

U.S. International Transactions, Revised Estimates for 1986–97

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AS IS customary each June, the estimates of U.S. international transactions have been revised to incorporate methodological and statistical revisions. This year, like last year, a number of improvements have been implemented as part of continuing efforts by the Bureau of Economic Analysis (BEA) to address gaps in coverage of transactions. The gaps and the plans to fill them were outlined by BEA in its Strategic Plan for improving BEA's economic accounts (see the [February and April 1995](#) and [June 1996](#) issues of the SURVEY OF CURRENT BUSINESS). The improvements also address various gaps noted by the International Monetary Fund and the National Academy of Sciences.¹ In large part, the gaps have arisen because of the dynamic nature of international markets. The major improvements this year respond to rapid changes in both the capital markets and the services markets.

- In the investment income accounts, improved estimates of income payments are introduced for 1990–97, reflecting the incorporation of newly available results of the U.S. Treasury Department's benchmark survey of foreign portfolio investment in the United States. The survey, which collected data on foreign holdings of U.S. stocks, U.S. corporate bonds, and U.S. Treasury and agency securities as of December 31, 1994, greatly improved the coverage of these holdings.
- In the investment income accounts, improved estimates of income receipts are introduced for 1993–97, reflecting final results of the U.S. Treasury Department's benchmark survey of U.S. portfolio investment abroad as of March 31, 1994. Data on bond yields and maturities were not available at the time the other results from this benchmark survey were introduced last year.

- In the investment income accounts, improved estimates of banks' income receipts and payments on foreign-currency-denominated claims and liabilities are introduced for 1992–97, based on counterpart data obtained from the Bank for International Settlements.
- In the investment income accounts, as well as in the capital, royalties and license fees, and "other" private services accounts, improved estimates are introduced for 1994–97, based on BEA's benchmark survey of U.S. direct investment abroad for 1994.
- In the capital accounts and related investment income accounts, certain transactions of direct investment financial affiliates that are not depository institutions and that primarily perform intermediation functions in the financial markets are removed from the direct investment accounts for 1994–97 and are combined with other transactions of U.S. nonbanking concerns with unaffiliated foreigners (referred to hereafter as "nonbank investment accounts"). The financial intermediation functions more closely resemble those of nonbank investment transactions than of direct investment transactions.
- In the services accounts, operational leasing of transportation equipment *without crew* is reclassified from the "other" transportation accounts to the "other" private services accounts for 1986–97, in order to consolidate all operational leasing transactions in one account. Computer software royalties and license fees are reclassified from the "other" private services accounts to the royalties and license fees accounts for 1992–97, in order to better reflect their nature as transactions involving rights to intangible assets and to group these transactions with similar transactions in other types of intangible assets. For the "other" transportation accounts, revised estimates of freight charges for land

1. See *Report on the Measurement of International Capital Flows* (Washington, DC: International Monetary Fund, September 1992); *Behind the Numbers: U.S. Trade in the World Economy* (Washington, DC: National Research Council, 1994); and *Following the Money: U.S. Finance in the World Economy* (Washington, DC: National Research Council, 1995).

transportation between the United States and Canada are introduced for 1992–97.

- In the goods accounts, improvements to the seasonal adjustment of exports have reduced the amount of “residual” seasonality in the export accounts.

The newly available benchmark data, improved methodologies, and several reclassifications are discussed in detail in the remaining sections of this article. In addition to these major revisions, revisions result from the incorporation of regularly available data from BEA’s annual and quarterly surveys, from the U.S. Treasury Department’s quarterly and monthly surveys, and supplemental data from other U.S. Government agencies and private sources. Among the estimates most affected by the regular updating of data are travel and passenger fares, which incorporate updated data from the U.S. Department of Commerce’s Office of Tourism Industry’s In-Flight Survey; transfers under U.S. military sales contracts, which include more complete coverage; and private remittances, which also include more complete coverage. Revisions are also made to the outward and inward direct investment estimates to incorporate revised or new BEA quarterly survey results and to the services estimates to incorporate new BEA annual survey results. In most cases, quarterly patterns did not change much. However, the quarterly pattern for travel and passenger fares exports in the last half of 1996 was changed significantly. The quarterly

pattern for goods exports was changed as a result of the introduction of a new approach to seasonal adjustment.

Tables 1 and 2 in this article present a summary of revisions from all sources. Table 3 presents detail on the revisions due to new benchmark data, methodologies, and reclassifications. For 1997, \$1.0 billion is added to goods exports, reducing the goods deficit by the same amount. For services, \$5.0 billion is added to services receipts and \$2.6 billion is added to services payments, resulting in an upward revision of \$2.5 billion to the services surplus. With the exception of the addition to transfers under U.S. military sales contracts, other revisions to the services accounts were about offsetting. In the income accounts, \$5.7 billion is added to income receipts and \$3.2 billion is subtracted from income payments, resulting in a \$9.0 billion reduction in the deficit on investment income. Net unilateral transfers were revised to reflect \$1.2 billion more outflows. As a result of these revisions, the current-account deficit for 1997 is revised down \$11.2 billion.

