

Improved Estimates of the National Income and Product Accounts

Results of the 2009 Comprehensive Revision

By Eugene P. Seskin and Shelly Smith

ON JULY 31, 2009, the Bureau of Economic Analysis (BEA) released the initial results from the 13th comprehensive revision of the national income and product accounts (NIPAs), beginning with revised estimates for 1929; the results of the last comprehensive revision were released in December 2003.

In many important respects, the picture of the economy shown by the revised estimates is similar to the picture shown by the previously published estimates. The similarities and some of the differences in detail can be seen in the following:

- The long-run growth rates of real gross domestic product (GDP) are similar to those in the previously published estimates. For 1929–2008, the average annual growth rate of real GDP is 3.4 percent, 0.1 percentage point higher than in the previously published estimates. For the more recent period, 1997–2008, the growth rate is 2.8 percent, also 0.1 percentage point higher than in the previously published estimates (table 1).
- The current recession is steeper than previously estimated. From the fourth quarter of 2007 to the first quarter of 2009, real GDP decreases 2.8 percent at an average annual rate; in the previously published estimates, it had decreased 1.8 percent.
- The revised estimate of real GDP for 2008 increases 0.4 percent; the previously published estimate of real GDP had increased 1.1 percent.
- The average rate of change in the prices paid by U.S. residents for 1997–2008 is the same as in the previously published estimates (2.4 percent).
- Upward revisions to disposable personal income (DPI) beginning with 1994 are larger than upward revisions to personal outlays, resulting in upward revisions to personal saving and to the personal saving rate (personal saving as a percentage of DPI) (table 2).

The revised estimates incorporate a number of changes in classifications and definitions as well as statistical improvements that are designed to better measure the ever-changing U.S. economy. These improvements were previewed in a series of articles in the *SURVEY OF CURRENT BUSINESS*.

Table 1. Real Gross Domestic Product
[Percent change from preceding year]

Year	Revised	Previously published	Revision
1930.....	-8.6	-8.6	0.0
1931.....	-6.5	-6.4	-0.1
1932.....	-13.1	-13.0	-0.1
1933.....	-1.3	-1.3	0.0
1934.....	10.9	10.8	0.1
1935.....	8.9	8.9	0.0
1936.....	13.0	13.0	0.0
1937.....	5.1	5.1	0.0
1938.....	-3.4	-3.4	0.0
1939.....	8.1	8.1	0.0
1940.....	8.8	8.8	0.0
1941.....	17.1	17.1	0.0
1942.....	18.5	18.5	0.0
1943.....	16.4	16.4	0.0
1944.....	8.1	8.1	0.0
1945.....	-1.1	-1.1	0.0
1946.....	-10.9	-11.0	0.1
1947.....	-0.9	-0.9	0.0
1948.....	4.4	4.4	0.0
1949.....	-0.5	-0.5	0.0
1950.....	8.7	8.7	0.0
1951.....	7.7	7.7	0.0
1952.....	3.8	3.8	0.0
1953.....	4.6	4.6	0.0
1954.....	-0.6	-0.7	0.1
1955.....	7.2	7.1	0.1
1956.....	2.0	1.9	0.1
1957.....	2.0	2.0	0.0
1958.....	-0.9	-1.0	0.1
1959.....	7.2	7.1	0.1
1960.....	2.5	2.5	0.0
1961.....	2.3	2.3	0.0
1962.....	6.1	6.1	0.0
1963.....	4.4	4.4	0.0
1964.....	5.8	5.8	0.0
1965.....	6.4	6.4	0.0
1966.....	6.5	6.5	0.0
1967.....	2.5	2.5	0.0
1968.....	4.8	4.8	0.0
1969.....	3.1	3.1	0.0
1970.....	0.2	0.2	0.0
1971.....	3.4	3.4	0.0
1972.....	5.3	5.3	0.0
1973.....	5.8	5.8	0.0
1974.....	-0.6	-0.5	-0.1
1975.....	-0.2	-0.2	0.0
1976.....	5.4	5.3	0.1
1977.....	4.6	4.6	0.0
1978.....	5.6	5.6	0.0
1979.....	3.1	3.2	-0.1
1980.....	-0.3	-0.2	-0.1
1981.....	2.5	2.5	0.0
1982.....	-1.9	-1.9	0.0
1983.....	4.5	4.5	0.0
1984.....	7.2	7.2	0.0
1985.....	4.1	4.1	0.0
1986.....	3.5	3.5	0.0
1987.....	3.2	3.4	-0.2
1988.....	4.1	4.1	0.0
1989.....	3.6	3.5	0.1
1990.....	1.9	1.9	0.0
1991.....	-0.2	-0.2	0.0
1992.....	3.4	3.3	0.1
1993.....	2.9	2.7	0.2
1994.....	4.1	4.0	0.1
1995.....	2.5	2.5	0.0
1996.....	3.7	3.7	0.0
1997.....	4.5	4.5	0.0
1998.....	4.4	4.2	0.2
1999.....	4.8	4.5	0.3
2000.....	4.1	3.7	0.4
2001.....	1.1	0.8	0.3
2002.....	1.8	1.6	0.2
2003.....	2.5	2.5	0.0
2004.....	3.6	3.6	0.0
2005.....	3.1	2.9	0.2
2006.....	2.7	2.8	-0.1
2007.....	2.1	2.0	0.1
2008.....	0.4	1.1	-0.7

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Changes in classifications, definitions, and presentations were described in the May 2008 and March 2009 issues.¹ They include the following:

- An updated classification system for personal consumption expenditures (PCE) in order to present categories that are more useful for analysis of spending by households and nonprofit institutions serving households.
- A change in the treatment of disasters to better reflect the distinctions between current transactions, capital transactions, and events that directly affect balance sheets. Under the new treatment, disaster-related damages to fixed assets are recorded as “other changes in the volume of assets,” and disaster-related insurance payouts are recorded as capital transfers.
- A reclassification of transactions between the federal government and the U.S. territories and com-

1. See Clinton P. McCully and Teresita D. Teensma, “Preview of the 2009 Comprehensive Revision of the National Income and Product Accounts: New Classifications for Personal Consumption Expenditures,” SURVEY 88 (May 2008): 6–17 and Eugene P. Seskin and Shelly Smith, “Preview of the 2009 Comprehensive Revision of the NIPAs: Changes in Definitions and Presentations,” SURVEY 89 (March 2009): 10–27.

