	1,868	( <sup>a</sup> )	2	38	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	0	4	0	51
Agricultural services.....	0	0	0	0	0	0	0	0	0	0	0	0
Communications.....	1,733	1,668	67	2	38	0	0	0	0	0	0	0
Other.....	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	0	0	0	0	0	0	0	0	0

<sup>a</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>1</sup> Less than \$500,000.

<sup>2</sup> Corresponds to "other" in table 1.

purchases. Reported U.S. sales of the two services combined were over \$5½ billion in 1987.

Purchases of primary insurance (that is, insurance other than reinsurance) are measured by premiums (net of cancellations) paid by U.S. persons to unaffiliated foreign insurance carriers. Such premiums were \$955 million in 1986. The United Kingdom and Bermuda—two of the centers of activ-

ity in the global insurance industry—accounted for over 80 percent of the total. Insurance companies acting as brokers on behalf of clients in other industries, and electric power companies accounted for the largest shares.

Purchases of construction, engineering, architectural, and mining services were \$738 million. Among developed countries, which accounted for 79 percent of the total, purchases from the Netherlands and Japan were

largest. Among developing countries, purchases from Indonesia were largest.

### Technical Note

The services covered by the benchmark survey are listed in table 1. In general, they are ones that tend to be traded among businesses; services purchased primarily by individuals were not covered. Thus, for example, educational and training services that

Table 4.—U.S. Purchases of Selected Services From Unaffiliated Foreigners, Country of Seller by Type of Service, 1986

(Millions of dollars)

Country of seller	Type of service													
	Total	Telecommunications	Other selected services									Addenda *		
			Total	Advertising	Computer and data processing services	Data base and other information services	Research, development, and testing services	Management, consulting, and public relations services	Legal services	Industrial engineering	Industrial maintenance, repair, installation and training	Other †	Primary insurance	Construction, engineering, architectural, and mining services
All countries	3,692	3,049	433	77	32	15	74	64	41	75	143	98	365	134
Developed countries	1,856	1,389	467	81	28	11	53	48	18	74	126	45	537	594
Canada	312	(*)	(*)	10	3	3	9	8	(*)	9	87	(*)	34	20
Europe	1,238	930	308	32	23	6	40	34	12	63	49	49	513	411
European Communities (12) ‡	1,001	753	249	28	20	5	32	31	12	(*)	48	(*)	501	398
Belgium	48	35	13	3	0	0	2	1	0	0	1	1	2	0
France	122	97	25	3	0	(*)	5	0	1	0	1	1	2	0
Germany	217	(*)	(*)	3	4	1	9	(*)	1	3	6	2	2	6
Italy	161	108	53	1	1	0	(*)	5	(*)	(*)	(*)	(*)	13	11
Netherlands	37	28	11	(*)	0	0	0	0	0	(*)	(*)	2	0	(*)
Spain	38	17	21	0	0	0	1	0	0	0	0	(*)	0	(*)
United Kingdom	291	179	114	14	9	3	8	25	9	13	17	(*)	486	26
Other	97	87	11	2	1	0	1	2	6	(*)	(*)	(*)	1	3
Other Europe	236	177	59	6	3	2	18	1	0	(*)	1	(*)	11	13
Norway	(*)	(*)	6	0	0	0	0	0	0	0	0	(*)	5	10
Sweden	29	(*)	8	0	0	0	(*)	0	0	0	0	(*)	1	1
Switzerland	82	(*)	6	3	0	0	13	(*)	0	(*)	0	(*)	1	1
Other	(*)	95	(*)	(*)	(*)	2	(*)	(*)	0	0	(*)	(*)	(*)	3
Japan	245	185	60	8	1	2	4	4	5	3	(*)	(*)	1	142
Australia, New Zealand, and South Africa	61	(*)	(*)	1	(*)	0	1	0	1	0	(*)	(*)	0	7
Australia	33	(*)	(*)	1	(*)	0	1	0	1	0	(*)	(*)	0	6
New Zealand	14	(*)	(*)	0	0	0	0	0	0	0	0	(*)	0	1
South Africa	13	(*)	(*)	0	0	0	0	0	0	0	0	(*)	0	0
Developing countries	1,847	1,661	186	4	1	4	5	16	1	6	8	14	406	154
Latin America	918	914	5	2	0	0	0	1	(*)	0	1	1	393	11
South and Central America	714	709	5	2	0	0	0	1	(*)	0	1	1	393	11
Argentina	24	23	1	0	0	0	0	0	0	0	0	0	0	0
Brazil	59	58	1	0	0	0	0	0	0	0	0	0	0	0
Mexico	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0	0
Venezuela	37	37	0	0	0	0	0	0	0	0	0	0	0	0
Other	(*)	(*)	1	0	0	0	0	0	0	0	0	0	0	0
Other Western Hemisphere	205	205	(*)	0	0	0	0	0	0	0	0	0	388	(*)
Bermuda	9	9	0	0	0	0	0	0	0	0	0	0	297	0
Other	195	195	(*)	0	0	0	0	0	0	0	0	0	92	(*)
Other Africa	59	58	1	0	0	0	0	0	0	0	0	0	2	9
Egypt	24	22	2	0	0	0	0	0	0	0	0	0	2	6
Other	35	34	1	0	0	0	0	0	0	0	0	0	0	3
Middle East	178	166	12	0	0	0	4	9	0	0	0	0	0	0
Israel	(*)	(*)	0	0	0	0	(*)	2	0	0	0	0	0	0
Saudi Arabia	44	(*)	0	0	0	0	0	0	0	0	0	0	0	0
Other	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0	0
Other Asia and Pacific	512	485	27	2	1	1	1	9	(*)	0	7	7	5	130
Hong Kong	63	58	5	0	0	0	0	3	0	0	1	1	0	5
India	38	31	7	0	0	0	0	0	0	0	0	0	0	0
Indonesia	20	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0
Malaysia	15	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0
Philippines	102	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0
Singapore	25	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0
South Korea	119	21	4	1	0	0	0	0	0	0	0	0	0	0
Taiwan	60	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0
Other	79	58	2	0	1	0	1	1	0	0	0	0	0	0
Unallocated	178	64	114	23	2	4	18	6	21	1	16	29	11	5