In tables 1 and 10 in the standard presentation of the U.S. international accounts, net U.S. currency flows are now shown separately in line 59; previously, they had been combined with private transactions in U.S. Treasury securities in line 58. In table 3, the number of components of the “other” transportation estimates has been reduced; this change is described in the section

Table 1.—Revisions to Current-Account Estimates

[Millions of dollars; quarterly data seasonally adjusted]

	Exports of goods, services, and income			Imports of goods, services, and income			Unilateral transfers			Balance on current account		
	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision
1986	400,842	400,881	39	-529,355	-529,355	.....	-24,679	-24,679	.....	-153,193	-153,154	39
1987	449,272	449,312	40	-593,416	-593,416	.....	-23,909	-23,909	.....	-168,053	-168,013	40
1988	560,620	560,664	44	-662,876	-662,876	.....	-25,988	-25,988	.....	-128,245	-128,201	44
1989	642,921	643,012	91	-720,189	-720,189	.....	-26,963	-26,963	.....	-104,231	-104,139	92
1990	700,455	700,552	97	-757,758	-757,507	251	-34,588	-34,669	-81	-91,892	-91,624	268
1991	722,557	722,653	96	-733,335	-732,068	1,267	5,122	5,032	-90	-5,657	-4,383	1,274
1992	743,358	742,337	-1,021	-764,549	-758,481	6,068	-35,192	-35,230	-38	-56,383	-51,374	5,009
1993	773,387	769,919	-3,468	-826,020	-817,910	8,110	-38,137	-38,142	-5	-90,771	-86,133	4,638
1994	854,156	861,574	7,418	-948,849	-946,008	2,841	-38,845	-39,391	-546	-133,538	-123,825	9,713
1995	991,490	999,491	8,001	-1,086,539	-1,080,107	6,432	-34,046	-34,638	-592	-129,095	-115,254	13,841
1996	1,055,233	1,063,971	8,738	-1,163,450	-1,158,309	5,141	-39,968	-40,577	-609	-148,184	-134,915	13,269
1997	1,167,610	1,179,380	11,770	-1,295,530	-1,294,904	626	-38,526	-39,691	-1,165	-166,446	-155,215	11,231
1995:I	237,587	240,452	2,865	-263,845	-262,749	1,096	-8,451	-8,623	-172	-34,709	-30,920	3,789
II	246,787	247,013	226	-274,363	-272,451	1,912	-8,128	-8,110	18	-35,704	-33,548	2,156
III	250,734	253,187	2,453	-275,019	-273,127	1,892	-8,847	-8,938	-91	-33,132	-28,878	4,254
IV	256,382	258,837	2,455	-273,316	-271,784	1,532	-8,620	-8,967	-347	-25,554	-21,914	3,640
1996:I	256,382	260,386	4,004	-278,860	-278,128	732	-10,406	-10,473	-67	-32,884	-28,215	4,669
II	262,335	263,135	800	-289,231	-287,364	1,867	-8,689	-8,777	-88	-35,585	-33,006	2,579
III	261,979	262,430	451	-295,865	-293,777	2,088	-8,947	-9,043	-96	-42,833	-40,390	2,443
IV	274,545	278,017	3,472	-299,493	-299,036	457	-11,926	-12,284	-358	-36,874	-33,303	3,571
1997:I	279,320	283,765	4,445	-310,659	-311,881	-1,222	-8,577	-8,874	-297	-39,916	-36,990	2,926
II	293,668	295,287	1,619	-322,608	-321,342	1,266	-8,855	-9,035	-180	-37,795	-35,090	2,705
III	295,527	300,481	4,954	-329,571	-329,130	441	-9,070	-9,445	-375	-43,114	-38,094	5,020
IV	299,096	299,843	747	-332,691	-332,549	142	-12,024	-12,337	-313	-45,619	-45,043	576

on transportation. In table 7, three lines have been added to accommodate the reclassification of transactions of financial intermediaries. In table 9, net U.S. currency flows are removed, since they are now shown separately in table 1.

Other private dividend payments

Dividend payments are revised to incorporate results of the U.S. Treasury Department's benchmark survey of foreign portfolio investment in the United States for 1994. Dividend payments on U.S. stocks are revised up \$752 mil-

lion for 1994 because of a higher position reported in the survey (\$398 billion) than was previously estimated (\$369 billion). Dividend payments are recomputed to reflect the higher outstanding positions. Differences in country and area totals are also adjusted to the new position estimates. An examination of the industry distribution of foreign holdings confirmed the continued use of the Standard and Poor's composite index of 500 stocks for estimating both the pricing of foreign stock holdings and the dividend yields applied to those holdings. Revisions are carried forward through

Table 2.—Revisions to Estimates of Goods, Services, and Investment Income

[Millions of dollars; quarterly data seasonally adjusted]