Table 2. Personal and National Saving Rates

[Percent]

Year	Personal saving rate ¹			National saving rate ²		
	Revised	Previously published	Revision	Revised	Previously published	Revision
1970	9.4	9.4	0.0	18.6	18.6	0.0
1971	10.0	10.1	-0.1	18.6	18.6	0.0
1972	8.9	8.9	0.0	19.2	19.2	0.0
1973	10.5	10.5	0.0	21.1	21.1	0.0
1974	10.7	10.6	0.1	20.1	20.0	0.1
1975	10.6	10.6	0.0	18.2	18.2	0.0
1976	9.4	9.4	0.0	18.8	18.8	0.0
1977	8.7	8.7	0.0	19.6	19.6	0.0
1978	8.9	8.9	0.0	20.8	20.9	-0.1
1979	8.8	8.9	-0.1	20.9	21.1	-0.2
1980	9.8	10.0	-0.2	19.5	19.7	-0.2
1981	10.6	10.9	-0.3	20.7	20.9	-0.2
1982	10.9	11.2	-0.3	18.9	19.1	-0.2
1983	8.7	9.0	-0.3	17.1	17.3	-0.2
1984	10.2	10.8	-0.6	19.1	19.6	-0.5
1985	8.2	9.0	-0.8	17.6	18.1	-0.5
1986	7.6	8.2	-0.6	16.1	16.5	-0.4
1987	6.5	7.0	-0.5	16.6	16.8	-0.2
1988	6.9	7.3	-0.4	17.6	17.8	-0.2
1989	6.6	7.1	-0.5	17.0	17.3	-0.3
1990	6.5	7.0	-0.5	16.0	16.3	-0.3
1991	7.0	7.3	-0.3	16.0	16.2	-0.2
1992	7.3	7.7	-0.4	14.9	15.1	-0.2
1993	5.8	5.8	0.0	14.6	14.7	-0.1
1994	5.2	4.8	0.4	15.6	15.4	0.2
1995	5.2	4.6	0.6	16.5	16.2	0.3
1996	4.9	4.0	0.9	17.1	16.6	0.5
1997	4.6	3.6	1.0	18.2	17.7	0.5
1998	5.3	4.3	1.0	18.6	18.2	0.4
1999	3.1	2.4	0.7	18.1	17.9	0.2
2000	2.9	2.3	0.6	17.8	17.7	0.1
2001	2.7	1.8	0.9	16.2	16.2	0.0
2002	3.5	2.4	1.1	14.6	14.2	0.4
2003	3.5	2.1	1.4	13.9	13.3	0.6
2004	3.4	2.1	1.3	14.4	13.8	0.6
2005	1.4	0.4	1.0	14.9	14.7	0.2
2006	2.4	0.7	1.7	15.9	15.2	0.7
2007	1.7	0.6	1.1	14.4	14.0	0.4
2008	2.7	1.8	0.9	12.6	11.9	0.7

1. Personal saving as a percentage of disposable personal income.
2. Gross saving as a percentage of gross national income.

monwealths in order to improve consistency with the treatment of similar private-sector transactions.

- A change in the treatment of insurance services provided by government enterprises in order to improve consistency with the treatment of the services provided by private property and casualty insurance companies.
- A new presentation of the estimates of private fixed investment in structures for 1929–96 that is consistent with the estimates for 1997 forward.
- A change in the reference year—from 2000 to 2005—for the chain-type quantity and price indexes and for the chained-dollar estimates.
- A change in the terminology used to describe two of the vintages of the current quarterly GDP estimates. The three vintages of quarterly GDP estimates are now “advance” (unchanged), “second” (previously known as “preliminary”), and “third” (previously known as “final”).

The statistical changes were described in the May 2009 issue.² They include the following:

- The incorporation of information from BEA’s 2002 benchmark input-output (I-O) accounts, which provide the most thorough and detailed information on the structure of the U.S. economy. These accounts are used to benchmark the expenditures components of GDP and some of the income components.
- Improved estimates of PCE for consumer electronics using new retail point-of-sale scanner data.
- Improved estimates of wages and salaries that incorporate new information on employee “cafeteria plans.” Under these plans, employees may use a portion of their salaries on a pretax basis to pay for health insurance and to contribute to “flexible spending arrangements,” which reimburse them for medical care and dependent care expenses.
- Improved estimates of proprietors’ income and wages and salaries that incorporate updated “misreporting adjustments”—adjustments for underreporting and nonreporting of income—using recent data from the Internal Revenue Service (IRS) and the Census Bureau that were not available for the previous comprehensive revision.

The revised estimates also reflect the incorporation of newly available and revised source data (see the box “New and Revised Source Data”).

This article discusses the major sources of the revisions that are attributable to the various changes in classifications, definitions, as well as statistical

2. See Clinton P. McCully and Steven Payson, “Preview of the 2009 Comprehensive Revision of the NIPAs: Statistical Changes,” SURVEY 89 (May 2009): 6–16.

improvements for each of the major NIPA aggregates and their components. Specifically, it discusses the following:

- Revisions to the annual current-dollar estimates in detail.
- Revisions to the annual estimates of real GDP and real gross domestic income (see page 30).
- Revisions to annual prices (see page 33).
- Revisions to the quarterly estimates of real GDP (see page 34).

Annual Current-Dollar Estimates

The revisions to current-dollar GDP reflect only the statistical changes incorporated in this comprehensive revision. None of the changes in definitions affects GDP (table 3).

The revisions to national income for most years primarily reflect the statistical changes, although the changes in definitions also affect national income. The revisions are mostly downward and less than \$3 billion through 1979. For 1980–91, the revisions remain downward but are somewhat larger; the largest downward revision is about \$31 billion for 1986. Beginning with 1992, the revisions are upward and grow rapidly from about \$4.5 billion to almost \$300 billion for 2005 before falling somewhat for 2006–2008. The change in definition that has the most impact on national income is the new treatment of disasters, especially for years with catastrophic events such as 1992, 1994, 2001, 2004, 2005, and 2008; by far the largest impact (about \$102.5 billion) is for 2005, reflecting the damages associated with Hurricanes Katrina, Rita, and Wilma. The two statistical changes that have the most impact on national income (and personal income) are the improved adjustments to wages and salaries and nonfarm proprietors' income for misreporting of income and the improved estimates of wages and salaries from the incorporation of new information on "cafeteria plans." The improved adjustments of income misreporting lower the revisions to national and personal income for 1984–95 and raise the revisions beginning with 1996. The incorporation of the new information on "cafeteria plans" results in upward revisions to national and personal income beginning with 1986.

The revisions to personal income are primarily downward and are less than \$10 billion through 1983. For 1984–92, the revisions remain downward and are somewhat larger. Beginning with 1993, the revisions are upward, growing rapidly from about \$10 billion to about \$274 billion for 2006; the revisions are somewhat smaller for 2007 and 2008. The change in definition that has the most impact on the revisions is the

new treatment of disasters, although the magnitude of the impact is far less than for national income; for example, the impact on the revision to personal income for 2005 is \$25.5 billion.