\* Suppressed to avoid disclosure of data of individual companies

\* Suppressed to avoid disclosure of data of individual companies.

† Less than \$500,000.

‡ Total of services for which both sales and purchases were collected in the benchmark survey.

§ Services for which only purchases data were collected.

|| Corresponds to "other" in table 1.

¶ See footnote 2 of table 2.

a U.S. company provided to, or purchased from, an unaffiliated foreign company were covered, but expenditures of individual students studying in another country were not. Similarly, fees that a U.S. company received from, or paid to, an unaffiliated foreign company for the management of health care facilities were covered, but expenditures of individual patients seeking medical treatment in another country were not.

The survey did not collect information on financial services. Financial institutions did, however, report any sales or purchases transactions of the types covered. For example, a bank did not report fees and commissions related to its international lending activities, but it did report any sales of data processing services to unaffiliated foreigners.

For three services—computer and data processing services, data base and other information services, and telecommunications—added detail by type of service was requested. For telecommunications, the added detail was requested for both sales and purchases; for the other two, it was re-

quested only for sales. Added detail was also requested for sales of advertising services, not by type of service, but by the type of entity making the sale; that is, whether the sale was made by an advertising agency or by a media company, such as a newspaper, magazine, or broadcaster.

Respondents were required to report, by type of service and by country, any transaction that exceeded \$250,000; a "transaction" was defined as a respondent's total sales to, or purchases from, an unaffiliated foreign person of a given service during the year. The reporting threshold of \$250,000 was established to reduce the reporting burden on companies that do not have the requested information readily available; at this threshold, the recall of knowledgeable persons within the company, rather than an exhaustive records search, could generally be used in identifying reportable transactions. Respondents were requested, but not required, to report smaller transactions if their aggregate value exceeded \$500,000. These transactions were disaggregated by type of service, but not by country. As discussed in

the text, transactions reported on this basis were not large in the aggregate, but they did account for a significant share of reported sales or purchases of a number of individual services.

Report forms were mailed to over 20,000 U.S. companies. The selection of companies to be surveyed was based on size, industry classification, and, in a limited number of cases, knowledge about the activities of individual companies. Almost 800 companies reported transactions. The ones that did not were required to certify that they had nothing to report.

In a few instances, either to ensure that the conceptually correct measure was reported or to make the administration of the survey more efficient, companies were required to report other data in addition to their own sales and purchases. These other data were for four types of services—advertising, telecommunications, sports and performing arts, and personnel supply—and for transactions involving intermediaries.

Advertising agencies reported gross billings to unaffiliated foreign clients,

Table 3.—U.S. Purchases of Selected Services From Unaffiliated Foreigners, Industry of Purchaser by Type of Service, 1966

(Millions of dollars)

(Millions of dollars)