	Goods exports			Services exports			Investment income receipts		
	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision
1986	223,344	223,344	.....	86,312	86,350	39	91,186	91,186	.....
1987	250,208	250,208	.....	98,553	98,593	40	100,511	100,511	.....
1988	320,230	320,230	.....	111,024	111,068	44	129,366	129,366	.....
1989	362,120	362,120	.....	127,142	127,233	91	153,659	153,659	.....
1990	389,307	389,307	.....	147,824	147,922	97	163,324	163,324	.....
1991	416,913	416,913	.....	164,236	164,333	96	141,408	141,408	.....
1992	440,352	440,352	.....	177,154	176,982	-172	125,852	125,003	-849
1993	456,832	456,832	.....	186,711	186,385	-326	129,844	126,702	-3,142
1994	502,398	502,398	.....	197,248	201,434	4,186	154,510	157,742	3,232
1995	575,871	575,845	-26	218,739	219,802	1,063	196,880	203,844	6,964
1996	612,069	611,983	-86	236,764	238,792	2,028	206,400	213,196	6,796
1997	678,348	679,325	977	253,220	258,268	5,048	236,043	241,787	5,744
1995:I	138,389	139,016	627	51,980	52,334	354	47,218	49,102	1,884
II	143,181	142,103	-1,078	53,303	53,385	82	50,303	51,525	1,222
III	145,360	145,909	549	56,244	56,506	262	49,130	50,772	1,642
IV	148,941	148,817	-124	57,211	57,575	364	50,230	52,445	2,215
1996:I	150,048	150,855	807	57,057	57,534	477	49,277	51,997	2,720
II	153,411	152,130	-1,281	58,736	59,204	468	50,188	51,801	1,613
III	150,764	151,253	489	59,322	58,119	-1,203	51,893	53,058	1,165
IV	157,846	157,745	-101	61,656	63,932	2,276	55,043	56,340	1,297
1997:I	162,341	163,499	1,158	61,736	62,685	949	55,243	57,581	2,338
II	171,227	169,240	-1,987	63,335	64,776	1,441	59,106	61,271	2,165
III	170,255	172,302	2,047	64,397	65,628	1,231	60,875	62,551	1,676
IV	174,525	174,284	-241	63,754	65,175	1,421	60,817	60,384	-433
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	Goods imports			Services imports			Investment income payments		
	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision
1986	-368,425	-368,425	.....	-81,835	-81,835	.....	-79,095	-79,095	.....
1987	-409,765	-409,765	.....	-92,349	-92,349	.....	-91,302	-91,302	.....
1988	-447,189	-447,189	.....	-99,965	-99,965	.....	-115,722	-115,722	.....
1989	-477,365	-477,365	.....	-104,185	-104,185	.....	-138,639	-138,639	.....
1990	-498,337	-498,337	.....	-120,019	-120,021	-2	-139,402	-139,149	253
1991	-490,981	-490,981	.....	-121,195	-121,196	-1	-121,159	-119,891	1,268
1992	-536,458	-536,458	.....	-120,255	-119,561	694	-107,836	-102,462	5,374
1993	-589,441	-589,441	.....	-126,403	-125,715	688	-110,176	-102,754	7,422
1994	-668,590	-668,590	.....	-135,472	-136,155	-683	-144,787	-141,263	3,524
1995	-749,431	-749,574	-143	-147,036	-145,964	1,072	-190,072	-184,569	5,503
1996	-803,239	-803,320	-81	-156,634	-156,029	605	-203,577	-198,960	4,617
1997	-877,282	-877,279	3	-167,929	-170,520	-2,591	-250,320	-247,105	3,215
1995:I	-182,790	-183,093	-303	-35,884	-35,586	298	-45,171	-44,070	1,101
II	-190,739	-190,539	200	-36,544	-36,388	156	-47,080	-45,524	1,556
III	-188,180	-188,077	103	-37,308	-36,838	470	-49,531	-48,212	1,319
IV	-187,722	-187,865	-143	-37,304	-37,156	148	-48,290	-46,763	1,527
1996:I	-192,973	-193,467	-494	-38,671	-38,023	648	-47,216	-46,638	578
II	-200,973	-200,965	8	-38,953	-38,573	380	-49,305	-47,826	1,479
III	-203,257	-202,806	451	-39,345	-39,644	-299	-53,263	-51,327	1,936
IV	-206,036	-206,082	-46	-39,664	-39,786	-122	-53,793	-53,168	625
1997:I	-212,185	-213,222	-1,037	-41,216	-41,092	124	-57,258	-57,567	-309
II	-218,415	-218,336	79	-41,817	-42,195	-378	-62,376	-60,811	1,565
III	-222,256	-221,598	658	-42,303	-43,437	-1,134	-65,012	-64,095	917
IV	-224,426	-224,123	303	-42,592	-43,795	-1,203	-65,673	-64,631	1,042

1997 and back to 1989, the last benchmark year.

Other private interest payments

Interest payments are revised to incorporate results of the U.S. Treasury Department's benchmark survey of foreign portfolio investment in the United States for 1994. Interest payments on U.S. corporate bonds are revised down \$4.7 billion for 1994 because of a lower position reported in the survey (\$276 billion) than was previously estimated (\$304 billion) and because of the introduction of lower yields into the interest computation. Revisions are carried forward through 1997 and back to 1989, the last benchmark year.

The benchmark survey data include the amount outstanding, maturity, and yield on each Eurobond issue. Eurobonds, which are bearer instruments for which it is difficult to determine the nationality of ownership, account for over half of total U.S. bonds held by foreigners. The new details provide a more accurate measure of total Eurobonds outstanding and permit an application of interest yields that can be more closely tailored to the market characteristics of the Eurobond holdings.

Newly introduced bond indexes provide a much closer matching of interest rates to the market sectors—domestic corporate bonds, corporate Eurobonds denominated in dollars, and corporate Eurobonds denominated in foreign currencies—than in the previous methodology. The new bond indexes also permit a more frequent revaluation of positions and computation of income estimates and therefore result in income estimates that are more sensitive to fluctu-

ations in current market interest rates. Positions are now revalued quarterly; previously, they were revalued only semiannually. When the more detailed prices and yields by market sector and the more frequent revaluations for 1990 to 1994 are applied, the difference between the benchmark survey results for 1994 and the new method is considerably less than the comparable difference under the previous methodology.

U.S. Government interest payments

Interest payments on U.S. Government securities are revised to incorporate the results of the U.S. Treasury Department's benchmark survey of foreign investment in long-term securities in the United States for 1994 and a new methodology is introduced for estimating interest payments on U.S. Government agency securities. Interest payments on U.S. Government securities are revised down \$2.8 billion in 1994, as a \$4.7 billion downward revision from a lower estimate of foreign holdings from the survey is partly offset by a \$1.8 billion upward revision from a new methodology for estimating interest payments on agency securities.

The benchmark survey shows that foreign holdings of marketable long-term U.S. Government securities were \$571.1 billion at the end of 1994, \$53.8 billion less than the previous estimate of \$624.9 billion. Revisions to U.S. Government interest payments based on the lower positions in the survey are made by country or geographic area and are carried forward through 1997 and back to 1989, the year of the previous benchmark.