Additional detail on GDP, gross domestic income, and other NIPA aggregates and their major components is presented below. The accompanying tables show the revisions for 1992, 1997, 2002, and, 2005–2008 allocated among the changes in definition and the statistical improvements. Table A presents the revised current-dollar estimates for 2002, 2005, and

Table 3. Revisions to Gross Domestic Product, Gross Domestic Income, National Income, and Personal Income

	1992	1997	2002	2005	2006	2007	2008
Billions of dollars							
Gross domestic product	4.6	28.1	172.7	216.5	220.5	270.1	176.8
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	4.5	28.0	172.8	216.5	220.6	270.0	176.8
Cafeteria plans.....	2.6	4.4	7.5	11.0	12.1	12.2	12.2
Other.....	1.9	23.6	165.3	205.5	208.5	257.8	164.6
Gross domestic income	-2.7	112.6	173.8	225.0	278.1	203.5	213.9
Definitional.....	-0.4	-0.3	-0.5	-0.4	-0.3	-0.5	-0.4
Reclassification of transactions with U.S. territories and commonwealths.....	-0.4	-0.3	-0.5	-0.4	-0.3	-0.5	-0.4
Statistical.....	-2.3	112.9	174.3	225.4	278.4	204.0	214.3
Misreporting adjustments.....	-29.4	27.5	77.4	43.7	48.2	.....	.....
Cafeteria plans.....	13.5	25.6	54.5	75.6	86.3	87.3	.....
Other.....	13.6	59.9	42.4	106.1	143.9	.....	.....
National income	4.3	113.8	179.2	299.8	235.5	177.3	207.8
Definitional.....	17.5	-0.3	-0.5	102.4	-0.3	-0.5	17.0
New treatment of disasters.....	17.9	0.0	0.0	102.8	0.0	0.0	17.4
Reclassification of transactions with U.S. territories and commonwealths.....	-0.4	-0.3	-0.5	-0.4	-0.3	-0.5	-0.4
Statistical.....	-13.2	114.1	179.7	197.4	235.8	177.8	190.8
Misreporting adjustments.....	-29.4	27.5	77.4	43.7	48.2	.....	.....
Cafeteria plans.....	13.5	25.6	54.5	75.6	86.3	87.3	.....
Other.....	2.7	61.1	47.8	78.1	101.3	.....	.....
Personal income	-14.7	85.6	178.2	216.1	274.2	230.9	138.2
Definitional.....	2.0	0.0	0.0	25.5	0.0	0.0	0.4
New treatment of disasters.....	2.0	0.0	0.0	25.5	0.0	0.0	0.4
Statistical.....	-16.6	85.7	178.0	190.6	274.0	231.0	137.6
Misreporting adjustments.....	-29.4	27.5	77.4	43.7	48.2	.....	.....
Cafeteria plans.....	13.5	25.6	54.5	75.6	86.3	87.3	.....
Other.....	-0.7	32.7	46.1	71.3	139.5	.....	.....
Revision as a percentage of previously published							
Gross domestic product	0.1	0.3	1.6	1.7	1.7	2.0	1.2
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	0.1	0.3	1.7	1.7	1.7	2.0	1.2
Cafeteria plans.....	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Other.....	0.0	0.3	1.6	1.7	1.6	1.9	1.2
Gross domestic income	0.0	1.4	1.7	1.8	2.1	1.5	1.5
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclassification of transactions with U.S. territories and commonwealths.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	0.0	1.4	1.7	1.8	2.1	1.5	1.5
Misreporting adjustments.....	-0.5	0.3	0.7	0.3	0.4	.....	.....
Cafeteria plans.....	0.2	0.3	0.5	0.6	0.6	0.6	.....
Other.....	0.2	0.7	0.4	0.8	1.1	.....	.....
National income	0.1	1.6	1.9	2.7	2.0	1.4	1.7
Definitional.....	0.3	0.0	0.0	0.9	0.0	0.0	0.1
New treatment of disasters.....	0.3	0.0	0.0	0.9	0.0	0.0	0.1
Reclassification of transactions with U.S. territories and commonwealths.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	-0.2	1.6	1.9	1.8	2.0	1.4	1.5
Misreporting adjustments.....	-0.5	0.4	0.8	0.4	0.4	.....	.....
Cafeteria plans.....	0.2	0.4	0.6	0.7	0.7	0.7	.....
Other.....	0.0	0.8	0.5	0.7	0.9	.....	.....
Personal income	-0.3	1.2	2.0	2.1	2.5	2.0	1.1
Definitional.....	0.0	0.0	0.0	0.2	0.0	0.0	0.0
New treatment of disasters.....	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Statistical.....	-0.3	1.2	2.0	1.9	2.5	2.0	1.1
Misreporting adjustments.....	-0.5	0.4	0.9	0.4	0.4	.....	.....
Cafeteria plans.....	0.3	0.4	0.6	0.7	0.8	0.7	.....
Other.....	0.0	0.5	0.5	0.7	1.3	.....	.....

2008, the revisions in level for 2002–2008, and summarizes the major source data incorporated for selected detailed components.

The remainder of this section on revisions to the annual current-dollar estimates is organized according to the seven-account framework for the NIPAs. The discussion focuses on the following:

- Domestic income and product, account 1, which shows the consolidated production of all sectors of the economy as the sum of goods and services sold to final users and as the sum of incomes generated by the production of those goods and services.
- Private enterprise income, account 2, which provides additional information on the sources and uses of income by private enterprises.
- Personal income and outlays, account 3.
- Government current receipts and expenditures, account 4.
- Foreign transactions, accounts 5 and 7, including receipts and expenditures of the foreign sector (account 5) and capital transactions with the rest of the world (account 7).
- Saving and investment, account 6, of the domestic sectors of the economy.

Domestic income and product (account 1)

GDP. Before 1978, the revisions to GDP are very small and never exceed \$1 billion in absolute value. Between 1979 and 1991, GDP is revised down for each year by less than \$4 billion. Beginning with 1992, GDP is generally revised up by increasingly larger amounts. As a percentage of the previously published level of GDP, the largest revision is 2.0 percent of GDP for 2007.

Gross domestic income (GDI) and the statistical discrepancy. Before 1979, the revisions to GDI are very small, never exceeding \$1 billion in absolute value. Between 1979 and 1992, GDI is revised down; as a percentage of the previously published level of GDI, the largest downward revision is 0.7 percent for 1985. Beginning with 1993, GDI is revised up by generally increasing amounts. As a percentage of the previously published level of GDI, the largest upward revision during this period is 2.1 percent for 2006; the upward revisions for 2007 and for 2008 are each 1.5 percent.

The statistical discrepancy—GDP less GDI—is revised down less than \$2 billion until 1979.³ For 1979–83, upward revisions to the statistical discrepancy are less than \$6 billion. Beginning with 1984, the revisions to the statistical discrepancy generally become

larger; for 1984–91, downward revisions to GDP are smaller than those to GDI, and the statistical discrepancy is revised up. For 1992, GDP is revised up and GDI is revised down, and the statistical discrepancy is also revised up. Beginning with 1993, upward revisions to GDP are smaller than upward revisions to GDI, and the statistical discrepancy is revised down except for 2007. For 1979–2008, the revised estimates (without regard to sign) of the statistical discrepancy average 0.9 percent of GDP, the same as in the previously published estimates.