Industry of U.S. purchaser	Type of service													
	Total	Telecommunications	Other selected services										Addenda <sup>a</sup>	
			Total	Advertising	Computer and data processing services	Data base and other information services	Research, development, and testing services	Management, consulting, and public relations services	Legal services	Industrial engineering	Industrial maintenance, repair, installation and training	Other <sup>b</sup>	Primary insurance	Construction, engineering, architectural, and mining services
All industries.....	1,881	1,040	425	77	38	18	78	64	41	78	143	98	864	138
Petroleum.....	87	1	46	(*)	(*)	(*)	3	2	5	0	17	(*)	107	304
Manufacturing.....	341	(*)	(*)	21	22	3	58	44	38	88	30	(*)	119	46
Wholesale trade.....	18	0	18	(*)	2	0	0	(*)	(*)	(*)	3	(*)	18	0
Finance, insurance, and real estate.....	(*)	(*)	21	6	1	0	5	1	4	0	0	4	256	(*)
Services.....	176	(*)	(*)	5	5	3	18	5	7	0	66	(*)	84	12
Advertising.....	4	0	4	4	0	0	0	0	0	0	0	0	4	0
Research, development, and testing services.....	(*)	0	(*)	0	0	0	(*)	(*)	(*)	0	0	0	0	0
Management, consulting, and public relations services.....	4	0	4	(*)	(*)	0	0	1	0	0	3	1	1	0
Personnel supply services.....	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Computer and data processing services.....	19	1	18	1	4	0	(*)	2	(*)	0	0	0	0	0
Engineering, architectural, and surveying services.....	1	0	1	(*)	0	0	0	(*)	(*)	0	0	0	0	0
Health services.....	2	0	2	0	0	0	0	0	0	0	0	0	0	0
Accounting, auditing, and bookkeeping services.....	(*)	0	(*)	0	0	0	0	0	0	0	0	0	0	0
Legal services.....	6	0	6	0	0	0	0	0	0	0	0	0	0	0
Educational services.....	(*)	(*)	(*)	0	0	0	0	0	0	0	0	0	0	0
Other services provided on a commercial basis.....	40	0	40	1	(*)	0	0	0	0	0	(*)	0	0	0
Other industries.....	(*)	(*)	130	35	3	4	0	12	3	8	50	20	325	3
Agricultural services.....	(*)	0	(*)	0	0	0	0	0	0	0	0	0	0	0
Communications.....	(*)	19	20	0	(*)	0	0	0	0	0	0	0	0	0
Other.....	129	19	110	32	3	4	0	10	2	1	1	1	32	3

<sup>a</sup> Suppressed to avoid disclosure of data of individual companies.

<sup>b</sup> Less than \$500,000.

1. Total of services for which both sales and purchases were collected in the benchmark survey.

2. Services for which only purchases data were collected.

3. Corresponds to "other" in table 1.

including funds passed through to media companies and not included in their own income statements.<sup>6</sup> The reporting of billings permitted most of the information on sales of advertising to be collected from a few large advertising agencies, rather than from a large number of media companies that often would not have had direct contact with the foreign client and may not have been aware of the client's country of residence.

U.S. telecommunications carriers reported receipts from foreign carriers for messages or leased lines originating abroad and payouts to foreign carriers for messages or leased lines originating in the United States. The payouts provide a measure of U.S. purchases of telecommunications services from foreign carriers; however, the U.S. carriers that reported them were not them-

selves the "purchasers." Rather, they acted as intermediaries who collected revenues from customers and passed on the foreign carriers' shares. (The latter shares, not the entire amounts received by the U.S. carriers, constitute the cross-border transactions reportable in the benchmark survey; the shares retained by the U.S. carriers constitute intra-U.S., not international, transactions.)

For sports and performing arts, fees were defined net of allowances for expenses, because the allowances were deemed to be spent in the country in which the performance occurred. Although the fees could have been recorded gross of expense allowances and the allowances recorded separately as purchases of services, the net method was chosen to simplify reporting.

For personnel supply services, receipts and payments were defined to include agency fees and any funds for compensation of workers carried on the payroll of the company supplying the service. This provision permitted information on wages paid to foreign workers through such services compa-

nies to be obtained, although the provision turned out to have little practical significance due to the small value of transactions reported under this category.

Transactions arranged by, billed through, or otherwise facilitated by an intermediary (e.g., an insurance broker) could, depending upon circumstances, be reported either by the intermediary or by the ultimate provider or end user of the services. The company that reported depended upon whom the U.S. person considered itself to have a claim on for payment (for a sale) or to whom it had a liability (for a purchase). For a sale facilitated by a U.S. intermediary, if the U.S. seller looked to the unaffiliated foreign customer for payment, then the transaction was deemed to be between the U.S. seller and the foreign customer and was reportable by the seller. If the seller looked to the intermediary for payment, however, the transaction was deemed to be between the intermediary and the foreign party and was reportable by the intermediary. Reporting requirements were parallel for U.S. purchases of services.

6. The agencies also reported gross income (the amount earned in their own income statements) from sales to unaffiliated foreign clients. Gross income was \$18 million, compared with billings of \$75 million. Billings, not income, is used as the measure of sales in the accompanying tables because the tables are designed to show sales of particular types of services rather than income accruing to particular types of companies.