A new methodology for estimating interest payments on U.S. Government agency securities applies the market yield on mortgage-backed

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securities to the outstanding position adjusted to market value. Previously, a mortgage-backed security coupon yield, averaged with a Eurodollar deposit rate, had been applied to positions at face value. The new methodology more closely reflects current market conditions and provides a more accurate estimate of interest payments. The revisions to interest payments caused by the change in estimation methodology for agency securities are made at the country or geographic area level and are carried forward through 1997 and back to 1989. In earlier periods, the new methodology has a negligible effect on the income estimate.

Interest receipts

Interest receipts on U.S. holdings of foreign bonds for 1993–97 are revised to incorporate the final results of the U.S. Treasury Department's benchmark survey of U.S. portfolio investment abroad for 1994. Data on maturities and applicable yields were not available at the time the other results from this benchmark survey were introduced last year. Except for revisions due to the routine updates of data, the position estimates remain unchanged from those introduced in the July 1997 SURVEY.

Results of the survey on the geographic, currency, and sector composition of U.S. holdings led to a lowering of the yields applied to outstanding positions and provided the basis for a more detailed application of interest yields by market sector than was previously possible. The survey results also provided additional data on the maturity structure of these holdings, leading to the introduction of shorter term, and therefore lower, yields for estimating interest receipts. Because the pattern of the newly implemented yields converged with the previous yields for 1997, the revision to interest receipts for 1997 was negligible; annual revisions for 1993–96 were larger.

Direct investment capital

There are three sources of revision to the 1994–97 net capital outflows estimates for U.S. direct investment abroad. First, the estimates are revised to incorporate the results of the 1994 benchmark survey and new and corrected data from the sample surveys for 1995–97.² Second, the

revisions also reflect revised estimates of depreciation, depletion, and expensed exploration and development costs, which are used to adjust the reinvested earnings component of fixed capital to a current-cost basis. These two sources of revision result in upward revisions to net capital outflows of \$4.7 billion for 1994, \$7.9 billion for 1995, \$1.7 billion for 1996, and \$13.8 billion for 1997. The third source of revision to the 1994–97 net capital outflows was the reclassification of intercompany debt transactions with foreign affiliates, other than depository institutions, that are financial intermediaries. Previously, these transactions were considered to be direct investment transactions; now, they are considered as nonbank investment transactions. For a more complete explanation of the reclassification, see [“Reclassification of intercompany debt and associated interest transactions with financial intermediaries.”](#)

Direct investment income

Net receipts of income by U.S. parents from their foreign affiliates are revised for 1994–97 to incorporate the results of the 1994 benchmark survey and new and corrected data from the sample surveys for 1995–97. The revisions also reflect revised estimates of depreciation, depletion, and expensed exploration and development costs, which are used to adjust the earnings component of income to a current-cost basis, and revisions to related withholding taxes. These sources of revision result in upward revisions to net income receipts of \$2.1 billion for 1994, \$3.9 billion for 1995, \$2.4 billion for 1996, and \$2.3 billion for 1997. In addition, the revisions reflect the reclassification of receipts and payments of the interest component of income associated with intercompany debt transactions with foreign affiliates, other than depository institutions, that are financial intermediaries. Previously, these receipts and payments were considered to be direct investment income transactions; now, they are considered as nonbank investment income transactions. For a more complete explanation of the reclassification, see [“Reclassification of intercompany debt and associated interest transactions with financial intermediaries.”](#)

Royalties and license fees receipts and payments, affiliated

Receipts and payments of royalties and license fees between U.S. parents and their foreign affiliates are revised for 1994–97 to incorporate the

2. A more detailed explanation of the benchmark revisions will appear in the October 1998 SURVEY. See also U.S. Department of Commerce, Bureau of Economic Analysis, *U.S. Direct Investment Abroad: 1994 Benchmark Survey, Final Results* (Washington DC: U.S. Government Printing Office, May 1998).

results of the 1994 benchmark survey and new and corrected data from the quarterly sample surveys for 1995–97. U.S. parents' receipts are revised up \$2.5 billion for 1994, \$1.2 billion for 1995, \$0.9 billion for 1996, and \$1.5 billion for 1997. U.S. parents' payments are revised up \$0.2 billion for 1994, \$0.1 billion for 1995, \$0.2 billion for 1996, and \$0.2 billion for 1997.

Other private services receipts and payments, affiliated

Receipts and payments for "other" private services between U.S. parents and their foreign affiliates are revised for 1994–97 to incorporate the results of the 1994 benchmark survey and new and corrected data from the quarterly sample surveys for 1995–97. U.S. parents' receipts are revised up \$1.4 billion for 1994, \$0.5 billion for 1995, \$1.0 billion for 1996, and \$1.2 billion for 1997. U.S. parents' payments are revised up \$1.1 billion for 1994, \$0.6 billion for 1995, \$0.6 billion for 1996, and \$0.8 billion for 1997.

Reclassification of intercompany debt and associated interest transactions with financial intermediaries

Beginning with 1994, intercompany debt transactions between parent companies and affiliates that are not depository institutions and that are *primarily engaged in financial intermediation* are reclassified from the direct investment capital accounts to the nonbank investment accounts, where they are combined with other capital transactions between U.S. nonbanking concerns and unaffiliated foreigners. Similarly, interest receipts and payments associated with such intercompany transactions are reclassified from the direct investment income accounts to the "other" private income accounts. Although these transactions are between affiliated firms, in many ways, they are similar to the financial flows that are classified in the nonbank investment accounts. This treatment is similar to the treatment of nonpermanent debt investment and associated income transactions between affiliated depository institutions, and it is consistent with the guidelines in the International Monetary Fund's *Balance of Payments Manual* (fifth edition), which suggest that these transactions of financial intermediaries are to be excluded from the direct investment accounts.³ Equity capital transactions with these financial

3. The U.S. international transactions accounts are consistent in all major aspects with the principles set forth in the *Balance of Payments Manual* (fifth edition).

intermediaries, and the associated earnings receipts and payments, continue to be classified as direct investment.