Product-side components

Personal consumption expenditures (PCE). The new classification system does not, by itself, affect the overall level of current-dollar PCE (table 4). The new classification system, however, does shift the composition of PCE, resulting in a substantial upward revision to PCE for services, mainly reflecting the reclassification of “purchased meals and beverages” (restaurant meals) from nondurable goods to services. The new classification system also results in an upward revision to durable goods, reflecting the reclassification of luggage (from nondurable goods to durable goods) and eye examinations (from services to durable goods); eye examinations are now included with eyeglasses and contact lenses.

Because the composition of the components of PCE (durable goods, nondurable goods, and services) changes as part of the new classification system for PCE, comparisons of the revised estimates for components of PCE with the previously published estimates are difficult to interpret.

The revisions to total current-dollar PCE reflect only statistical changes (the incorporation of new source data and estimating methodologies). For 1979–91, downward revisions to PCE are \$6 billion or less. Beginning with 1992, PCE is revised up by

Table 4. Revisions to Personal Consumption Expenditures

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Total revision	1.6	23.2	88.5	124.9	115.5	116.2	72.0
Definitional	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reclassification	0.0	0.0	0.0	0.0	0.0	0.0	.....
Statistical	1.6	23.2	88.5	124.9	115.5	116.2	72.0
Source of revision by component							
Goods	-250.8	-304.8	-393.6	-461.0	-515.6	-550.8	-585.2
Durable goods	24.5	22.8	68.2	84.7	80.9	77.7	72.0
Reclassification	24.5	29.3	35.9	41.3	44.2	46.4	.....
Statistical	0.0	-6.5	32.3	43.4	36.7	31.3	.....
Nondurable goods	-275.3	-327.8	-461.7	-545.7	-596.5	-628.5	-657.1
Reclassification	-273.3	-325.8	-416.5	-492.8	-528.4	-554.9	.....
Statistical	-2.0	-2.0	-45.2	-52.9	-68.1	-73.6	.....
Services	252.4	328.1	482.0	585.9	631.0	667.0	657.2
Reclassification	248.8	296.5	380.6	451.5	484.2	508.5	.....
Statistical	3.6	31.6	101.4	134.4	146.8	158.5	.....

3. In theory, GDP should equal GDI; in practice, GDP and GDI differ because their components are estimated using largely independent and less-than-perfect source data. See the box “The Statistical Discrepancy” in Robert P. Parker and Eugene P. Seskin, “Annual Revision of the National Income and Product Accounts,” SURVEY 77 (August 1997): 19.

generally increasing amounts, peaking at an upward revision of about \$125 billion for 2005, with somewhat smaller upward revisions for 2006 and 2007, and an upward revision of \$72 billion for 2008.

Notable revisions to total PCE begin in the mid-1990s. PCE for housing and utilities services is revised up, reflecting the incorporation of new data on owner-occupied nonfarm housing from the 2001 Residential Finance Survey and the 2000 Census of Housing. The incorporation of the 2002 benchmark I-O accounts results in upward revisions to securities commissions, to air transportation services, and to services from non-profit higher education and religious organizations, and in downward revisions to health care services and to food services and accommodations. The incorporation of data from the 2002 benchmark I-O accounts also results in upward revisions to several categories of PCE for durable goods and in downward revisions to several categories of PCE for nondurable goods. For 2006–2008, the revisions also reflect Census Bureau data on retail trade for 2006 (revised) and 2007 (preliminary), and on services for 2006 and 2007 (revised) and 2008 (preliminary).

Nonresidential structures. This component of private fixed investment is revised up, beginning with 1999. The revisions primarily reflect the incorporation of data from the 2002 benchmark I-O accounts and revised data from Census Bureau surveys of construction spending (value put in place) as well as upward revisions to petroleum structures for 2003–2008 that reflect the incorporation of revised data on capital expenditures from the Census Bureau and on footage drilled from a trade source.

Equipment and software. This component of private fixed investment is revised up, beginning with 1998. The revisions tend to become increasingly large. The major contributors to the revisions are upward revisions to software, to transportation equipment, and to “other” equipment. For all three categories, the revisions reflect the incorporation of data from the 2002 benchmark I-O accounts. The revised estimates also reflect the incorporation of newly available preliminary shipments data from the 2007 Economic Census. In addition, the revisions to software reflect the incorporation of revised and newly available data from the Census Bureau Service Annual Survey (SAS) for recent years. The revisions to transportation equipment also reflect the incorporation of revised shipments and foreign trade data from the Census Bureau and revised motor vehicle units data and price data from trade sources. The revisions to “other” equipment also reflect the incorporation of revised shipments data from the Census Bureau.

Residential fixed investment. Upward revisions to this component begin with 1999 and remain less than \$6 billion through 2006. For 2007, there is a small downward revision, and for 2008, there is a downward revision of about \$10 billion. The major contributor to the revision is “residential improvements,” reflecting the incorporation of data from the 2002 benchmark I-O accounts and of revised data from Census Bureau surveys of construction spending (value put in place).

Change in private inventories. This component is calculated by adjusting inventories reported by businesses on a book-value basis to a current-period, replacement-cost basis by removing inventory profits and losses. The inventory valuation adjustment (IVA), which is calculated as the change in private inventories less the change in book values, reflects inventory price changes by revaluing reported inventories to current period prices.

The revisions to change in farm inventories begin with 1991 and are less than \$1 billion in absolute value through 2006. For 2007 and 2008, there are downward revisions of about \$2 billion and \$4.5 billion, respectively. The revisions through 2007 reflect the incorporation of revised data on crop inventory change and on livestock inventory change from the U.S. Department of Agriculture (USDA), and the revision for 2008 reflects the incorporation of newly available USDA data.⁴

The revisions to change in private nonfarm inventories begin with 1997 and are downward through 2001 and upward beginning with 2002. The largest revisions are for 2006–2008. For 2006 and 2008, the revisions are mostly to mining, utilities, and construction inventories, primarily reflecting the incorporation of data from Internal Revenue Service (IRS) tabulations of business tax returns for 2006 and 2007, from revised Census Bureau Quarterly Financial Report data for mining industries for 2008, from revised and newly available utilities inventory data from the Energy Information Administration for 2008, and from revised Census Bureau surveys of construction spending (value put in place) for 2008. For 2007, the revision is mostly to retail trade motor vehicle inventories and to manufacturing inventories, primarily reflecting the incorporation of newly available motor vehicle inventory data from the Annual Retail Trade Survey for 2007 and of preliminary Census Bureau Economic Census data for 2007, respectively. The revisions to private nonfarm inventories also reflect the incorporation of newly available and revised Census Bureau data on inventory book values, of new commodity weights from the 2002

4. Farm inventories are measured on a current-market-price basis; therefore the IVA is not needed.

benchmark I-O accounts, of newly available and revised Census Bureau data on the accounting methods used in inventory reporting, of revised BEA unit labor cost indexes, and of revised producer price indexes from the Bureau of Labor Statistics (BLS).

