

a net to a gross basis so as to better highlight the total international flow of resources. Many of these changes increase the consistency between the U.S. national and international accounts and between the U.S. international accounts and the international accounts of other nations. The changes are directly responsive to efforts by the United Nations and the International Monetary Fund (IMF) to harmonize statistical standards around the world.

Major statistical changes introduced in this year's revisions include the expanded use of data provided by other countries, such as source data on travel from Mexico and Canada and source data on capital stocks and flows from the United Kingdom and Canada. With the increasing integration of world markets, it has become increasingly clear that such data exchanges between countries can significantly improve statistical quality and reduce respondent burden. Some of these source data improvements are in response to recommendations by an IMF working group on ways to improve U.S. capital flow data. Other statistical changes include improved methods for estimating personal remittances by the foreign-born population in the United States and improved methods for estimating income yields on U.S. and foreign assets.

### Revised Estimates, 1976-91

As is customary each June, the estimates of U.S. international transactions have been revised to incorporate definitional, conceptual, and statistical changes. This year, a number of substantial changes result in revisions that extend back 10 years or more. Several of these changes involve improvements in source data and methodologies that reflect the "1992 Economic Statistics Initiative."<sup>3</sup>

Major definitional and conceptual changes introduced in this year's revisions include the following: The adjustment of direct investment income to a current-cost (replacement-cost) basis and to remove capital gains and losses; and the restatement of various categories of services from

#### Acknowledgments

The estimates were prepared under the general direction of Anthony DiLullo, with the assistance of Cynthia McPherson. Joan Bolyard and Laura Brokenbaugh prepared the new estimates on Canadian and Mexican travel, Ed Dozier on passenger fares and other transportation, and John Sondheimer on selected services. William McCormick prepared the new estimates on cruise travel and remittances of the foreign-born population. Ann Lawson, Dannelet Teske, and the Special Studies Branch of the Balance of Payments Division prepared the restatement of direct investment to a current-cost basis and the new estimates of nonresident taxes. Lori Trawinski prepared the new estimates for foreign securities, and Christopher Gohrband the new estimates on U.S. nonbank claims on foreign banks. Harlan King and Mike Mann prepared the new estimates of dividend receipts on foreign stocks, and Barbara Cohen and Dena Holland the new estimates of income receipts and payments on banks' foreign currency liabilities and claims. The revised estimates of direct investment income and capital flows and the benchmark survey of selected services were prepared under the general direction of Betty Barker, Chief of the International Investment Division; Jeffrey Lowe oversaw all aspects of the revisions, with the assistance of the staff of the International Investment Division.

3. See "Improving the Quality of Economic Statistics: The 1992 Economic Statistics Initiative," SURVEY OF CURRENT BUSINESS 71 (March 1992): 4.

Most of the revisions are carried back to 1982, and some are carried back even further. The revisions to exports, imports, unilateral transfers, and the balance on current account are shown in table F; table G shows the sources of revisions for 1991 by account.

Table 1 presents revised annual estimates of U.S. international transactions for 1960-91 and revised quarterly estimates (both unadjusted and adjusted for seasonal variation) for 1978-91. Table 2 presents revised annual merchandise trade estimates for 1978-91 and revised quarterly estimates for 1990-91. Tables 3-10 present revised account and area detail for annual estimates for 1989-91 and revised quarterly estimates for 1990-91. The presentation of direct investment in table 5 is changed to highlight the new treatment of direct investment income and to assist data users who are familiar with direct investment operations in contexts other than in a balance of payments framework.

Quarterly seasonally adjusted series are revised to incorporate updated seasonal adjustment factors. The seasonal factors are recomputed by extending through 1991 the period used to derive them. For series that are redefined, seasonal factors are reestimated from the point at which the change was introduced.

### Summary of the revisions

**Exports.**—For 1982-91, the average annual growth rate of the revised estimates of exports of goods, services, and investment income is 7.7 percent, 0.3 percentage point higher than the growth rate of the previously published estimates (table E). Growth in investment income and in services were both revised up; growth in merchandise exports was not revised. For investment income,

the average annual growth rate was revised up 0.8 percentage point to 4.2 percent. The upward revision was largely due to the incorporation of (1) improved source data and methodologies for estimating income on portfolio investments abroad, (2) new estimates of income on banks' foreign-currency-denominated assets, and (3) new source data for estimating income on U.S. nonbanking concerns claims on foreign banks. The change to present direct investment income before deduction on nonresident taxes also contributed to the revision of the growth rate.

For services, the average annual growth rate was revised up 0.6 percentage point to 11.0 percent. The revision was mainly in travel, passenger fares, and other private services. In travel, the revision was due to improved and updated source data from Statistics Canada and the Bank of Mexico; in passenger fares, to improved survey data on inter-airline passenger settlements; and in other private services, to the incorporation of the results from a benchmark survey of selected services. The introduction of gross recording for various service transactions also contributed to the revision of the growth rate.