For U.S. direct investment abroad, intercompany debt transactions and associated interest transactions between U.S. parents and the following three groups of nonbank foreign financial affiliates are reclassified: (1) Financial affiliates located in the Netherlands Antilles, (2) financial affiliates whose U.S. parents are depository institutions, and (3) financial affiliates whose U.S. parents are securities dealers.

For foreign direct investment in the United States, intercompany debt transactions and associated interest transactions between foreign parents (and foreign affiliates of foreign parents) and the following two groups of U.S. nonbank financial affiliates are reclassified: (1) Financial affiliates whose ultimate beneficial owner (UBO)⁴ is a foreign depository institution, and (2) financial affiliates whose UBO is a finance or insurance firm.⁵

In the process of reclassification, U.S. intercompany debt receivables from both U.S. direct investment abroad and foreign direct investment in the United States are added to claims reported by U.S. nonbanking concerns, and the associated interest receipts from both U.S. direct investment abroad and foreign direct investment in the United States are added to "other" private income receipts. U.S. intercompany debt payables from both U.S. direct investment abroad and foreign direct investment in the United States are added to liabilities reported by U.S. nonbanking concerns, and the associated interest payments from both U.S. direct investment abroad and foreign direct investment in the United States are added to "other" private income payments.

Also in the process of reclassification, certain transactions were discovered to have been counted twice in the compilation of the accounts. This duplication occurred because transactions of U.S. affiliates of foreign depository institutions reporting to BEA on its survey of foreign direct investment in the United States were also covered in the depository institutions' reporting to the Bank for International Settlements and to various foreign central banks, which provide the basis for BEA's estimates of nonbank transactions. There-

4. The UBO is that person, proceeding up a U.S. affiliate's ownership chain, beginning with and including the foreign parent, that is not owned more than 50 percent by another person.

5. Ideally, the reclassification should not have been extended to affiliates of UBOs that are insurance companies. However, the industry of UBO for both foreign finance and insurance firms is reported under a single industry code, so it is not possible to exclude these affiliates from the reclassification. However, most of the UBOs appear to be in finance rather than in insurance.

fore, where duplication could be detected, not all of the capital and associated interest transactions that were removed from the foreign direct investment in the United States accounts were added to the nonbank investment and income accounts. For the capital accounts, the net amount of duplication was relatively small for 1994–96, but large for 1997. For the income accounts, the amount of duplication was sizable in 1996 and 1997.

Institutional remittances

Estimates of institutional remittances to foreign residents by charitable, religious, educational, and philanthropic organizations in the United States are raised considerably as a result of improved survey coverage and the use of supplemental annual data from government and selected private philanthropic organizations. These improvements increase the estimate of institutional remittances \$0.8 billion for 1997.

Banks' foreign currency income

For the past 5 years, BEA has estimated U.S. banks' income receipts on foreign-currency-denominated claims and U.S. banks' income payments on foreign-currency-denominated liabilities separately from banks' income receipts and payments on dollar-denominated claims and liabilities. This change became necessary as the size of foreign-currency-denominated claims and liabilities grew, partly in response to the growth of international transactions themselves and partly in response to shifts in preferences by U.S. residents or foreign residents as to the proportions of their bank claims and liabilities that they wished to hold in foreign currencies or dollars to conduct international transactions.

With this year's revisions, BEA has introduced three improvements to its estimates of banks' foreign currency income for 1992–97. First, BEA now uses foreign counterpart data from the Bank for International Settlements (BIS) that provide more accurate information on the currency composition of U.S. banks' foreign currency claims and liabilities outstanding. Second, these BIS data provide detail across a larger number of currencies than was available previously. Third, for purposes of computing income, currency translation effects on balances reported in dollars are removed by converting these balances into foreign currencies at the appropriate end-of-quarter rates.

The new approach is based on data collected by the BIS, which is the same data source used

by BEA to estimate unrealized gains and losses on foreign currency banking transactions and remove them from the capital flow data.⁶ The BIS data show, from the perspective of foreign resident banks, foreign banks' nondollar claims on U.S. banks and foreign banks' nondollar liabilities to U.S. banks—the counterparts of U.S. banks' foreign currency liabilities and U.S. banks' foreign currency claims, respectively. The BIS data on the composition of U.S. banks' foreign currency claims and liabilities are available quarterly.

The percentage composition of foreign currency balances in the counterpart BIS data is applied to the balances reported in the Treasury International Capital (TIC) reporting system, which provides no currency-composition detail, at the end of each quarter to compute the dollar amount of TIC outstanding balances held in each of nine key currencies—the British pound, Japanese yen, German mark, Swiss franc, French franc, Italian lire, Canadian dollar, the European Currency Unit (ECU), and Special Drawing Rights (SDR's) (for less developed countries that transact largely in nondomestic currencies). For each currency, dollar reported balances at the end of the current and previous quarters are converted into foreign currencies using end-of-quarter exchange rates; then, average foreign currency balances for the quarter are computed.

Monthly interest yields (averaged to a quarterly rate) are prepared by combining local overnight call money rates and 3-month rates for each currency; overnight Eurodollar deposit rates are used for SDR's. The interest yields for each currency are multiplied by average foreign currency balances outstanding for each currency to calculate quarterly income, and the results are converted into dollars using quarterly average exchange rates.

