

## Annual Revision of the U.S. International Accounts, 1993–2001

By Christopher L. Bach

AS is customary each June, the estimates of U.S. international transactions and of the U.S. international investment position have been revised to incorporate statistical and methodological revisions. This year, like last year, several improvements have been implemented as part of continuing efforts by the Bureau of Economic Analysis (BEA) to address gaps in coverage. In large part, the gaps have arisen because of the dynamic nature of international markets. Estimates of international transactions are revised for 1995–2001, and estimates of the international investment positions are revised for 1993–2000.

This year, the most notable revisions are the following:

- In the international transactions accounts, net private foreign purchases of U.S. Treasury and other U.S. securities are revised down for every year. For 2001, the revision to net financial inflows for net private foreign purchases of these securities totals \$114.2 billion (from \$514.2 billion to a revised \$400.0 billion).
- In the international transactions accounts, U.S. Government and “other” private income payments are revised down. As a result, the shift from a positive to a negative balance on income in 1998 is eliminated, and the annual negative balances on income in 1999–2001 are also eliminated. The revision to the balance on income for 2001 is \$33.5 billion.
- In the international investment position accounts, the net position is less negative in every year in 1995–2000. The revision for 2000 to the net position is \$491.9 billion with direct investment valued at current cost (from –\$1,842.7 billion to a revised –\$1,350.8 billion). Nonetheless, the trend in the position continues in a strongly negative direction. In the newly published estimates, the position at yearend 2001 is –\$1,948.1 billion.

*Patricia Abaroa assisted in the preparation of this article.*

The statistical and methodological improvements made to the accounts this year mainly result from incorporating data from BEA and U.S. Treasury Department benchmark surveys:

- “Other” private services receipts and “other” private services payments are revised to incorporate results from BEA’s Benchmark Survey of Selected Services for 2001. The survey primarily covers business, professional, and technical services.
- “Other” private income payments, U.S. Government income payments, net foreign purchases of U.S. Treasury securities, and net foreign purchases of securities other than U.S. Treasury securities are revised for 1995–2001 to incorporate results from the U.S. Treasury’s Benchmark Survey of Foreign Portfolio Investment in the United States for March 2000. In addition, results from that survey led to revisions in the estimates of foreign yearend holdings of U.S. Treasury securities and of U.S. securities other than U.S. Treasury securities for 1995–2000.

The Treasury Department’s benchmark survey is a once-every-5-year security-by-security enumeration, provided by custodians and issuers of securities, of foreign holdings of U.S. portfolio securities with an original maturity of more than 1 year. The survey results indicated a substantial overstatement in the previously published estimates of foreign holdings of U.S. long-

### Acknowledgments

The revised estimates were prepared under the general direction of Paul Farello, with the assistance of other staff of the Balance of Payments Division. Patricia Abaroa prepared the new estimates of U.S. Treasury and agency securities. Elena Nguyen prepared the new estimates of U.S. corporate bonds and stocks. The benchmark revision of selected services was prepared under the supervision of Christopher Emond of the International Investment Division.

term debt instruments, largely because redemptions and selected other types of transactions were bypassing the monthly Treasury Department's transactions reporting system. Several steps have been taken to address these weaknesses. In particular, BEA has adjusted its estimates to account for transactions that bypass the transactions reporting system. In addition, the Treasury Department has announced plans to introduce new annual surveys of foreign portfolio investment holdings in the United States (beginning in 2002) and of U.S. portfolio investment holdings abroad (beginning in 2003), and it is working to improve the coverage of its monthly surveys.

The newly available benchmark survey data, improved methodologies, and improved coverage of the accounts are discussed in the remaining sections of this article. In addition to these major changes, revisions to the transactions accounts result from the incorporation of regularly available data from BEA's annual and quarterly surveys, from the U.S. Treasury Department's and Federal Reserve System's quarterly and monthly surveys, and from other U.S. Government

agencies and private sources. These revisions affect the estimates for 1998–2001.

For 2001, as a result of all these changes, the current-account deficit is reduced \$24.1 billion, to \$393.4 billion (table 1). By account, goods exports are reduced \$2.1 billion and goods imports are reduced \$1.5 billion, resulting in a deficit that is \$0.6 billion higher than previously estimated. For services, services exports are reduced \$4.5 billion and services imports are increased \$5.4 billion, resulting in a surplus that is \$9.9 billion lower than previously estimated. For income, income receipts are reduced \$10.0 billion and income payments are reduced \$43.5 billion, resulting in a \$33.5 billion shift from a previously published deficit to a surplus. For net current unilateral transfers, \$1.0 billion in inflows is added, resulting in a decrease to net outflows for transfers of the same amount. Net financial account inflows are revised down \$74.1 billion, to \$381.8 billion. Details on revisions to individual series are shown in table 2.