Table E.—Merchandise Trade: Revised Rates of Change for 1982-91

	Percent		Percentage point Revision in change
	Previous	Revised	
Exports of goods, services, and income .	7.4	7.7	0.3
Merchandise, excluding military .....	7.8	7.8	0
Services .....	10.4	11.0	.6
Income receipts on investments .....	3.4	4.2	.8
Imports of goods, services, and income .	8.0	8.1	.1
Merchandise, excluding military .....	7.9	7.9	0
Services .....	9.7	9.6	-.1
Income payments on investments .....	7.1	7.6	.5

Table F.—Historical Revisions

(Millions of dollars)

	Exports of goods, services, and income			Imports of goods, services, and income			Unilateral transfers			Balance on current account		
	Previous	Revised	Amount of revision	Previous	Revised	Amount of revision	Previous	Revised	Amount of revision	Previous	Revised	Amount of revision
1976 .....	172,002	172,090	88	-162,109	-162,109	.....	-5,686	-5,686	.....	4,207	4,295	88
1977 .....	184,479	184,655	176	-193,764	-193,764	.....	-5,226	-5,226	.....	-14,511	-14,335	176
1978 .....	220,230	220,516	286	-229,869	-229,870	-1	-5,788	-5,788	.....	-15,427	-15,143	284
1979 .....	287,261	287,965	704	-281,659	-281,657	2	-6,593	-6,593	.....	-991	-285	706
1980 .....	343,241	344,440	1,199	-333,774	-333,774	.....	-8,349	-8,349	.....	1,119	2,317	1,198
1981 .....	379,414	380,928	1,514	-364,192	-364,196	-4	-8,331	-11,702	-3,371	6,892	5,030	-1,862
1982 .....	356,060	361,436	5,376	-352,154	-355,804	-3,650	-9,775	-17,075	-7,300	-5,868	-11,443	-5,575
1983 .....	343,877	351,613	7,736	-374,065	-377,495	-3,430	-9,956	-17,741	-7,785	-40,143	-43,623	-3,480
1984 .....	379,318	391,435	12,117	-465,703	-469,647	-3,944	-12,621	-20,612	-7,991	-99,006	-98,824	182
1985 .....	366,049	380,051	14,002	-472,908	-478,821	-5,913	-15,473	-22,950	-7,477	-122,332	-121,721	611
1986 .....	384,135	398,583	14,448	-513,519	-521,937	-8,418	-16,009	-24,176	-8,167	-145,393	-147,529	-2,136
1987 .....	431,890	445,216	13,326	-577,418	-585,637	-8,219	-14,674	-23,052	-8,378	-160,201	-163,474	-3,273
1988 .....	533,441	550,323	16,882	-644,735	-652,109	-7,374	-14,943	-24,869	-9,926	-126,236	-126,656	-420
1989 .....	606,593	629,468	22,875	-697,407	-705,005	-7,598	-15,491	-25,606	-10,115	-106,305	-101,143	5,162
1990 .....	652,936	680,890	27,954	-722,730	-738,401	-15,671	-22,329	-32,916	-10,587	-92,123	-90,428	1,695
1991 .....	676,498	704,914	28,416	-704,842	-716,624	-11,782	19,728	8,028	-11,700	-8,616	-3,682	4,934

*Imports.*—For 1982–91, the average annual growth rate of imports was revised up 0.1 percentage point to 8.1 percent. An upward revision in the growth of investment income was partly offset by a downward revision in the growth of services; growth of merchandise imports was not revised.

For investment income, the average annual growth rate was revised up 0.5 percentage point to 7.6 percent. The revision was mainly due to new estimates of income on banks' foreign-currency-denominated liabilities. The change to present direct investment income before deduction of nonresident taxes also contributed to the revision of the growth rate.

For services, the average annual growth rate was revised down 0.1 percentage point to 9.6 percent. The revision reflected changes in travel, passenger fares, and other private services due to new source data, improved surveys, and the selected services benchmark survey. The introduction of gross recording for various service transactions also contributed to the revision of the growth rate.

*Unilateral transfers.*—Net unilateral transfers were revised up substantially throughout the 1982–91 period. The average annual revision was \$8.6 billion. The upward revisions were the result of improved estimates of personal remittances by the foreign-born population in the United States and the inclusion of an item in unilateral transfers for net taxes paid by U.S. residents to foreign governments.

*Balance on current account.*—The pattern of the balance on current account since 1982 is not greatly altered on the revised basis. The peak year for the U.S. current-account deficit remains 1987; however, the level of the current-account deficit is raised somewhat for 1982–87 and is reduced somewhat for 1987–91.

*Capital flows and errors and omissions.*—Capital inflows to the United States were revised significantly in some years, but over 1982–91, these revisions are largely offsetting. The statistical discrepancy was also revised significantly in some years; over 1982–91, there continues to be large unrecorded net inflows.

#### Major sources of revisions

The major sources of the revisions to the U.S. international accounts are the following:

- *Definitional changes.* The lines for royalties and license fees and for other private services

have been redefined to present transactions on a *gross* basis for both exports and imports; previously, these transactions were presented on a *net* basis. In addition, the lines for royalties and license fees, other private services, and direct investment income have been redefined to record transactions *before* deduction of nonresident taxes withheld; previously, these transactions were presented *after* deduction of taxes withheld. New estimates of nonresident taxes withheld are introduced.