The result of these changes is to raise both U.S. banks' income receipts and U.S. banks' income payments in comparison with the previous estimates for 1992–97. For 1997, U.S. banks' foreign currency income receipts are raised \$0.8 billion, to \$2.9 billion, and U.S. banks' foreign currency income payments are raised \$1.8 billion, to \$4.1 billion.

Computer software royalties and license fees

Computer software royalties and license fees are reclassified to royalties and license fees from "other" private services for 1992–97. The purpose

6. For more information see, Christopher L. Bach, "U.S. International Transactions, Revised Estimates for 1974–96," *SURVEY* 77 (July 1997): 53.

of the reclassification is to better reflect the acquisitions and sales of rights to use or reproduce computer software as transactions involving intangible, nonproduced, nonfinancial assets and proprietary rights (such as patents, copyrights, trademarks, industrial processes, and franchises) and to combine them with other such transactions. For 1997, the amount reclassified was \$2.4 billion for receipts and \$0.5 billion for payments.

Operational leasing

The operational leasing of transportation equipment *without crew* is reclassified from the "other" transportation accounts to the "other" private services accounts to consolidate all operational leasing in one account for 1986–97. In addition, coverage of equipment leasing is now more complete on BEA's Annual Survey of Selected Services. In 1997, the total of the reclassified and the newly collected transactions is \$1.4 billion for receipts and \$0.4 billion for payments.

Operational leasing of transportation equipment *with crew* remains in the "other" transportation accounts, because these transactions are closer in nature to the provision of transportation services than to the rental of equipment.

Truck freight receipts and payments

Estimates of freight charges for the transportation of U.S. goods exports by truck between the United States and Canada are revised for 1992–97. Estimates by Statistics Canada provide the basis for key components of the truck transportation estimates in the U.S. accounts. A new analysis by Statistics Canada indicates an overstatement of freight charges on the transportation by Canadian truckers of U.S. exports from points of origin within the United States to the U.S.-Canadian border (U.S. payments) and on the transportation by U.S. truckers of U.S. exports from the U.S.-Canadian border to points of destination within Canada (U.S. receipts). The new analysis suggests an implied average freight-to-value ratio of about 1.8 percent, compared with an average of 3.5 percent suggested by earlier analyses. Consequently, for 1997, freight receipts are reduced \$0.5 billion and freight payments are reduced \$0.7 billion.

Regrouping of transportation components

Concurrent with the reclassification of operational leasing *without crew* from the "other" transportation account to the "other" private

services accounts, operational leasing of transportation equipment *with crew* has been shifted to the freight component of the "other" transportation accounts. Thus, "other" transportation receipts and payments each now have only two subcomponents—freight services and port services—in table 3 of the standard presentation of the international accounts, rather than the three shown previously.

"Residual" seasonality

BEA and the Bureau of the Census seasonally adjust the goods export and goods import estimates at the five-digit end-use commodity category level, which is the most detailed level of end-use classification available. Aggregate goods series—total exports, total imports, and all major end-use categories—are derived as the sum of detailed seasonally adjusted series. An alternative set of aggregate series can be derived by directly seasonally adjusting each of the aggregate series. Comparisons of the directly adjusted series with the corresponding series that are derived as the sum of individually seasonally adjusted series show differences that are sometimes called "residual" seasonality. The amount of "residual" seasonality is usually small, so no adjustments are made to the aggregate series. However, in recent years, the amount of "residual" seasonality for total exports and for capital goods exports has increased. Consequently, a concerted effort was made last year and this year to reduce the "residual" seasonality for goods exports. Little "residual" seasonality exists for goods imports.

Last year, some progress was made in reducing the amount of "residual" seasonality by combining several of the individual machinery export series into a single category and by developing seasonal factors based on that category, rather than on each component series separately. This year, the addition of trading-day factors to many export series and changes made to many trading-day groups led to a further reduction in "residual" seasonality.

In addition, this year, the Bureau of the Census and BEA are introducing monthly seasonal adjustment for exports of civilian aircraft. This adjustment reduces the amount of "residual" seasonality and improves the reliability of the quarterly international transactions accounts and gross domestic product estimates. For 1997, the adjustment raised seasonally adjusted total exports significantly in the first and third quarters and lowered seasonally adjusted total exports

significantly in the second and fourth quarters, relative to the previously published estimates.

The monthly pattern of exports of civilian aircraft exhibits high variability and was not previously adjusted, because it did not meet all of the usual criteria for seasonal adjustment of individual series. This year, however, after considering the contribution of adjusting civilian aircraft to improving the accuracy of seasonally adjusted total exports, a decision was made to adjust this series. At this time next year, as part of the regular review of all goods series, BEA and the Census Bureau will assess the effects of seasonally adjusting exports of civilian aircraft on the monthly and quarterly goods statistics to determine whether to continue the practice.

Prepackaged computer software

For many years, a part of imports of prepackaged computer software has been valued at media value—that is, the value of the carrier medium itself, such as CD-ROM or diskette—rather than

at market value, which reflects both the value of the carrier medium and the data or instructions included on the medium. This valuation practice is consistent with a General Agreement on Tariffs and Trade decision in 1984 that permits countries to value imports of prepackaged computer software for customs purposes at either media value or market value.

BEA has prepared an estimate of the dollar amount that is necessary to bring computer software imports reported at media value to the full market value required for the international transactions accounts and the national income and product accounts. This amount—which was small for 1995, 1996, and 1997—will be added as a balance-of-payments adjustment to the Census basis data reported to BEA. A comparable adjustment to exports of prepackaged software is not required, because exports of prepackaged computer software are already reported to the Census Bureau at market value.