For 2000, as a result of all these changes, the net international investment position with direct investment

**Table 1. Revisions to U.S. International Transactions**

[Millions of dollars, quarters seasonally adjusted]

	Exports of goods and services and income receipts			Imports of goods and services and income payments			Unilateral current transfers, net			Balance on current account			Net financial flows		
	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision	Previously published	Revised	Revision
1995	1,005,935	1,005,935	.....	-1,081,776	-1,077,701	4,075	-34,057	-34,057	.....	-109,898	-105,823	4,075	113,308	86,186	-27,122
1996	1,077,966	1,077,966	.....	-1,158,822	-1,155,706	3,116	-40,081	-40,081	.....	-120,937	-117,821	3,116	172,115	137,173	-34,942
1997	1,195,538	1,195,538	.....	-1,294,553	-1,283,116	11,437	-40,794	-40,794	.....	-139,809	-128,372	11,437	271,691	219,210	-52,481
1998	1,191,932	1,192,045	113	-1,364,962	-1,351,363	13,599	-44,427	-44,509	-82	-217,457	-203,827	13,630	144,832	63,809	-81,023
1999	1,242,655	1,247,682	5,027	-1,518,106	-1,491,781	26,325	-48,913	-48,757	156	-324,364	-292,856	31,508	176,677	264,910	-111,767
2000	1,418,568	1,417,236	-1,332	-1,809,099	-1,774,135	34,964	-54,136	-53,442	694	-444,667	-410,341	34,326	443,266	409,497	-33,769
2001	1,298,397	1,281,793	-16,604	-1,665,325	-1,625,701	39,624	-50,501	-49,463	1,038	-417,429	-393,371	24,058	455,896	381,844	-74,052
1995: I	241,599	241,599	.....	-263,058	-261,741	1,317	-8,577	-8,577	.....	-30,036	-28,719	1,317	38,300	32,965	-5,335
II	249,063	249,063	.....	-272,905	-271,787	1,118	-8,080	-8,080	.....	-31,922	-30,804	1,118	10,946	4,190	-6,756
III	255,633	255,633	.....	-273,684	-272,735	949	-8,460	-8,460	.....	-26,511	-25,562	949	77,518	69,607	-7,911
IV	259,636	259,636	.....	-272,130	-271,439	691	-8,939	-8,939	.....	-21,433	-20,742	691	13,454	-20,574	-7,120
1996: I	262,927	262,927	.....	-277,198	-276,913	285	-10,519	-10,519	.....	-24,790	-24,505	285	15,348	4,319	-11,029
II	266,859	266,859	.....	-287,257	-286,958	299	-8,744	-8,744	.....	-29,142	-28,843	299	41,381	32,893	-8,488
III	267,240	267,240	.....	-294,437	-293,473	964	-8,940	-8,940	.....	-36,137	-35,173	964	59,826	52,434	-7,392
IV	280,934	280,934	.....	-299,931	-298,363	1,568	-11,878	-11,878	.....	-30,875	-29,307	1,568	55,562	47,529	-8,033
1997: I	287,373	287,373	.....	-312,810	-310,740	2,070	-9,054	-9,054	.....	-34,491	-32,421	2,070	31,663	20,792	-10,871
II	300,459	300,459	.....	-321,005	-317,828	3,177	-9,280	-9,280	.....	-29,826	-26,649	3,177	59,738	47,103	-12,635
III	305,114	305,114	.....	-328,883	-325,650	3,233	-9,561	-9,561	.....	-33,330	-30,097	3,233	62,527	47,940	-14,587
IV	302,595	302,595	.....	-331,858	-328,901	2,957	-12,902	-12,902	.....	-42,165	-39,208	2,957	117,759	103,371	-14,388
1998: I	301,933	301,808	-125	-335,558	-332,743	2,815	-9,866	-9,900	-34	-43,491	-40,835	2,656	20,717	3,281	-17,436
II	298,319	298,310	-9	-340,566	-337,467	3,099	-10,154	-10,134	20	-52,401	-49,291	3,110	33,290	15,106	-18,184
III	291,449	291,511	62	-341,256	-338,013	3,243	-10,731	-10,775	-44	-60,538	-57,277	3,261	36,001	15,665	-20,336
IV	300,229	300,414	185	-347,583	-343,142	4,441	-13,671	-13,699	-28	-61,025	-56,427	4,598	54,822	29,755	-25,067
1999: I	296,210	297,111	901	-351,607	-345,676	5,931	-11,051	-11,107	-56	-66,448	-59,672	6,776	87,101	35,328	-51,773
II	302,880	303,765	885	-368,662	-362,299	6,363	-11,596	-11,614	-18	-77,378	-70,148	7,230	107,340	72,003	-35,337
III	315,099	316,533	1,434	-391,401	-385,035	6,366	-11,761	-11,641	120	-88,063	-80,143	7,920	57,188	39,590	-17,598
IV	328,467	330,273	1,806	-406,437	-398,776	7,661	-14,504	-14,393	111	-92,474	-82,896	9,578	125,051	117,992	-7,059
2000: I	339,645	340,178	533	-432,624	-422,527	10,097	-11,924	-11,749	175	-104,903	-94,098	10,805	58,677	11,835	-46,842
II	355,075	355,468	393	-450,748	-441,206	9,542	-12,461	-12,349	112	-108,134	-98,087	10,047	156,434	135,317	-21,117
III	361,236	360,827	-409	-463,461	-455,079	8,382	-13,080	-12,925	155	-115,305	-107,177	8,128	114,381	151,904	37,523
IV	362,617	360,765	-1,852	-462,268	-455,329	6,939	-16,673	-16,418	255	-116,324	-110,982	5,342	113,773	110,440	-3,333
2001: I	354,158	349,040	-5,118	-454,461	-445,154	9,307	-11,826	-11,608	218	-112,129	-107,722	4,407	103,704	86,695	-17,009
II	335,722	331,612	-4,110	-431,524	-418,930	12,594	-12,130	-11,916	214	-107,932	-99,234	8,698	154,570	101,574	-52,996
III	312,333	309,477	-2,856	-398,195	-388,448	9,747	-12,669	-12,360	309	-98,531	-91,331	7,200	40,275	42,867	2,592
IV	296,191	291,667	-4,524	-381,150	-373,174	7,976	-13,876	-13,579	297	-98,835	-95,086	3,749	157,346	150,709	-6,637