Table G.—Sources of Revisions, 1991, and Beginning Dates for Revisions

[Billions of dollars]

(Credits +; debits -) <sup>1</sup>	Exports and changes in U.S. assets	Imports, unilateral transfers, and changes in foreign assets	Beginning dates for revisions
Services, previous .....	144.7	-108.8	
Travel—Mexico .....	1.2	1.6	1984
Travel—Canada .....	1.9	.....	1990
Travel and passenger fares—cruise .....	0.2	-0.7	1984
Passenger fares—interline settlements .....	2.0	-1.6	1990
Other transportation—rail transport .....	0.5	.....	1986
Other private services—benchmark survey .....	2.1	-1.1	1991
Gross recording:			
Royalties and license fees .....	0.5	-0.5	1982
Other private services .....	9.2	-9.2	1982
Nonresident taxes:			
Royalties and license fees .....	0.9	-0.2	1982
Other private services .....	.....	-0.1	1982
Statistical changes <sup>2</sup> .....	0.4	2.3	
Services, revised .....	163.6	-118.3	
Direct investment income, previous .....	51.8	-0.4	
Current-cost adjustment .....	-1.1	1.1	1982
Capital gains and losses .....	-2.3	1.9	1982
Nonresident taxes .....	1.3	-0.4	1982
Statistical changes <sup>2</sup> .....	-0.5	1.5	
Direct investment income, revised .....	49.2	3.7	
Portfolio investment income, previous .....	56.0	-66.7	
Dividend receipts on U.S. holdings of foreign stocks .....	2.2	.....	1976
Interest receipts on U.S. holdings of foreign bonds .....	1.4	.....	1980
Interest receipts and payments on U.S. banks' claims and liabilities denominated in foreign currencies .....	2.1	-5.4	1986
Interest receipts on U.S. nonbanking concerns' claims on foreign banks .....	6.1	.....	1979, 1983, and 1984
Nonresident taxes on dividends and interest .....	.....	-0.2	1982
Statistical changes <sup>2</sup> .....	0.2	-1.3	
Portfolio income, revised .....	68.0	-73.6	
Unilateral transfers, net, previous .....	.....	19.7	
Nonresident taxes .....	.....	-4.3	1982
Personal remittances of the foreign-born population .....	.....	-6.9	1981
Statistical changes <sup>2</sup> .....	.....	-0.5	
Unilateral transfers, net, revised .....	.....	8.0	
Direct investment capital, previous .....	-29.5	22.2	
Current-cost adjustment .....	1.1	-1.1	1982
Capital gains and losses .....	2.3	-1.9	1982
Statistical changes <sup>2</sup> .....	-1.0	-7.7	
Direct investment capital, revised .....	-27.1	11.5	
Foreign securities, previous .....	-46.2	.....	
Redemptions of foreign bonds .....	2.4	.....	1980
Transactions in outstanding bonds .....	-2.4	.....	1980
Statistical changes <sup>2</sup> .....	1.2	.....	
Foreign securities, revised .....	-45.0	.....	
U.S. nonbanking concerns' claims, previous .....	-8.2	.....	
U.S. nonbanking concerns' claims on banks .....	11.8	.....	1979, 1983, and 1984
Statistical changes <sup>2</sup> .....	1.9	.....	
U.S. nonbanking concerns' claims, revised .....	5.5	.....	

1. Credits +: Exports of goods, services, and income; unilateral transfers to the United States; capital inflows (increase in foreign assets (U.S. liabilities) or decrease in U.S. assets).  
Debits -: Imports of goods, services, and income; unilateral transfers to foreigners; capital outflows (decrease in foreign assets (U.S. liabilities) or increase in U.S. assets).

2. Statistical changes reflect newly available data from regularly used sources.

- *Services.* New estimates are introduced for travel, passenger fares, and other transportation. The estimates of other private services reflect the incorporation of benchmark survey results for 1991.
- *Direct investment income.* This income is now measured on a current-cost (replacement-cost) basis after adjustment to reported depreciation, depletion, and expensed exploration and development costs; previously, direct investment income was measured on a historical-cost basis. In addition, capital gains and losses are removed from direct investment income. (Currency translation gains and losses had previously been removed).
- *Portfolio investment income.* New estimates are introduced for several components of portfolio income.
- *Unilateral transfers.* New estimates of non-resident taxes withheld are introduced and entered as offsets to entries in the service and investment income accounts. In addition, new estimates are introduced for personal remittances of the foreign-born population of the United States.
- *Direct investment capital.* Reinvested earnings are adjusted to offset changes made in direct investment income. They are now measured on a current-cost (replacement-cost) basis, and they now exclude capital gains and losses.
- *Foreign securities.* New estimates are introduced for redemptions of foreign bonds and for transactions in outstanding foreign bonds.
- *U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns.* New estimates are substituted to more accurately record changes in U.S. nonbanking concerns' claims on foreign banks.