Table 3 follows. 

Table 3.—Major Sources of Revisions, 1986–97

[Millions of dollars]

(Credits +, debits -) ¹	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
International transactions												
Current account												
Other transportation receipts (line 7):												
Revised	15,438	17,027	19,311	20,526	22,042	22,631	21,531	21,958	23,754	26,081	26,074	26,911
Changes due to trucking freight charges							-255	-283	-287	-380	-459	-503
Changes due to reclassification of operational leasing	-346	-444	-500	-579	-703	-701	-832	-809	-900	-951	-1,131	-1,248
Revisions due to updated source data											447	466
Previously published	15,784	17,471	19,811	21,106	22,745	23,331	22,616	23,050	24,941	27,412	27,216	28,194
Royalties and license fees receipts (line 8):												
Revised							20,841	21,695	26,712	30,289	32,823	33,676
Changes due to reclassification of computer software royalties							1,125	1,322	1,489	1,720	2,129	2,399
Changes due to 1994 U.S. direct investment benchmark									2,483	(²)	(²)	(²)
Revisions due to updated source data							60	69	79	1,186	720	1,008
Previously published							19,656	20,304	22,661	27,383	29,974	30,269
Other private services receipts (line 9):												
Revised	27,687	29,186	31,253	36,875	40,341	47,821	50,022	53,975	61,880	65,555	73,073	84,465
Changes due to reclassification of operational leasing	384	485	544	671	801	797	853	834	925	978	1,281	1,422
Changes due to reclassification of computer software royalties							-1,125	-1,322	-1,489	-1,720	-2,129	-2,399
Changes due to 1994 U.S. direct investment benchmark									1,392	(²)	(²)	(²)
Revisions due to updated source data									-54	-41	-553	352
Previously published	27,303	28,701	30,709	36,204	39,540	47,024	50,294	54,517	61,093	66,850	73,569	82,681
Income on U.S. direct investment abroad (line 12):												
Revised									72,391	93,164	99,802	109,407
Changes due to 1994 benchmark survey									998	(²)	(²)	(²)
Changes due to reclassification of financial intermediaries									-608	-1,118	-1,517	-2,143
Revisions due to updated source data									1,090	3,933	2,429	2,323
Previously published									70,911	90,349	98,890	109,227
Other private income receipts (line 13):												
Revised							65,977	60,353	81,230	105,967	108,733	128,845
Changes to bond interest income due to 1994 outward portfolio benchmark								-2,695	-608	-758	³ 610	³ 32
Changes to nonbank income due to reclassification of financial intermediaries									1,993	4,236	³ 4,468	³ 4,106
Changes to bank income due to change in foreign currency methodology									-849	-447	347	³ 771
Revisions due to updated source data											18	589
Previously published							66,826	63,495	79,498	101,836	102,866	123,278
Other transportation payments (line 21):												
Revised	-17,766	-19,010	-20,891	-22,172	-24,966	-24,975	-23,767	-24,524	-26,019	-27,034	-27,403	-28,949
Changes due to trucking freight charges							789	867	836	807	788	746
Changes due to reclassification of operational leasing	50	47	78	89	202	229	336	355	401	407	335	301
Revisions due to updated source data											-73	-225
Previously published	-17,817	-19,057	-20,969	-22,260	-25,168	-25,204	-24,894	-25,746	-27,255	-28,249	-28,453	-29,771
Royalties and license fees payments (line 22):												
Revised							-5,161	-5,032	-5,852	-6,919	-7,854	-9,411
Changes due to reclassification of computer software royalties							-72	-202	-161	-292	-162	-466
Changes due to 1994 U.S. direct investment benchmark									-159	(²)	(²)	(²)
Revisions due to updated source data									-11	28	-124	-370
Previously published							-5,089	-4,819	-5,560	-6,503	-7,322	-7,512
Other private services payments (line 23):												
Revised	-14,834	-18,047	-19,106	-20,636	-24,590	-28,328	-25,381	-29,580	-34,588	-39,823	-43,138	-48,421
Changes due to reclassification of operational leasing	-50	-47	-78	-89	-202	-229	-336	-355	-401	-407	-343	-425
Changes due to reclassification of computer software royalties							72	202	161	292	162	466
Changes due to 1994 U.S. direct investment benchmark									-1,064	(²)	(²)	(²)
Revisions due to updated source data							-50	-70	-146	-423	-161	-914
Previously published	-14,785	-17,999	-19,028	-20,548	-24,387	-28,098	-25,066	-29,356	-33,138	-39,285	-42,796	-47,548
Income on foreign direct investment in the United States (line 26):												
Revised									-20,621	-30,195	-33,641	-45,674
Changes due to reclassification of financial intermediaries									406	204	-462	1,308
Revisions due to updated source data									-873	-54	-1,047	-5,455
Previously published									-20,154	-30,345	-32,132	-41,527
Other private income payments (line 27):												
Revised							-95,508	-82,452	-63,079	-57,804	-97,004	-97,901
Changes to dividend income due to 1994 inward portfolio benchmark							-130	-200	-230	-247	-897	³ 774
Changes to bond interest income due to 1994 inward portfolio benchmark							111	811	4,048	5,559	4,658	³ 8,327
Changes to nonbank income due to reclassification of financial intermediaries											³ -3,542	³ -4,563
Changes to bank income due to change in foreign currency methodology								157	-75	-578	³ -1,751	³ -1,790
Revisions due to updated source data												-58
Previously published							-95,489	-83,063	-67,054	-63,041	-98,448	-100,103
U.S. Government income payments (line 28):												
Revised							-40,770	-40,872	-39,081	-39,376	-44,192	-57,418
Changes due to 1994 inward portfolio benchmark							591	1,295	1,938	2,714	4,670	5,245
Changes due to change in interest methodology							-319	-638	-539	-529	-1,843	-1,336
Revisions due to updated source data												216
Previously published							-41,042	-41,529	-40,480	-41,561	-47,019	-61,279
Unilateral transfers, net (line 29):												
Revised							-34,669	5,032	-35,230	-38,142	-39,391	-34,638
Changes due to institutional remittances methodology										-434	-595	-664
Revisions due to updated source data							-81	-90	-38	429	49	72
Previously published							-34,588	5,122	-35,192	-38,137	-38,845	-34,046

See footnotes at the end of the table.