at current cost is revised from a negative \$1,842.7 billion to a negative \$1,350.8 billion: U.S. assets abroad are revised from \$6,167.2 billion to \$6,191.9 billion, and foreign assets in the United States are revised from \$8,009.9 billion to \$7,542.7 billion. On an alternative valuation basis, the position with direct investment at market value is revised from a negative \$2,187.4 billion to a negative \$1,583.2 billion: U.S. assets abroad are revised from \$7,189.8 billion to \$7,350.9 billion, and for-

ign assets in the United States are revised from \$9,377.2 billion to \$8,934.0 billion. Details on revisions to individual series are shown in table 3.

### Benchmark survey and annual surveys of selected services

Each year, BEA's estimates of international services transactions are revised to incorporate updated and more complete source data. Most of the data are from

**Table 2. Major Sources of Revisions, International Transactions Accounts, 1995–2001**

[Millions of dollars]

(Credits +; debits -) <sup>1</sup>	1995	1996	1997	1998	1999	2000	2001
<b>Current account</b>							
<b>Other private services receipts (line 10):</b>							
Revised.....							108,109
Changes due to 2001 benchmark survey of services.....							-75
Revisions due to updated source data.....							-4,708
Previously published.....							112,892
<b>Other private services payments (line 27):</b>							
Revised.....							-54,588
Changes due to 2001 benchmark survey of services.....							-1,803
Revisions due to updated source data.....							-2,496
Previously published.....							-50,289
<b>Other private income payments (line 32):</b>							
Revised.....	-96,490	-97,079	-112,117	-127,052	-136,455	-179,217	-156,784
Previously published.....	-97,004	-97,826	-114,142	-129,814	-139,798	-184,465	-163,353
<b>Interest on U.S. bonds:</b>							
Revised.....	-21,404	-24,282	-28,169	-30,583	-40,239	-51,856	-56,141
Changes due to 2000 Treasury inward benchmark survey.....	455	837	1,887	2,865	3,531	5,931	5,943
Revisions due to updated source data.....							-120
Previously published.....	-21,859	-25,119	-30,056	-33,448	-43,770	-57,667	-62,396
<b>Dividends on U.S. stocks:</b>							
Revised.....	-12,031	-13,194	-13,976	-15,765	-17,058	-19,563	-20,737
Changes due to 2000 Treasury inward benchmark survey.....	59	-92	138	-103	135	-87	825
Revisions due to updated source data.....							4
Previously published.....	-12,090	-13,102	-14,114	-15,662	-17,193	-19,480	-21,669
<b>Other:</b>							
Revised.....	-63,055	-59,603	-69,972	-80,704	-79,158	-107,798	-79,906
Revisions due to updated bank and nonbank source data.....		2			-323	-480	-618
Previously published.....	-63,055	-59,605	-69,972	-80,704	-78,835	-107,318	-79,288
<b>U.S. Government income payments (line 33):</b>							
Revised.....	-53,809	-65,271	-78,638	-79,287	-74,547	-82,973	-80,665
Changes due to 2000 Treasury inward benchmark survey.....	3,561	2,369	9,412	11,832	20,584	24,823	23,452
Revisions due to updated source data.....							-124
Previously published.....	-57,370	-67,640	-88,050	-91,119	-95,131	-107,672	-104,313
<b>Financial account</b>							
<b>U.S. Treasury securities (line 65):</b>							
Revised.....	91,544	147,022	130,435	28,581	-44,497	-76,965	-7,670
Changes due to 2000 Treasury inward benchmark survey.....	-8,000	-8,000	-16,000	-20,000	-24,000	-24,000	-24,000
Revisions due to updated source data.....	-4	26	2		-7	-173	551
Previously published.....	99,548	154,996	146,433	48,581	-20,490	-52,792	15,779
<b>U.S. securities other than U.S. Treasury securities (line 66):</b>							
Revised.....	77,249	103,272	161,409	156,315	298,834	455,213	407,653
Previously published.....	96,367	130,240	197,892	218,091	343,963	485,644	498,433
<b>Corporate bonds:</b>							
Revised.....	49,883	70,251	66,865	105,947	142,820	166,392	201,944
Changes due to 2000 Treasury inward benchmark survey.....	-8,000	-12,000	-16,000	-16,100	-16,400	-16,400	-16,400
Revisions due to updated source data.....	5	29	-167		-3	1,719	-8,588
Previously published.....	57,878	82,222	83,032	122,047	159,223	181,073	226,932
<b>Agency bonds:</b>							
Revised.....	13,889	21,765	25,784	4,721	43,097	96,418	86,256
Changes due to 2000 Treasury inward benchmark survey.....	-11,085	-14,929	-19,498	-45,675	-28,687	-15,407	-57,733
Revisions due to updated source data.....	1		-5	-1		-5	-289
Previously published.....	24,973	36,694	45,287	50,397	71,784	111,830	144,278
<b>Corporate stocks:</b>							
Revised.....	13,477	11,256	68,760	45,647	112,917	192,403	119,453
Revisions due to updated source data.....	-39	-68	-813		-39	-338	-7,770
Previously published.....	13,516	11,324	69,573	45,647	112,956	192,741	127,223