Net exports of goods and services. The revisions to net exports begin with 1986 and are less than \$1 billion in absolute value through 1997. Beginning with 1998, the revisions are downward, and by 2005, they become larger than \$5 billion. The revisions primarily reflect revised estimates from the international transactions accounts (ITAs).⁵

The revisions to exports of goods begin with 2002 and reflect a change in the ITA methodology for estimating foreign military sales transactions, which are excluded from goods exports. In addition, the revisions beginning with 2004 reflect an analysis of the aircraft industry by the Census Bureau that results in notable revisions for 2006–2008. The revisions to imports of goods begin with 1997 and are upward and less than \$5.5 billion except for 2008, which is revised up about \$11 billion; the revisions primarily reflect the incorporation of Census Bureau data and updated ITA adjustments, including an adjustment that raises the value of imports of computer software to include the value of intellectual property.

The revisions to exports of services are downward and less than \$1 billion through 1997. Beginning with 1998, the revisions remain downward except for 2007 and become larger, reaching about \$12 billion for 2008. The revisions reflect the incorporation of updated results from BEA's benchmark survey of selected international services for 2006, of updated results from BEA's quarterly surveys of international services beginning with 2007, and of newly available information on transfers under U.S. military agency sales contracts beginning with 2006. The revisions to imports of services are downward and less than \$2 billion through 1997. Beginning with 1998, the revisions remain downward and tend to become somewhat larger; the largest revisions are about \$5 billion for 2001 and for 2002, primarily to "other" private services. The revisions to imports of services, which reflect the incorporation of revised ITA estimates, include revised estimates of insurance premium supplements and the introduction of medical services payments in "other" private services.

Government consumption expenditures and gross investment. The revisions to this component (hereafter referred to as "government spending") are negli-

ble through 1988 (table 5). Beginning with 1989, the revisions to government spending are upward and peak at about \$22 billion for 2002 before diminishing to less than \$1 billion for 2008. For 1989–2006, the upward revisions are primarily accounted for by state and local government spending. For 2007, an upward revision to state and local government spending is partly offset by a downward revision to federal government spending. For 2008, an upward revision to federal government spending is mostly offset by a downward revision to state and local government spending.

For state and local government spending, the revisions for 1989–2000 primarily reflect upward revisions to consumption expenditures. For 2001–2007, the revisions reflect upward revisions to consumption expenditures that are partly offset by downward revisions to gross investment. For 2008, the revision reflects downward revisions to both consumption expenditures and gross investment. The revisions to consumption expenditures reflect upward revisions to employee compensation and downward revisions to "sales to other sectors" (primarily tuition and related educational charges and health and hospital charges), which are subtracted in the derivation of consumption expenditures. These revisions are partly offset through 2007 by downward revisions to intermediate purchases.⁶ The revisions to employee compensation primarily reflect the incorporation of the new information on employee "cafeteria plans." The revisions to sales to other sectors and to intermediate purchases primarily reflect the incorporation of data from the 2002 benchmark I-O accounts and from revised and newly available Census Bureau annual surveys of state and local government finances (hereafter referred to as

6. Government consumption expenditures, which is a measure of the value of services produced by general governments, is gross output less own-account investment and sales to other sectors. Gross output is measured by the cost of inputs, including compensation of employees, consumption of fixed capital, and intermediate goods and services purchased.

Table 5. Revisions to Government Consumption Expenditures and Gross Investment

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Total revision.....	2.5	5.7	22.2	14.6	10.3	1.7	0.8
Definitional	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	2.5	5.7	22.2	14.6	10.3	1.7	0.8
Source of revision by component							
Federal.....	-1.0	0.1	0.9	0.8	-0.5	-2.6	10.7
National defense	-0.1	0.2	0.6	0.9	0.8	-0.1	3.0
Consumption expenditures.....	-0.1	-0.2	-1.0	-0.4	-0.7	-5.2	-5.7
Gross investment.....	0.0	0.4	1.6	1.3	1.5	5.2	8.7
Nondefense	-0.9	-0.2	0.4	-0.1	-1.2	-2.6	7.7
Consumption expenditures.....	-0.9	0.0	-0.1	-0.1	-0.1	-2.1	8.2
Gross investment.....	0.0	-0.2	0.4	0.0	-1.1	-0.5	-0.5
State and local	3.6	5.7	21.2	13.8	10.8	4.3	-9.8
Consumption expenditures	3.5	5.6	24.1	20.8	12.7	10.2	-2.0
Cafeteria plans	2.6	4.4	7.5	11.0	12.1	12.2	12.2
Other	0.9	1.2	16.6	9.8	0.6	-2.0	-14.2
Gross investment	0.0	0.0	-2.8	-7.0	-1.9	-5.9	-7.8

5. The annual revisions of the ITAs are usually published in the July issue of the SURVEY, most recently in Anne Flatness, Erin M. Whitaker, and Robert E. Yuskavage, "Annual Revision of the U.S. International Accounts," SURVEY 89 (July 2009): 35–51.

“government finances data”). The revisions to government investment primarily reflect the incorporation of data from the 2002 benchmark I-O accounts, from revised and newly available Census Bureau government finances data, and from revised Census Bureau surveys of construction spending (value put in place).

For federal government spending—national defense spending and nondefense spending—the revisions are less than \$3 billion in absolute value through 2006. For 2007, a downward revision primarily reflects a downward revision to nondefense consumption expenditures. Within national defense spending for 2007, a downward revision of about \$5 billion to consumption expenditures is offset by an upward revision of about \$5 billion to gross investment. For 2008, an upward revision of about \$10.5 billion primarily reflects upward revisions to nondefense consumption expenditures and to national defense gross investment. The upward revision to national defense gross investment is partly offset by a downward revision to national defense consumption expenditures. The revisions to federal government spending primarily reflect the incorporation of revised federal budget data for fiscal year 2008 and of newly available data from the Department of Defense for 2008.