#### Definitional changes

*Gross recording.*—Until now, the transactions of direct investors in royalties and fees and in other private services with affiliated foreigners have been presented on a net basis in table 1—that is, receipts and payments have been netted against each other and entered as exports for U.S. direct investors and as imports for foreign direct investors in the United States. Effective with this revision, these transactions are presented on a gross basis—that is, all receipts for royalties and fees and for other private services are now

recorded as exports, regardless of whether they are receipts of U.S. or foreign direct investors, and all payments are now recorded as imports, also regardless of whether they are payments of U.S. or foreign direct investors. This change is made for estimates beginning with 1982. Although gross exports and imports are changed significantly, the current-account balance is unaffected by this change.

For transactions in direct investment income with affiliated foreigners, dividends have previously been recorded gross in table 1 and remain so. An exception to the gross recording principle is made for interest income, which will continue to be recorded net as at present. Thus, interest receipts and payments on U.S. direct investment abroad will continue to be netted against one another and the net amount recorded as exports, and interest receipts and payments on foreign direct investment in the United States will continue to be netted against one another and the net amount recorded as imports. The rationale is that net interest income, for some purposes, must be related to the direct investment position estimates to measure the cost of debt capital; it would be impossible to make such a comparison if the interest income estimates were presented on a gross basis.

Users should also note that royalties and fees, other private services, and direct investment interest income will continue to be presented net (as they have been previously) in table 5. This table serves the supplementary purpose of presenting the combined activity of direct investors outside of the balance of payments framework.

*Nonresident taxes.*—Until now, estimates for several components of the current account have been presented after deduction of nonresident taxes withheld by either the U.S. Government or foreign governments. These components include royalties and fees, other private service payments, direct investment income (both dividends and interest), and portfolio dividend payments. Effective with this revision, these components are presented before deduction of nonresident taxes withheld. Offsetting entries for nonresident taxes withheld are made in the unilateral transfers account. The change is made beginning with estimates for 1982 and is made to both the receipts and payments sides of the accounts. Because it is not possible to prepare precise regional and country-specific information for the taxes withheld, no geographic allocation of taxes is made in table 10; in that table, the aggregate amount of taxes withheld by account is entered in

the "international organizations and unallocated" column.

Source data for most of the estimates of taxes withheld are obtained from the Internal Revenue Service. An exception is taxes withheld on direct investment dividends, which are reported to BEA on its direct investment surveys. For the most recent years, BEA prepares estimates of taxes withheld.

### Services

*Travel—Mexico.*—Bilateral travel payments and receipts between the United States and Mexico have until now been estimated independently by the two countries. However, some of BEA's estimates are based on outdated surveys, and other key source data are believed to be erroneous. Therefore, in consultation with balance of payments statisticians at the Bank of Mexico and after a careful evaluation of the strengths and weaknesses of the Mexican estimates, BEA has accepted the Mexican estimates and will substitute them into the U.S. accounts. The Mexican estimates are substituted beginning with 1984.

BEA has for many years incorporated key sub-components of the Mexican estimates, particularly for U.S. payments associated with travel to the Mexican interior. However, a major change that comes with full-scale substitution is a significant reduction in the estimated number of U.S. travelers to the Mexican border area and, thus, in the estimates of U.S. expenditures there. The previously used U.S. source data are believed to have overstated the number of U.S. travelers by a significant margin.

On the U.S. receipts side of the accounts, BEA had previously used the Mexican estimates for border-area transactions. The adoption of Mexican estimates of expenditures in the U.S. interior shows significantly more expenditures than did the U.S. estimates, which were based on outdated surveys.

The revisions lower U.S. payments \$1.6 billion and increase U.S. receipts \$1.2 billion for 1991.

*Travel—Canada.*—Canadian authorities have substantially revised their estimates of Canadian expenditures in the United States for 1990 and 1991 to account for the surge in Canadian expenditures here, particularly in the area just south of the U.S.-Canadian border. Economic conditions conducive to making consumer purchases in the United States, as well as the introduction of a new goods and services tax at the beginning of 1991, encouraged these expenditures, which previously

were grossly underestimated. These expenditures include purchases of used automobiles amounting to \$193 million in 1990 and \$310 million in 1991, which are not recorded in the merchandise trade statistics of either country. The revisions increase U.S. receipts (Canadian expenditures) \$1.4 billion for 1990 and \$1.9 billion for 1991.

*Travel and passenger fares—cruise.*—New estimates of U.S. international cruise transactions are introduced beginning with 1984. The estimates are derived from information on passenger fares, discounts, commissions, number of passengers who travel on foreign cruise lines, and foreign ship operators. The estimates are divided into three components: Fares, on-board spending, and passengers' expenditures at ports of call, and each is estimated separately for both receipts and payments. Fares are entered in the passenger fare accounts, and on-board spending and passengers' expenditures at ports of call in the travel accounts. The estimates are limited to activity in the North American market (those along the Atlantic and Pacific coasts of North America) plus the Caribbean and Hawaii. Residency of the operator is determined by the location of a company's headquarters for cruise operations.

Payments to foreigners for fares were \$280 million in 1991; for on-board spending, \$67 million; and for spending in foreign ports, \$299 million. Receipts from foreigners for fares were \$156 million in 1991; for on-board spending, \$31 billion; and for expenditures in U.S. ports, \$23 million. The net impact on the passenger fare and travel accounts is to increase net payments \$436 million for 1991.