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.

NOTE: Line numbers refer to table 1 of the article on U.S. international transactions in this issue of the Survey.

BEA's own surveys, but data are also from other government agencies, other countries, international organizations, private industry, and other sources.

This year, estimates of cross-border services transactions are revised to incorporate the preliminary results of BEA's Benchmark Survey of Selected Services Transactions with Unaffiliated Foreign Persons for 2001. This once-every-5-year benchmark survey of selected business, professional, technical, and other services includes computer and data processing services; database and other information services; legal services; management, consulting, and public relations services; operational leasing services; telecommunications services; and various other services. The benchmark survey provides a more detailed breakdown of certain types of services than is available from BEA's annual surveys. For example, for telecommunications services, the benchmark survey collects additional detail on message telephone services, private leased channel services, value-added services, and support services. In addition, the benchmark survey covers several smaller ser-

vices not covered in the annual surveys in order to reduce respondent burden; these services include agricultural services; mailing, reproduction, and commercial art services; employment agency and temporary help services; and management of health care facilities. Finally, the benchmark survey was redesigned to clarify that transactions related to e-commerce and transactions conducted by the Internet were to be reported. The survey was also updated to cover services that have become increasingly important in today's global market, such as auction services.

In 2001, revisions from the benchmark survey account for \$75 million of the \$4.8 billion downward revision to "other" private services receipts and for \$1.8 billion of the \$4.3 billion upward revision to "other" private services payments. BEA will publish the detailed results of the benchmark survey, along with results from its annual and quarterly services surveys, in its annual article on international services in the fall. That article will provide a picture of U.S. trade in services by type of service and by country from 1986

**Table 3. Major Sources of Revisions, International Investment Position at Yearend, 1993–2001**

[Millions of dollars]