Income-side components

Compensation of employees, paid. This aggregate shows the income accruing to employees for their work for domestic production; it includes compensation paid to the rest of the world and excludes compensation received from the rest of the world.⁷

The revisions to compensation reflect revisions to wage and salary disbursements and to supplements to wages and salaries (table 6). Revisions to wage and salary disbursements begin with 1978 and are downward and remain less than \$10 billion through 2000, except

for 1984–90, when the revisions are between \$10 billion and \$15 billion. For 2001–2007, the revisions are upward and tend to become larger; for 2008, the revision is relatively small and downward. Throughout the entire period, 1978–2008, the revisions reflect downward revisions to the adjustments for the misreporting of income that tend to become larger over time and result from the incorporation of newly available data from the Internal Revenue Service and the Census Bureau. In addition, throughout the entire period, 1986–2008, the revisions also reflect upward revisions as a result of the incorporation of the new information on “cafeteria plans” that raise wages and salaries, based on data from the Agency for Healthcare Research and Quality Medical Expenditure Panel Survey (MEPS) and on trade source data. The downward revision for 2008 also reflects the incorporation of BLS tabulations of revised wage and salary data for the full year for private-sector employees and state and local government employees from the BLS Quarterly Census of Employment and Wages (QCEW).⁸

The revisions to supplements to wages and salaries begin with 1987 and are less than \$1 billion in absolute value through 1990. For 1991–2000, 2002, and 2004–2006, the revisions are upward and below \$8 billion; for 2001 and 2003, the upward revisions are much larger. For 2007, supplements is revised down about \$3 billion, and for 2008, supplements is revised down about \$8 billion. Through 2005, the upward revisions are primarily to employer contributions for pension and insurance funds. For 2006 and 2007, there are notable offsetting downward revisions to employer contributions for government social insurance. Within pension and insurance funds, employer contributions for health insurance is revised up for 1996–2006 and revised down for 2007, primarily reflecting the incorporation of data from the MEPS. Employer contributions for private pension and profit-sharing plans is revised up for 1990–98 and is revised down for 1999–2007 except for 2001 and 2003, which have two large upward revisions—all reflecting the incorporation of pension data from the Department of Labor. Employer contributions for private workers’ compensation is also revised up for 1997–2008, reflecting the incorporation of data from a trade source. Employer contributions for government social insurance

Table 6. Revisions to Compensation of Employees, Paid

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Total revision.....	-4.0	3.9	19.8	34.3	43.2	44.2	-15.2
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	-4.0	3.9	19.8	34.3	43.2	44.2	-15.2
Source of revision by component							
Wage and salary accruals.....	-6.7	-1.1	16.6	29.3	41.7	46.9	-7.1
Statistical.....	-6.7	-1.1	16.6	29.3	41.7	46.9	-7.1
Misreporting adjustments.....	-20.5	-26.0	-37.7	-46.2	-46.3	-43.2	.....
Cafeteria plans.....	13.5	25.6	54.5	75.6	86.3	87.3	.....
Other.....	0.3	-0.7	-0.2	-0.1	1.7	2.8	.....
Supplements to wages and salaries...	2.7	5.0	3.2	5.0	1.6	-2.8	-8.2
Employer contributions for employee pension and insurance funds.....	2.7	4.9	2.3	5.6	3.3	1.1	-3.0
Employer contributions for government social insurance.....	0.0	0.1	0.9	-0.6	-1.8	-3.9	-5.2

8. For the “second” GDP estimate for each quarter, QCEW data for the preceding quarter are incorporated; however, subsequent revisions to the wage and salary estimates occur during annual and comprehensive revisions for at least three reasons: (1) the QCEW data for the government sector and for the households and institutions sector are not incorporated until the annual and comprehensive revisions to avoid revising GDP for the preceding quarter, (2) the QCEW data may be revised, and (3) revised seasonal factors are incorporated.

is revised down for 2007 and 2008, reflecting the incorporation of newly available tabulations of state and local government finances data for fiscal year 2007 and of the QCEW for 2008.

Taxes on production and imports. The revisions to this component are below \$1 billion in absolute value through 2004. For 2005, the taxes are revised up by \$2 billion, and for 2006–2008, they are revised up by between \$10 billion and \$13.5 billion (table 7). For 2006–2008, the revisions reflect upward revisions to state and local general sales taxes, and for 2007 and 2008, the revisions also reflect upward revisions to state and local property taxes, based primarily on the incorporation of revised and newly available Census Bureau government finances data.

Table 7. Revisions to Taxes on Production and Imports

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Total revision.....	-0.4	-0.4	0.0	2.0	10.6	13.2	13.5
Definitional.....	-0.4	-0.3	-0.5	-0.4	-0.3	-0.5	-0.4
Statistical.....	0.0	-0.1	0.5	2.4	10.9	13.7	13.9
Source of revision by component							
Federal.....	-0.4	-0.4	-0.5	-0.4	1.4	-3.0	-4.2
Definitional.....	-0.4	-0.3	-0.5	-0.4	-0.3	-0.5	-0.4
Reclassification of transactions with U.S. territories and commonwealths.....	-0.4	-0.3	-0.5	-0.4	-0.3	-0.5	-0.4
Statistical.....	0.0	-0.1	0.0	0.0	1.7	-2.5	-3.8
State and local.....	0.0	0.0	0.5	2.4	9.2	16.2	17.7

Subsidies. The revisions to this component are less than \$2 billion in absolute value for all years except 2001, 2002, 2007, and 2008, when it is revised up by between \$2 billion and \$3.5 billion (table 8). The notable revisions are more than accounted for by the change in definition that recognizes subsidies paid from the federal government to federal insurance enterprises—specifically, subsidies paid to the Federal Crop Insurance Corporation.

Table 8. Revisions to Subsidies

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Total revision.....	0.2	0.9	3.0	1.6	1.7	2.5	2.8
Definitional.....	0.2	0.9	1.8	2.3	2.4	3.0	4.4
Statistical.....	0.0	0.1	1.2	-0.7	-0.8	-0.6	-1.5
Source of revision by component							
Federal.....	0.2	1.0	3.0	1.6	1.6	2.4	2.9
Definitional.....	0.2	0.9	1.8	2.3	2.4	3.0	4.4
New treatment of government insurance enterprises.....	0.2	0.9	1.8	2.3	2.4	3.0	4.4
Statistical.....	0.0	0.1	1.2	-0.7	-0.8	-0.6	-1.5
State and local.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Net operating surplus. This component is a profits-like measure that shows business income after subtracting the costs of compensation of employees, “taxes on production and imports, less subsidies,” and consumption of fixed capital from gross value added but before subtracting financing costs (such as net interest) and business transfer payments. Net operating surplus

consists of net operating surplus of private enterprises and the current surplus of government enterprises.

Current surplus of government enterprises. The revisions to this component begin with 1977 (table 9). Through 1987, the revisions are generally downward and \$1 billion or less. Beginning with 1988, the revisions are upward and range from less than \$1 billion to about \$10 billion for 2005. The revisions are primarily to state and local government enterprises, reflecting the incorporation of revised and newly available Census Bureau government finances data. In addition, the relatively large upward revision for 2005 also reflects the new treatment of disasters because the current surplus is no longer reduced by the impacts of Hurricanes Katrina, Rita, and Wilma that were previously recorded in consumption of fixed capital.