*Passenger fares—interline settlements.*—Passenger fare receipts and payments are revised to include new estimates of interline settlements between U.S. and foreign airlines beginning with 1990. Receipts from these transactions occur when passengers purchase tickets on foreign airlines but must transfer to U.S. airlines to reach their final destinations; in such cases, a portion of the total fare paid initially to foreign airlines is subsequently assigned to U.S. airlines in the settlement process. Payments occur when passengers purchase tickets on U.S. airlines but must transfer to foreign airlines, in which case a portion of total fares paid initially to U.S. airlines is assigned to foreign airlines in the settlement process.

Source data are obtained from BEA Form BE-37, "U.S. Airline Operators' Foreign Revenues and Expenses." On this form, U.S. airlines are asked to separately identify interline settlements and to

report them quarterly. Allocations of receipts and payments by major country or area are developed by BEA from estimates of international travel receipts and payments. As a result of the new estimates, receipts are increased \$2.0 billion, and payments \$1.6 billion, for 1991. It is not possible to construct estimates of receipts and payments prior to 1990 because of the lack of survey data.

*Other transportation—rail transport.*—Other transportation receipts are revised to include new estimates of U.S. rail carriers' revenues for transporting foreign-owned goods shipped in transit in the United States beginning with 1986. These shipments consist mainly of containerized goods that arrive by ship at U.S. ports and that are then hauled by rail to another U.S. port for transport to final destinations in other countries. Such shipments are often referred to as "landbridge" shipments.

Source data are obtained from the Interstate Commerce Commission (ICC) and the U.S. Department of Transportation (DOT). Sample data on freight revenues and shipping weights are obtained from railroad waybills and are expanded by ICC and DOT to cover all such shipments. The data are adjusted by BEA to exclude transactions of U.S. ship operators with U.S. rail carriers for the shipment of foreign-owned goods. Allocations of revenues by major country or area are developed by BEA from Census Bureau data on in-transit exports and imports.

As a result of the revision, receipts are increased \$475 million in 1991.

*Other private services—benchmark survey.*—Estimates of other private services have been revised to incorporate preliminary results from the benchmark survey of selected transactions with unaffiliated foreigners for 1991. The previous benchmark survey covered 1986. As a result of the new benchmark survey, other private services receipts are increased \$2.1 billion, and payments \$1.1 billion, for 1991.

The coverage of the benchmark survey was expanded by introducing a new exemption criterion, and by adding new types of services.

On the benchmark survey for 1991, the basis for qualifying for exemption was changed from a per-transaction basis to an overall basis; respondents were required to report all sales or purchases with unaffiliated foreigners for any covered service for which total transactions exceeded \$500,000. On the 1986 benchmark survey and on the annual surveys for 1987–90, respondents were only required to report individual

transactions in excess of \$250,000. The new basis for exemption resulted in more complete coverage of services for which individual transactions tended to be small but for which the total value of transactions may have been sizable. In particular, coverage of legal services and of database and other information services was significantly enhanced.

One new services group covered by the 1991 benchmark survey was "miscellaneous disbursements," which include outlays to fund newsgathering costs of broadcasters and the print media; production costs of motion picture companies and companies engaged in the production of broadcast program material other than news; and costs of maintaining tourism, business promotion, sales, and representative offices, including costs for participating in foreign trade shows. Another newly covered service was payments for the use or lease of rights to natural resources, such as oil, or of mining production royalties and lease payments.

#### *Direct investment income*

*Current-cost adjustment.*—Effective with this revision, direct investment income (and the reinvested earnings component of direct investment capital) is measured on a current-cost (replacement-cost) basis after adjustment to reported depreciation, depletion, and expensed exploration and development costs. This adjustment is made primarily to ensure that these charges reflect current-period prices, as well as to more closely align income earned in a given period with charges against income in the same period, as required by economic accounting principles. The amount of the adjustment is the difference between depreciation, depletion, and expensed exploration and development costs valued for financial accounting purposes and their values on a current-cost (replacement-cost) basis, as required for the national and international economic accounts. The restatement of income begins with estimates for 1982.

Previously, direct investment income was based on U.S. generally accepted accounting principles (GAAP), which companies use as the basis for reporting data to BEA. Under U.S. GAAP, depreciation is valued in terms of the historical costs of assets and reflects a mix of prices for the various years in which capital investments were made. This is not the proper concept for measuring production and charges against production from an economic accounting perspective. From this perspective, these charges should be valued in

prices of the current period. Accordingly, a capital consumption adjustment is made to income estimated from BEA surveys so that depreciation will be stated in prices of the current period.

The method used to estimate depreciation on a current-cost (replacement-cost) basis is the same as that used in BEA's estimates of U.S. fixed reproducible tangible wealth; however, unlike those estimates, no inventory valuation adjustment is attempted in the international accounts.<sup>4</sup>

Another adjustment is made for depletion. Under U.S. GAAP, depletion—which is a charge for using up natural resources—is expensed over several accounting periods as natural resources are extracted or developed. However, from an economic accounting perspective, depletion is not a cost of production. Accordingly, an adjustment is made to remove the depletion reported on BEA surveys from current-period income.