	1993	1994	1995	1996	1997	1998	1999	2000	2001
<b>U.S. private assets:</b>									
<b>Direct investment abroad at market value (line 18):</b>									
Revised.....	1,061,299	1,114,582	1,363,792	1,608,340	1,879,285	2,279,601	2,805,219	2,674,207	2,289,926
Changes due to improved source data for 1993–2000.....	33,752	46,779	56,637	82,097	101,096	111,277	158,958	157,371	( <sup>1</sup> )
Revisions due to updated source data.....							33,086	49,079	( <sup>1</sup> )
Previously published.....	1,027,547	1,067,803	1,307,155	1,526,243	1,778,189	2,168,324	2,613,175	2,467,757	( <sup>1</sup> )
<b>Foreign official assets in the United States:</b>									
<b>U.S. Treasury securities (line 28):</b>									
Revised.....			489,952	606,427	615,076	622,921	617,680	625,161	650,703
Changes due to 2000 Treasury inward benchmark survey.....			7,179	15,723	25,284	33,898	39,455	42,817	( <sup>1</sup> )
Revisions due to updated source data.....									( <sup>1</sup> )
Previously published.....			482,773	590,704	589,792	589,023	578,225	582,344	( <sup>1</sup> )
<b>Other U.S. Government securities (line 29):</b>									
Revised.....			17,508	24,661	33,112	46,847	76,101	124,743	148,141
Changes due to 2000 Treasury inward benchmark survey.....			2,505	4,896	8,374	15,585	25,419	30,190	( <sup>1</sup> )
Revisions due to updated source data.....									( <sup>1</sup> )
Previously published.....			15,003	19,765	24,738	31,262	50,682	94,553	( <sup>1</sup> )
<b>Other foreign assets:</b>									
<b>U.S. Treasury securities (line 37):</b>									
Revised.....			330,210	440,832	550,613	562,036	462,761	400,966	388,774
Changes due to 2000 Treasury inward benchmark survey.....			-28,327	-61,730	-111,615	-167,702	-197,932	-238,743	( <sup>1</sup> )
Revisions due to updated source data.....								25	( <sup>1</sup> )
Previously published.....			358,537	502,562	662,228	729,738	660,693	639,684	( <sup>1</sup> )
<b>U.S. securities other than U.S. Treasury securities (line 38):</b>									
Revised.....			969,849	1,165,113	1,512,725	1,903,443	2,351,291	2,623,628	2,856,654
Previously published.....			971,356	1,199,461	1,578,694	2,012,429	2,522,009	2,963,973	( <sup>1</sup> )
<b>Corporate and other bonds (line 39):</b>									
Revised.....			459,080	539,308	618,837	724,619	825,175	1,075,988	1,392,620
Changes due to 2000 Treasury inward benchmark survey.....			-22,134	-48,736	-96,359	-177,534	-236,749	-299,994	( <sup>1</sup> )
Revisions due to updated source data.....								1,723	( <sup>1</sup> )
Previously published.....			481,214	588,044	715,196	902,153	1,061,924	1,374,259	( <sup>1</sup> )
<b>Corporate stocks (line 40):</b>									
Revised.....			510,769	625,805	893,888	1,178,824	1,526,116	1,547,640	1,464,034
Changes due to 2000 Treasury inward benchmark survey.....			20,627	14,388	30,390	68,548	66,031	-42,016	( <sup>1</sup> )
Revisions due to updated source data.....								-58	( <sup>1</sup> )
Previously published.....			490,142	611,417	863,498	1,110,276	1,460,085	1,589,714	( <sup>1</sup> )

1. Estimates were not previously published.

Note: Line numbers refer to table 1 of the article on the U.S. international investment position in this issue of the Survey.

through 2001, as well as details on both cross-border trade and sales through affiliates. An article on measurement issues in BEA's cross-border and affiliated services estimates was published in the June 2002 issue of the SURVEY OF CURRENT BUSINESS. The article discussed measurement issues in a number of cross-border services—including insurance services and construction services—as well as measurement issues involving sales by affiliates.

In addition to revisions to the selected business, professional, technical, and other services transactions resulting from the benchmark survey, BEA's annual survey of insurance transactions indicated that sizable revisions to payments and receipts for 2001 were necessary despite already sizable adjustments incorporated into these accounts immediately after the events of September 11<sup>th</sup>. Premiums paid and received are revised, as are losses recovered and losses paid. On balance, net insurance payments are raised \$3.6 billion, and net insurance receipts are lowered \$3.2 billion, for 2001. BEA measures net insurance payments as premiums paid less losses recovered and net insurance receipts as premiums received less losses paid.

Results from BEA's annual survey of construction and related services led to downward revisions to "other" private services receipts. Receipts for these services are revised down \$2.9 billion for 2001.

### **Benchmark survey of foreign portfolio investment in U.S. securities**

BEA bases its estimates of transactions and positions in U.S. securities for the international transactions accounts and the international investment position accounts on two sets of source data—monthly transactions data and data from once-every-5-year benchmark surveys. The monthly transactions data, collected by the Treasury International Capital Reporting System, provide aggregate (or summary) data on foreign gross purchases and gross sales of U.S. securities with an original maturity of more than 1 year by type of security (that is, U.S. Treasury securities, U.S. agency securities, corporate bonds, and stocks), that are reported by banks, brokers, dealers, and other financial intermediaries. The data provide timely information on financial flows that are published quarterly in the international transactions accounts. The once-every-5-year benchmark surveys of foreign portfolio investment in the United States, also conducted by the Department of the Treasury, provide a security-by-security enumeration of foreign holdings of U.S. securities that are reported by custodians, subcustodians,

and issuers of securities. For the benchmark survey year, benchmark results are adjusted to reflect the yearend position and serve as the basis for successive annual estimates of the position until the next benchmark survey results are available. Both sets of source data have their imperfections, but the benchmark surveys are considered more reliable than the transactions data.