Table 9. Revisions to Current Surplus of Government Enterprises

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Total revision.....	0.6	1.5	5.4	9.9	4.4	1.3	1.2
Definitional.....	0.2	-0.5	1.1	5.2	0.8	0.1	1.6
Statistical.....	0.5	2.0	4.3	8.2	3.6	1.2	-0.5
Source of revision by component							
Federal.....	0.1	-0.4	1.8	1.5	0.7	-0.5	-3.3
Definitional.....	0.2	-0.5	1.1	1.7	0.8	0.1	1.6
New treatment of disasters.....	0.0	0.0	0.0	0.1	0.0	0.0	0.0
New treatment of government insurance enterprises.....	0.2	-0.5	1.1	1.6	0.8	0.1	1.6
Statistical.....	-0.1	0.1	0.7	-0.2	-0.1	-0.6	-4.9
State and local.....	0.6	1.9	3.6	8.4	3.7	1.8	4.4
Definitional.....	0.0	0.0	0.0	3.5	0.0	0.0	0.0
New treatment of disasters.....	0.0	0.0	0.0	3.5	0.0	0.0	0.0
New treatment of government insurance enterprises.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	0.6	1.9	3.6	4.9	3.7	1.8	4.4
Cafeteria plans.....	-0.2	-0.3	-0.5	-0.7	-0.8	-0.9	-0.9
Other.....	0.8	2.2	4.1	5.5	4.5	2.7	5.3

Consumption of fixed capital (CFC). This component is the charge for the using up of private and government fixed capital; it is revised less than \$1 billion in absolute value through 1957 and is revised less than \$5 billion in absolute value from 1958–80. The revisions tend to be larger beginning with 1981 and of mixed sign (table 10). The revisions are mostly accounted for by revisions to the private component (comprising businesses, households, and nonprofit institutions serving households); these revisions primarily reflect the incorporation of revised estimates of fixed investment and prices.⁹ The new treatment of disasters, which reclassifies the value of catastrophic losses from depreciation to “other changes in volume of assets,” contributes to the downward revisions for several years that had catastrophic events (particularly 1992, 1994, 2001, 2004, and 2005).¹⁰

9. The estimates of investment and prices are direct inputs into the calculation of both private and government net capital stocks, which are used to calculate CFC.

10. For more information on the new treatment of disasters, see Seskin and Smith, 11–15.

Table 10. Revisions to Consumption of Fixed Capital

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Total revision.....	-7.5	-10.6	13.0	-70.6	36.8	39.5	14.8
Definitional.....	-17.9	0.0	0.0	-102.8	0.0	0.0	-17.4
New treatment of disasters.....	-17.9	0.0	0.0	-102.8	0.0	0.0	-17.4
Statistical.....	10.4	-10.6	13.0	32.2	36.8	39.5	32.2
Source of revision by component							
Private.....	-7.4	-10.6	13.7	-68.9	35.4	38.5	13.1
Business.....	-9.6	-16.7	14.9	-16.6	37.8	41.5	27.3
Capital consumption allowances.....	-3.6	0.7	1.6	-22.2	21.6	34.2	34.6
Definitional.....	-4.0	0.0	0.0	-23.4	0.0	0.0	-4.6
New treatment of disasters.....	-4.0	0.0	0.0	-23.4	0.0	0.0	-4.6
Statistical.....	0.4	0.7	1.6	1.2	21.6	34.2	39.2
Less: Capital consumption adjustment.....	6.0	17.4	-13.3	-5.6	-16.2	-7.3	7.3
Definitional.....	4.2	0.0	0.0	25.4	0.0	0.0	5.4
New treatment of disasters.....	4.2	0.0	0.0	25.4	0.0	0.0	5.4
Statistical.....	1.8	17.4	-13.3	-31.0	-16.2	-7.3	1.9
Households and institutions.....	2.2	6.1	-1.3	-52.3	-2.4	-3.0	-14.2
Definitional.....	-9.8	0.0	0.0	-50.4	0.0	0.0	-7.5
New treatment of disasters.....	-9.8	0.0	0.0	-50.4	0.0	0.0	-7.5
Statistical.....	12.0	6.1	-1.3	-1.9	-2.4	-3.0	-6.8
Government.....	-0.1	0.0	-0.7	-1.7	1.3	1.0	1.7
General government.....	-0.1	-0.1	-1.0	1.2	1.0	1.0	1.4
Federal.....	-0.1	-0.1	0.0	1.1	1.0	0.8	1.8
State and local.....	0.0	0.0	-1.0	0.2	0.1	0.2	-0.4
Government enterprises.....	0.0	0.1	0.3	-3.0	0.3	0.1	0.3
Federal.....	0.0	0.0	0.3	0.2	0.0	0.0	-0.1
Definitional.....	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
New treatment of disasters.....	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
Statistical.....	0.0	0.0	0.3	0.3	0.0	0.0	-0.1
State and local.....	0.0	0.0	0.0	-3.3	0.3	0.2	0.3
Definitional.....	0.0	0.0	0.0	-3.5	0.0	0.0	0.0
New treatment of disasters.....	0.0	0.0	0.0	-3.5	0.0	0.0	0.0
Statistical.....	0.0	0.0	0.0	0.2	0.3	0.2	0.3

Capital consumption allowances (CCA)—that is, tax-return-based depreciation for corporations and nonfarm proprietorships and BEA estimates of historical-cost depreciation (using consistent service lives) for farm proprietorships and rental income of persons—shows a mixed pattern of revisions. Through 2005, the most notable revisions are downward, reflecting the new treatment of disasters. For 2006–2008, CCA is revised up, primarily reflecting the incorporation of revised IRS tabulations of tax returns of corporations for 2006 and of newly available tabulations for 2007.

Private capital consumption adjustment (CCAdj) converts depreciation that is on a historical-cost (book-value) basis—CCA—to depreciation that is on a current-cost (replacement) basis—CFC—and it is derived as the difference between private CCA and private CFC. Revisions to the CCAdj are of mixed sign and tend to be larger beginning with 1985, reflecting revisions to both CCA and CFC.

Private enterprise income (account 2)

Private enterprises consist of private businesses, owner-occupied housing, and (for purposes of estimating monetary and imputed interest payments and imputed interest receipts) nonprofit institutions serving households.

Proprietors' income with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAdj). For farm proprietors' income the revisions

are below \$2 billion in absolute value through 1999 (table 11). For 2000–2006 and 2008, the revisions are larger and upward, ranging from about \$7 billion to about \$14 billion; for 2007, the revision is downward about \$4.5 billion. The revisions primarily reflect the incorporation of revised and newly available data from the U.S. Department of Agriculture (USDA), including revised corporate farm ratios that are used to derive the proprietorships' share of farm income and are also based on USDA data.