A final adjustment is made for expensed exploration and development costs. Under U.S. GAAP, certain expenditures for mining exploration, shafts, and wells can be charged as current expenses. For economic accounting purposes, these expenses should be treated as capital formation and written off over their economic lives. Accordingly, an estimate of these expenses is removed from income estimates derived from BEA surveys.

In 1991, the current-cost adjustment for depreciation, depletion, and expensed exploration and development costs lowered income receipts on U.S. direct investment abroad \$1.1 billion and increased income losses on foreign direct investment in the United States \$1.1 billion. Because no geographic allocation is possible, the adjustment is entered in the "international organizations and unallocated column" in table 10.

*Capital gains and losses.*—Capital gains and losses are removed from the reinvested earnings component of direct investment income accounts beginning with estimates for 1982. The change is made to both the inward and outward direct investment accounts because capital gains and losses are not income (or returns) on investments from current operations but are part of the value of the investments (or capital). Capital gains and losses associated with currency translation gains and losses had previously been removed from U.S. direct investment abroad income and capital.

*Nonresident taxes.*—New, separate estimates of nonresident taxes withheld are made for both direct investment interest and dividends for both receipts and payments. The estimates are based on data from the Internal Revenue Service and on estimates by BEA, as well as on data reported to BEA for dividends; they are made beginning with 1982. Income is presented before deduction of these taxes paid by investors; previously it was presented after deduction of taxes. Offsetting entries for taxes withheld are made in the unilateral transfers account. Estimates of taxes withheld now included in the direct investment income accounts were \$1.3 billion in U.S. tax receipts and \$0.4 billion in U.S. tax payments for 1991.

#### *Portfolio investment income*

*Dividend receipts on U.S. holdings of foreign stocks.*—New estimates of dividend receipts on U.S. holdings of foreign stocks are introduced, based on a new estimating methodology that applies updated dividend yields by major countries to outstanding U.S. holdings of stocks in those countries. The previous methodology was based on a cumulated flow of dividend receipts from an outdated benchmark survey and outdated dividend rates, both of which severely underestimated the flow of dividend receipts to the United States. Use of more recently determined position estimates and variable dividend rates corrects much of the underestimate.

Several adjustments are made to improve the position estimates by country and by area to more clearly identify the nationality of foreign stock holdings before the application of dividend yields. This permits a more accurate derivation of the geographic source of dividends than has been previously possible. However, the country and area position estimates may still contain an element of significant error because of the lack of a recent benchmark survey of holdings. A comprehensive benchmark survey is currently planned for December 1993, with preliminary results expected to be available in 1995. Lacking such a benchmark survey, changes have only been made in the geographic distribution of the U.S. investments abroad, and no changes have been made in the overall position.

The position estimates are redistributed and revalued based on country- and area-specific information on stock holdings, transactions, and stock prices. The redistributed estimates differ significantly from the previously published positions, which reflected data on cumulated flows

4. J. Steven Landefeld and Ann M. Lawson, "Valuation of the U.S. Net International Investment Position," SURVEY OF CURRENT BUSINESS 71, May 1991. U.S. Department of Commerce, Bureau of Economic Analysis, *Fixed Reproducible Wealth in the United States, 1925-85* (Washington, D.C.: U.S. Government Printing Office, June 1987).

based on country of transactor rather than country of issuer (and payer of dividends). The largest redistributions were from financial centers in the United Kingdom and the Caribbean, where trading in nonresident stocks is particularly prevalent.

Dividend receipts are derived by applying new country- and area-specific stock yields to the revised position estimates to produce revised country, area, and global estimates. These dividend receipts are presented before deduction of taxes withheld in the income account, with an offsetting entry for taxes withheld in the unilateral transfers account.

The new estimates are made for 1976 forward and result in significant revisions to both global dividend receipts and to the geographic distribution of those receipts. For 1991, dividend receipts are increased from \$1.9 billion to \$4.1 billion. By geographic area, the largest changes were with Canada and the original six members of the European Community.

*Interest receipts on U.S. holdings of foreign bonds.*—Interest receipts on bonds are revised as a result of new estimates of foreign bond redemptions and transactions of outstanding bonds introduced in the capital accounts. The changes in the capital account were made to correct an incomplete identification of bond redemptions and to restate transactions in outstanding bonds. The revisions were made beginning with 1980.

In addition, new estimating methodologies to determine interest yields are introduced. These new interest yields permit the estimation of interest receipts on bonds on a much more detailed level by country and area than previously possible for each component of the foreign bonds account.

Interest receipts are presented before deduction of nonresident taxes withheld in the income account, with an offsetting entry for taxes withheld in the unilateral transfers account.

For 1991, the revisions increase interest receipts \$1.4 billion.

*Interest receipts and payments on U.S. banks' claims and liabilities denominated in foreign currencies.*—New estimates are introduced of interest income received and paid on U.S. banks' claims and liabilities denominated in foreign currencies. Although the amounts of foreign-currency-denominated claims are small relative to those denominated in dollars, only partial estimates of interest receipts were previously included in the accounts. The estimates are made beginning with

1986. For 1991, the result was to increase interest receipts on foreign-currency-denominated claims \$2.1 billion, to \$5.7 billion, and to increase interest payments on foreign-currency-denominated liabilities \$5.4 billion.