In order to link the two sets of source data and prepare annual position estimates between benchmark years, BEA extrapolates the benchmark position estimate by adjusting it for net foreign purchases of U.S. securities, as reported in the transactions reporting system, and adding BEA's estimates of valuation adjustments to the position. The latter adjustments arise from price changes, exchange-rate changes, and other statistical changes (primarily changes in coverage of the surveys). The process is repeated for each year.

When a new benchmark survey is completed, BEA compares its investment position estimates based on financial flows and valuation adjustments to the new benchmark survey data. Differences are then attributed to the financial flow data from the transactions reporting system or to BEA's valuation adjustments. In past benchmark years, BEA has assigned nearly all of the differences between the two estimates of the position to either the price change or the "change in statistical coverage" components of the investment position accounts, leaving data on financial flows as reported by the transactions reporting system little changed in both the international transactions accounts and international investment position accounts. However, the size and nature of the differences this year suggest that adjustments to the financial flow data are warranted.

The differences between the results from the Treasury Department's Benchmark Survey of Foreign Portfolio Investment in the United States for March 2000<sup>1</sup> and BEA's previously estimated investment position for the same date are much larger, both in absolute and percentage terms, than in previous benchmark years. Overall, as of the March 2000 measurement date, BEA's investment position overestimated foreign holdings of U.S. securities by 9 percent, or \$306 billion.<sup>2</sup> Foreign holdings of long-term U.S. Treasury securities were overestimated by 19 percent, or \$171 billion. Foreign

1. Office of the Assistant Secretary, International Affairs, Department of the Treasury; Securities Report Division, Federal Reserve Bank of New York; Division of International Finance, Board of Governors of the Federal Reserve System, *Report on Foreign Holdings of U.S. Long-term Securities as of March 31, 2000* (see <[www.treas.gov](http://www.treas.gov)>).

2. The estimate includes both private and foreign official holdings.

holdings of U.S. agency bonds were overestimated by 59 percent, or \$154 billion. Foreign holdings of U.S. corporate bonds were overestimated by 10 percent, or \$73 billion. In contrast, foreign holdings of U.S. stocks were underestimated by 5 percent, or \$91 billion.

**U.S. Treasury securities.** The BEA estimate of Treasury debt held by foreigners<sup>3</sup> of \$1,055 billion in March 2000 exceeded the benchmark result of \$884 billion by \$171 billion, an overestimate of 19 percent. BEA attributes the difference both to the financial flow component of the investment position accounts and transactions accounts and to the “change in statistical coverage” component of the investment position accounts. The difference cannot be reasonably attributed to the price adjustment component of the investment position, because the cumulative price change since the 1994 benchmark was only \$7 billion out of a total net change of \$591 billion from December 1994 to March 2000, and BEA is confident in its price adjustment.

Federal Reserve Board economists, along with BEA economists, have identified several sources of inconsistency between the transactions data and the benchmark survey data.<sup>4</sup> These inconsistencies include, in the transactions data, understatement of Treasury bond sales and redemptions, misreporting of repurchase agreements, misreporting of securities lending transactions, misreporting of the use of Treasury securities as collateral in futures transactions, and misclassification of domestic transactions as cross-border transactions (or vice versa). However, BEA lacks sufficient information to attribute the difference to any single cause or to assess the relative importance of the different causes.

The percentage difference between the BEA estimate and the March 2000 benchmark survey result is more than triple the percentage difference between the BEA estimate and the December 1994 benchmark survey result. The expansion in the difference is likely related to the rapid changes that occurred in financial markets between the two benchmark surveys, to rapid changes in market practices, to the explosion in the volume of financial transactions (including redemptions), to improved communications, and to falling transactions costs. Because it is not clear whether these changes led the transactions reporting system to understate gross sales, to overstate gross purchases, or to contain some

combination of both, BEA made the determination that about half of the difference would be attributed to the “change in statistical coverage” component in the investment position accounts. The other half of the difference required changes to the financial flow component of the transactions accounts and the investment position accounts. (In previous benchmark years, all of the difference between the estimated and benchmark positions was allocated to the “change in statistical coverage” component of the investment position accounts.) Adjustments to financial flows are allocated over 5 years, with smaller adjustments in earlier years and larger adjustments in more recent years. Financial flows in Treasury securities are revised –\$8.0 billion for 1995 and 1996, –\$16.0 billion for 1997, –\$20.0 billion for 1998, and –\$24.0 billion for each year of 1999–2001.<sup>5</sup> BEA will continue to adjust financial flows in Treasury securities until results of the next benchmark survey are available.