Table 3.—Major Sources of Revisions, 1986–97—Continued

[Millions of dollars]

(Credits +; debits -) ¹	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Capital account												
U.S. direct investment abroad, net capital flows (line 44):												
Revised									-75,214	-96,654	-81,072	-121,843
Changes due to 1994 benchmark survey									-3,698	(²)	(²)	(²)
Changes due to reclassification of financial intermediaries									-1,282	-1,982	8,386	11,364
Revisions due to updated source data									-972	-7,935	-1,645	-13,763
Previously published									-69,262	-86,737	-87,813	-119,444
U.S. claims reported by U.S. nonbanks (line 46):												
Revised									-36,336	-45,286	-86,333	-120,403
Changes due to reclassification of financial intermediaries									-4,597	-10,289	-15,302	-16,360
Revisions due to updated source data											-6,797	-27,745
Previously published									-31,739	-34,997	-64,234	-76,298
Direct investment in the United States, net capital flows (line 57):												
Revised									44,592	57,653	77,622	93,449
Changes due to reclassification of financial intermediaries									-1,900	-10,961	-1,346	-54,117
Revisions due to updated source data									813	1,088	2,013	39,638
Previously published									45,679	67,526	76,955	107,928
U.S. liabilities reported by U.S. nonbanks (line 61):												
Revised									1,302	59,637	39,404	107,779
Changes due to reclassification of financial intermediaries									9,012	25,202	6,517	45,865
Revisions due to updated source data										-153	1,101	17,174
Previously published									-7,710	34,588	31,786	44,740
International investment position (at yearend)												
U.S. direct investment abroad (lines 17 and 18):												
Revised:												
At current cost									752,148	849,651	936,954	1,023,872
At market value									1,067,803	1,307,155	1,517,084	1,793,680
Changes due to 1994 benchmark survey:												
At current cost									-29,589	(²)	(²)	(⁴)
At market value									7,090	(²)	(²)	(⁴)
Changes due to reclassification of financial intermediaries									-16,044	-20,803	-29,189	(⁴)
Revisions due to updated source data:												
At current cost										-13,836	-4,655	(⁴)
At market value										15,967	11,664	(⁴)
Previously published:												
At current cost									797,781	884,290	970,798	(⁴)
At market value									1,076,757	1,311,991	1,534,609	(⁴)
U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns (line 22):												
Revised									322,980	367,567	449,978	562,396
Changes due to reclassification of financial intermediaries									49,294	59,585	74,885	(⁴)
Revisions due to updated source data											6,038	(⁴)
Previously published									273,686	307,982	369,055	(⁴)
Direct investment in the United States (lines 35 and 36):												
Revised:												
At current cost									561,152	614,258	666,962	751,845
At market value									757,853	1,005,726	1,223,672	1,620,540
Changes due to reclassification of financial intermediaries									-15,873	-26,834	-28,180	(⁴)
Revisions due to updated source data:												
At current cost									-7,945	-13,410	-33,910	(⁴)
At market value										579	-1,790	(⁴)
Previously published:												
At current cost									584,970	654,502	729,052	(⁴)
At market value									773,726	1,031,981	1,253,642	(⁴)
U.S. Treasury securities (lines 28 and 37):												
Revised					438,363	476,289	520,339	594,551	632,571	840,498	1,097,683	1,251,811
Changes due to 1994 inward benchmark survey					-11,926	-20,313	-27,740	-30,515	-27,528	-20,393	-11,825	(⁴)
Previously published					450,289	496,602	548,079	625,066	660,099	860,891	1,109,508	(⁴)
U.S. securities other than U.S. Treasury securities (lines 29, 32, and 39):												
Revised					490,903	581,546	638,342	740,987	780,961	1,029,326	1,271,434	1,666,432
Changes due to 1994 inward benchmark survey					-6,865	-15,210	-25,894	-42,787	-26,263	-44,535	-42,183	(⁴)
Previously published					497,768	596,756	664,236	783,774	807,224	1,073,861	1,313,617	(⁴)
U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns (line 42):												
Revised									239,817	300,424	346,727	453,555
Changes due to reclassification of financial intermediaries									42,492	67,694	74,214	(⁴)
Revisions due to updated source data										-161	978	(⁴)
Previously published									197,325	232,891	271,535	(⁴)

1. Credits +: An increase in U.S. receipts and U.S. liabilities, or a decrease in U.S. payments and U.S. claims. Debits -: An increase in U.S. payments and U.S. claims, or a decrease in U.S. receipts and U.S. liabilities.
 2. Revisions due to the benchmark surveys are not separately identifiable for this period.
 3. Includes some revisions due to updated source data.

4. Estimates for 1997 were not published previously.
 NOTE.—For international transactions, line references are to table 1 of "U.S. International Transactions, First Quarter 1998" in this issue of the SURVEY OF CURRENT BUSINESS. For the international investment position, line references are to table 1 of "The International Investment Position of the United States in 1997" in this issue of the SURVEY.