*Interest receipts on U.S. nonbanking concerns' financial claims on unaffiliated foreign banks.*—

Interest receipts are reestimated based on new source data from Canada, the United Kingdom, and the Federal Reserve Board on U.S. nonbanking concerns' financial claims on unaffiliated foreign banks. The substitution of these new estimates in the capital account necessitated this revision of interest receipts in the current account. The methodology used to make the reestimates is unchanged from that used previously. The reestimates are made beginning with 1979 for Canadian receipts, 1983 for British receipts, and 1984 for receipts from the Bahamas and British West Indies (Cayman Islands). For 1991, the result was to add \$6.1 billion to interest receipts.

*Nonresident taxes.*—New, separate estimates of nonresident taxes withheld are made for both portfolio interest and dividends and for both receipts and payments. The estimates are based on data from the Internal Revenue Service and on estimates by BEA; they are made beginning with 1982. Income is presented before deduction of these taxes paid by investors, as it was previously, with the exception of dividend payments, which were previously presented after deduction of taxes. Estimates of taxes withheld now included in the portfolio accounts are \$3.7 billion in tax receipts and \$1.2 billion in tax payments. Offsetting entries are made in the unilateral transfers account.

#### *Unilateral transfers*

*Nonresident taxes.*—New entries are made as offsets to the value of nonresident taxes introduced in several service and investment income components of the current account. New estimates of taxes withheld are introduced for royalties and fees, other private services, direct investment income (both dividends and interest) and portfolio income (both dividends and interest) beginning with estimates for 1982. Estimates are made for both receipts and payments.

Taxes paid by U.S. private residents to foreign governments are recorded as transfer payments to foreign governments in table 1, line 32. Taxes paid by private nonresidents to the U.S. Government are recorded as transfer receipts and are



netted against payments in the same line. The net amount is a component of the "other transfers" part of the line, which is redefined to include transactions of both private individuals and governments. The recording of these transactions as a single net amount is consistent with other entries in the unilateral transfers account, which are normally presented on a net basis by type of transaction.

Although both the credit and the debit entries are within the current account and are therefore offsetting, the excess of payments over receipts results in the addition of net payments to the unilateral transfers account. Unilateral transfers now include tax payments of \$6.1 billion and tax receipts of \$1.8 billion for 1991.

*Personal remittances of the foreign-born population.*—New estimates of personal remittances of the foreign-born population of the United States are introduced beginning with 1981. The estimates are based on population characteristics of the foreign-born population extracted from the 1980 Census of Population, 1981–90 immigration data from the Immigration and Naturalization Service, and Census estimates of the annual flow of undocumented aliens. A simulation model based on family status, age, and length of U.S. residency forecasts demographic changes in the size and composition of the foreign-born population over the decade. Census records also provide income levels for the foreign-born population, arrayed by family status and duration of U.S. residency.

These data are combined with data on dollar remittances of the foreign-born population from a sample survey of legalized aliens conducted by the Immigration and Naturalization Service for 1987. The data show that the proportion of income remitted is significantly higher for persons from developing countries than from developed countries, that the proportion of income remitted is highest in the initial years of residency in the United States and drops sharply thereafter, and that the proportion of income remitted is higher for single than for married foreign-born persons.

Outward personal remittances of the foreign-born population in the United States were \$6.9 billion in 1991. The new estimates, which replace the previous estimates, result in the addition of \$6.5 billion in personal remittances to the accounts for 1991. These new estimates do not cover inward remittances of the foreign-born based on income, or transfers of assets into or out of the country at the time of migration, all of which should in principle be included in the accounts.

A lack of source data prevents the preparation of such estimates.

### *Direct investment capital*

*Current-cost adjustment.*—Effective with this revision, the reinvested earnings component of direct investment capital is measured on a current-cost (replacement-cost) basis after adjustment to reported depreciation, depletion, and expensed exploration and development costs. This adjustment is the offset to changes made in direct investment income. For 1991, the adjustment reduced U.S. direct investment abroad capital outflows \$1.1 billion and reduced foreign direct investment capital inflows \$1.1 billion.

*Capital gains and losses.*—Effective with this revision, capital gains and losses are removed from the reinvested earnings component of direct investment capital. This adjustment is the offset to changes made in direct investment income.

*Equity capital.*—A new methodology is introduced to account for equity increases and decreases of delinquent reporters on both sides of the accounts, beginning with estimates for 1990. Previously, the preliminary estimates of equity capital increases and decreases for both foreign direct investment in the United States and U.S. direct investment abroad have persistently understated the flows eventually provided by quinquennial benchmark surveys. Although successive annual revisions bring the published estimates closer to benchmark estimates, a large number of quarters and years may elapse before these capital flows are accurately recorded in the transactions accounts. This understatement has been largely due to the lack of a methodology to account for delinquent reporters.

The new procedure creates a ratio of the current quarter's reported equity capital flows (including reported births of new affiliates and information from several BEA surveys) to the prior quarter's equity positions of all affiliates who reported in the current period. This ratio is multiplied by the equity position in the prior quarter of affiliates that did not report in the current quarter (after deduction of the equity position in the prior quarter of affiliates exempt from reporting). The result is added to the current quarter's reported flows to derive total equity increases and decreases.