**U.S. agency bonds.** The BEA estimate of U.S. agency debt held by foreigners of \$415 billion in March 2000 exceeded the benchmark estimate of \$261 billion by \$154 billion, an overestimate of 59 percent. BEA attributes the difference to the financial flow component of the investment position and transactions accounts and to the “change in statistical coverage” component of the investment position accounts. The difference is not attributable to the price change component in the investment position accounts, because the cumulative price change from December 1994 to March 2000 was only \$4 billion out of a total net change of \$308 billion, and BEA is confident in its price adjustment.

Difficulties in reporting agency debt transactions in the transactions reporting system are likely due to special characteristics of agency securities, which come in the form of mortgage-backed debt and straight debt. Mortgage-backed agency securities include a paydown of principal each month, and the securities may be redeemed prior to original maturity if the underlying mortgages are liquidated. Generally, the paydowns of principal and early redemptions should be recorded as sales, but there is no effective mechanism in the existing transactions reporting system to capture these paydowns and early redemptions. Straight debt agency securities also create problems for the transactions reporting system because of the way in which agency

3. The estimate excludes short-term U.S. Treasury obligations.

4. William Griever, Gary Lee, and Francis Warnock, “The U.S. System for Measuring Cross-Border Investment in Securities: A Primer with a Discussion of Recent Developments,” *Federal Reserve Bulletin* (October 2001): 633–650.

5. Adjustments to financial flows in U.S. Treasury securities are applied to line 65 of table 1 of the standard presentation of the transactions accounts and line 37 of table 1 of the standard presentation of the investment position accounts. Foreign official flows in U.S. Treasury securities in the transactions accounts are unrevised.

bond issuers manage interest-rate risk. During periods when interest rates are high, much of the agency debt issued is in the form of callable bonds. When interest rates fall, issuers call in the callable debt and reissue it as straight debt at lower interest rates. Calls of agency bonds should be recorded as sales, but the transactions reporting system probably misses many of these sales because securities brokers and dealers are often not involved in the transactions. These characteristics suggest that much of the difference between BEA's estimates of foreign holdings of agency bonds and the benchmark survey results occurs during periods in which interest rates declined significantly and debt was being redeemed.

Using market data, BEA has developed a statistical series to adjust financial flows over the 5-year period between benchmarks. Agency issuers publish quarterly reports on the amount of outstanding mortgage-backed debt liquidated each quarter as well as the amount of straight debt that is called or redeemed before maturity. By assuming that the paydown and redemption patterns of foreign agency bond holdings are similar to those of total agency debt holdings and by knowing the share of total holdings held by foreigners from the benchmark survey, BEA can use the data provided by issuers to estimate the amount of foreign holdings that are liquidated, called, or redeemed in a given quarter. This adjustment is then added to quarterly gross sales. BEA will continue to use the series to adjust agency bond transactions for liquidations and calls until results of the next benchmark survey are available.

Revisions to financial flows for liquidations and calls total  $-\$11.1$  billion for 1995, increase for 1996 and 1997, and reach  $-\$45.7$  billion for 1998, a year of low interest rates. The revisions are somewhat smaller for 1999 and 2000, but they balloon to  $-\$57.7$  billion for 2001 when interest rates reached their lowest levels in decades.<sup>6</sup> The revisions to agency bonds eliminated about 80 percent of the  $\$154$  billion difference between the BEA position estimate and the benchmark survey. The rest of the difference, which could be attributed to many causes, was classified as a "change in statistical coverage" in the investment position accounts; no adjustment for this difference was made to the transactions accounts.

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6. Adjustments to financial flows in agency and corporate bonds are applied to line 66 in table 1 of the standard presentation of the transactions accounts and line 39 of table 1 of the standard presentation of the investment position accounts. Foreign official flows in agency and corporate bonds in the transactions accounts are unrevised.

**U.S. corporate bonds.** The BEA estimate of corporate debt held by foreigners of  $\$776$  billion in March 2000 exceeded the benchmark estimate of  $\$703$  billion by  $\$73$  billion, an overestimate of 10 percent. BEA attributes the error to the financial flow component of the investment position accounts and transactions accounts. The difference is not attributed to price and exchange-rate adjustments, because the cumulative adjustments from December 1994 to March 2000 are only  $-\$45$  billion out of a total net change of  $\$500$  billion, and BEA is confident in its price and exchange-rate adjustments.

Possible explanations for the overestimation of corporate debt holdings include an understatement of early redemptions and redemptions at maturity, understatement of prepayments of asset-backed debt, and misclassification of domestic transactions as cross-border transactions (or vice versa). Most of these difficulties would likely result in underreporting of gross foreign sales relative to gross foreign purchases.

Adjustments similar to those used for agency bonds are not possible, because the corporate bond market does not have the same degree of homogeneity as the agency market. Further, key market indicators are lacking. Consequently, BEA allocated the difference between the transactions-based estimate and the benchmark estimate over the 5-year period from the previous benchmark to the current benchmark. Smaller adjustments are made in earlier years and larger adjustments in later years. Financial flows for corporate debt are revised  $-\$8.0$  billion for 1995,  $-\$12.0$  billion for 1996,  $-\$16.0$  billion for 1997,  $-\$16.1$  billion for 1998, and  $-\$16.4$  billion each for 1999, 2000, and 2001.<sup>7</sup> BEA will continue to adjust corporate debt flows until results of the next benchmark survey are available.

**Stocks.** In contrast to the overestimate of U.S. debt holdings, the BEA estimate of foreign holdings of U.S. stocks of  $\$1,618$  billion in March 2000 underestimated the benchmark survey results of  $\$1,709$  billion by  $\$91$  billion, or 5 percent. The investment position estimate of stocks differs from that of debt securities because the price change is a much more important factor, accounting for about 75 percent of the total change between December 1994 and March 2000. Because the price change accounts for such a large share of the total change, the possibility for error in the price estimate for stocks is much greater than the possibility for error in the price estimate for debt. Therefore, BEA

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7. See footnote 6.

attributes the difference, which is small in percentage terms, to the price adjustment in the investment position accounts and leaves financial flows as reported in the transactions reporting system in both the transactions accounts and the investment position accounts.

**U.S. Government income payments and “other” private income payments.** Two of the income accounts, U.S. Government income payments and “other” private income payments, have also been revised, based on information from the benchmark survey.

When the significant overstatements in the previously published estimates of foreign holdings of long-term debt instruments are restated to new, lower amounts, associated estimates of interest payments are also reduced. The lower (revised) position estimates for debt are multiplied by representative market yields to estimate revised interest payments. The yield methodologies associated with the interest estimates are not changed as a result of the benchmark survey. BEA will continue to base its estimates of interest payments on the restated investment positions until results from the next benchmark survey are available.

Payments of dividends on stocks are revised to take account of the understatement in position indicated by the benchmark survey and to incorporate a change in BEA’s methodology for calculating valuation adjustments to stocks. Incorporation of benchmark survey results leads to slightly higher positions for 1995–2000, but for 2000, the increase is more than offset by the effects of the methodological change. In the previous methodology, a quarterly average of the S&P 500 index was used to adjust the position for changes in price. The new methodology uses end-of-quarter S&P 500 values to adjust the position. The new methodology has relatively little effect on the positions for 1995–99, but it results in a significant downward revision for 2000. Associated dividend payments change little for 1995–2000. BEA will continue to base its estimates of dividend payments on the new positions and new methodology until results from the next benchmark survey are available.

Revisions to U.S. Government income payments reflect the downward revisions to interest payments on

U.S. Treasury securities and U.S. agency bonds. U.S. Government income payments are revised down \$3.6 billion for 1995; the downward revisions grow to \$24.8 billion for 2000 and \$23.5 billion for 2001.

Revisions to “other” private income payments reflect small downward revisions to dividend payments for many years and more sizable downward revisions to interest payments on corporate bonds. In total, “other” private income payments are revised down \$0.5 billion for 1995; the downward revisions grow to \$5.8 billion for 2000 and \$6.8 billion for 2001.

### **Other improvements**

**Annual liabilities survey.** An annual liabilities survey of foreign residents’ holdings of U.S. securities, including selected money market instruments, as of June 2002 is being conducted by the U.S. Treasury Department.<sup>8</sup> Major custodians and issuers of securities are being asked to provide a security-by-security enumeration of foreign holdings of U.S. debt and equity instruments and of selected money market instruments. The sample survey results will be expanded to universe estimates based on results from the March 2000 benchmark survey. The liabilities surveys will be conducted annually except in every fifth year, when a full-scale benchmark survey will be conducted. More frequent information about foreign holdings of U.S. securities will enable BEA to avoid large differences that accumulate between infrequent benchmark surveys and to improve both the international transactions accounts and the international position accounts. The U.S. Treasury Department has also committed to conducting annual portfolio investment asset surveys that will be similar to the annual portfolio investment liabilities surveys.

**U.S. direct investment abroad at market value.** The estimates of U.S. direct investment abroad at market value for 1993–2000 have been revised to incorporate improved source data that more accurately revalue a portion of transactions to yearend amounts. The impact of this revision is smaller in earlier years and larger in later years.

8. Department of the Treasury, Federal Reserve Bank of New York, Board of Governors of the Federal Reserve System, *Foreign Residents’ Holdings of U.S. Securities, Including Selected Money Market Instruments*.