This expansion is performed only on aggregate data. The estimated equity flows are then allocated to the largest country and industry

cells—that is, those accounting for about 75 percent of the total equity position at the end of the previous year.

#### *Foreign securities*

*Redemptions of non-Canadian foreign bonds issued in the United States.*—Until now, these redemptions have been identified only incompletely. It has been possible to substantially improve this estimate by reexamining the information made available at the time each bond was originally issued. For nearly all years since 1980, the new series on redemptions substantially exceeds the old, reflecting the incomplete coverage of the previous estimates. For 1991, redemptions were \$7.4 billion on the new basis, up from \$5.0 billion on the old basis. Interest income received from foreign bonds was also reduced to reflect the larger amount of redemptions.

*Transactions in outstanding bonds.*—Because the newly constructed series on redemptions is subtracted from total transactions in foreign securities, which is unchanged, a revised series on transactions in outstanding bonds is also introduced. For 1991, transactions in outstanding bonds were \$1.3 billion in net U.S. purchases on the new basis, in contrast to \$1.1 billion in net U.S. sales on the old basis. The new data on country of issuer also made it possible to extend to 1980–87 a more detailed application of interest rates by major country; this more detailed application had previously been used for 1988–91 transactions.

#### *U.S. nonbanking concerns' claims on unaffiliated foreigners*

*U.S. nonbanking concerns' claims on unaffiliated foreign banks.*—Claims on unaffiliated foreigners reported by U.S. nonbanking concerns are revised to substitute key foreign source data for data previously published. The substitution was made because of major problems in the adequacy of coverage of certain capital transactions by nonbank reporters in the U.S. statistical reporting system. Statistical reports on nonbanking concerns' capital transactions with unaffiliated foreigners are returned by only a few hundred large corporations, whereas the universe of potential reporters is believed to be close to 1,000. U.S. compilers are taking steps to enhance the coverage of the U.S. nonbank reporting system, but these steps are expected to take several years.

As one interim measure, it is possible to gauge the amount of undercoverage of one class of

transactions—U.S. nonbanking concerns' claims on unaffiliated foreign banks—by looking at counterparty data collected by key financial partners abroad on liabilities owed by their banks to U.S. nonbanking concerns. In this year's revisions, banking data from the United Kingdom and Canada have been utilized to improve U.S. capital transactions and position data. Together with data on the Caribbean area, which is discussed below, these three areas account for a large share of U.S. nonbanking concerns' claims on unaffiliated foreign banks. Adjustments have been made to the British and Canadian data to match various subcomponents in the U.S. statistical system. Canadian bank-reported liabilities to U.S. nonbanks, after removal of floating-rate notes, marketable securities issued by banks in Canada, and Canadian-issued negotiable CD's, closely approximate what should be reported by U.S. nonbank residents as deposits and other financial claims (in both U.S. dollars and foreign currencies). British bank-reported liabilities to U.S. nonbanks—the sum of time, sight, and negotiable deposits owned by U.S. nonbanks, plus British banks' custody holdings of negotiable CD's and British Treasury bills—closely approximate what should be reported by U.S. nonbank residents as deposits and other financial claims (in both U.S. dollars and foreign currencies). Thus, these data collected by foreign authorities have been substituted for those collected by U.S. authorities until more comprehensive reporting can be implemented by U.S. compilers. A lack of comparability in statistical reporting systems makes more extensive substitution impossible at the present time.

As another interim measure, data collected by the U.S. Federal Reserve System on liabilities of foreign branches of U.S. banks in the Bahamas and British West Indies (Cayman Islands) to U.S. nonbanks closely approximate what should be reported by U.S. nonbank residents and are substituted into the accounts.

These substitutions are made beginning with 1979 for the Canadian data, 1983 for the British data, and 1984 for the Federal Reserve data. The average annual revision to the change in claims for the past 4 years (to take account of the large volatility from year to year) was a decrease of \$1.2 billion for U.S. claims on Canada, an increase of \$0.3 billion for U.S. claims on the United Kingdom, and a decrease of \$1.0 billion for U.S. claims on branches of U.S. banks in the Bahamas and British West Indies (Cayman Islands). Changes to the position estimates were much larger. U.S.

nonbanking concerns' claims on unaffiliated foreigners are now \$101.7 billion in 1991, up from \$41.4 billion.

Corresponding adjustments are made to portfolio income receipts earned on U.S. nonbanking concerns' claims on unaffiliated foreigners.

Because of much greater difficulty in establishing comparability between U.S.-reported nonbanking concerns' liabilities to foreigners and the counterparty claims of foreigners on the United States, it is not possible to substitute foreign source data on the liabilities side of the U.S.

nonbanking concerns' account.

Although substitution of foreign source data eliminates one source of undercoverage of capital flows in the U.S. accounts, capital flows in general remain underreported, and the proportion of the total problem that has been corrected remains unknown. Also, because the substitution is made only on the claims side of the accounts with no corresponding changes on the liabilities side, the true impact of the change on the statistical discrepancy remains unknown.

*Tables 1 through 10a follow.* 