Table 11. Revisions to Proprietors' Income With Inventory Valuation and Capital Consumption Adjustments

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Total revision.....	-12.7	52.2	121.9	110.0	118.3	40.2	33.9
Definitional.....	0.7	0.0	0.0	6.2	0.0	0.0	0.7
Statistical.....	-13.3	52.2	121.9	103.8	118.1	40.1	33.0
Source of revision by component							
Farm.....	1.3	-1.6	7.9	9.8	13.1	-4.6	14.1
Definitional.....	0.5	0.0	0.0	0.0	0.0	0.0	0.0
New treatment of disasters.....	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	0.8	-1.6	7.9	9.8	13.1	-4.6	14.1
Nonfarm.....	-13.9	53.8	114.0	100.2	105.0	44.7	19.6
Definitional.....	0.2	0.0	0.0	6.2	0.0	0.0	0.7
New treatment of disasters.....	0.2	0.0	0.0	6.2	0.0	0.0	0.7
Statistical.....	-14.1	53.8	114.0	94.0	105.0	44.7	18.9
Misreporting adjustments.....	-8.9	53.5	115.1	89.9	94.5	.....	.....
Other.....	-5.2	0.3	-1.1	4.1	10.5	.....	.....

For nonfarm proprietors' income, the revisions remain below \$2 billion in absolute value through 1983. For 1984–93, the revisions are larger and downward, primarily reflecting the incorporation of updated adjustments for the misreporting of income using data from the IRS and the Census Bureau that were not available for the last comprehensive revision. Beginning with 1994, the revisions are upward and become larger over time, reaching more than \$100 billion for 2002–2006, also primarily reflecting the incorporation of the updated adjustments for the misreporting of income. For 2007 and 2008, the upward revisions are smaller—about \$45 billion and \$20 billion, respectively, primarily reflecting the incorporation of new IRS tabulations of tax return data for sole proprietorships and partnerships for 2007. In addition, the new treatment of disasters results in additional upward revisions for years with catastrophic events (such as 1994, 2004, 2005, and 2008).

Rental income of persons with CCAdj. Through 1991, the revisions to this component are mostly downward and less than \$2 billion. Beginning with 1992, the revisions are upward and become more notable, generally increasing over time and reaching \$146 billion by 2008 (table 12). The revisions for 1992–2008 primarily reflect upward revisions to nonfarm permanent-site owner-occupied space rent, based on the incorporation of newly available data from the 2001 Residential Finance Survey (RFS) and of data from the BLS Consumer Expenditure Survey for 2002–2007,

which are used to extrapolate the RFS data. The revisions also reflect downward revisions to property taxes (an expense that is subtracted in the calculation of rental income) based on the incorporation of newly available data from the 2001 RFS. In addition, the upward revisions for 1992–2008 also reflect the incorporation of certain housing subsidies that were previously not captured in the estimates of rental income. For 2007 and 2008, the overall revisions also reflect downward revisions to closing costs (also expenses that are subtracted in the calculation of rental income) based on the incorporation of newly available data on mortgage originations from Freddie Mac for 2007. Finally, the new treatment of disasters also results in upward revisions for years with catastrophic events (such as 1992, 2004, and especially 2005 because of Hurricanes Katrina, Rita, and Wilma).

Table 12. Revisions to Rental Income of Persons With Capital Consumption Adjustment

	[Billions of dollars]						
	1992	1997	2002	2005	2006	2007	2008
Total revision.....	6.6	47.7	65.8	137.3	102.2	104.9	146.0
Definitional.....	4.6	0.0	0.0	30.0	0.0	0.0	2.2
New treatment of disasters.....	4.6	0.0	0.0	30.0	0.0	0.0	2.2
Statistical.....	2.0	47.7	65.8	107.3	102.2	104.9	143.8

Corporate profits with IVA and CCAdj. Through 1990, the revisions to this component are generally downward and never exceed \$6 billion in absolute value. For 1991–2001, the revisions are upward and range from about \$2 billion to about \$28 billion. For 2002–2005, the revisions are of mixed sign and never exceed \$16 billion in absolute value. For 2006–2008, the revisions are downward and much larger, reaching about \$116 billion for 2008 (table 13). Beginning with

Table 13. Revisions to Corporate Profits with Inventory Valuation and Capital Consumption Adjustments

	[Billions of dollars]						
	1992	1997	2002	2005	2006	2007	2008
Total revision.....	16.9	16.3	-14.1	8.2	-60.2	-100.7	-116.1
Definitional.....	14.4	0.0	0.0	36.6	0.0	0.0	10.4
Statistical.....	2.4	16.3	-14.1	-28.5	-60.1	-100.8	-126.5
Source of revision by industry							
Domestic industries.....	16.9	19.8	-16.2	8.1	-49.5	-103.9	-106.8
Financial.....	10.1	6.9	-14.0	11.9	-34.5	-82.7	-30.3
Nonfinancial.....	6.9	12.8	-2.2	-3.8	-15.1	-21.2	-76.4
Rest of the world.....	0.0	-3.3	2.1	0.0	-10.7	3.1	-9.4
Receipts from the rest of the world.....	0.0	-3.4	0.0	0.0	-4.5	-4.7	4.8
Less: Payments to the rest of the world.....	0.0	0.0	-2.1	0.0	6.2	-7.7	14.2
Source of revision by component							
Profits before tax (without IVA and CCAdj).....	13.3	3.6	-3.1	19.6	-51.0	-111.9	-134.6
Taxes on corporate income.....	0.0	-0.7	-0.3	-1.3	4.4	1.1	-74.4
Profits after tax (without IVA and CCAdj).....	13.3	4.2	-2.8	20.9	-55.3	-113.1	-60.0
Net dividends.....	0.1	-3.3	0.1	-20.1	2.7	-20.9	-142.2
Undistributed profits.....	13.2	7.5	-2.8	41.0	-58.0	-92.2	82.1
Definitional.....	13.2	0.0	0.0	28.9	0.0	0.0	7.8
New treatment of disasters.....	13.2	0.0	0.0	28.9	0.0	0.0	7.8
Statistical.....	0.0	7.5	-2.8	12.1	-58.0	-92.2	74.3
Inventory valuation adjustment.....	0.0	0.0	-0.4	7.1	1.5	7.2	10.8
Capital consumption adjustment.....	3.5	12.8	-10.7	-18.6	-10.7	4.0	7.6
Definitional.....	1.2	0.0	0.0	7.7	0.0	0.0	2.6
New treatment of disasters.....	1.2	0.0	0.0	7.7	0.0	0.0	2.6
Statistical.....	2.3	12.8	-10.7	-26.3	-10.7	4.0	5.0

1987, an improved treatment of expenses for nondeductible business meals and entertainment raises the revisions, and beginning with 1988, improved estimates of capital gains and indirect commissions of securities brokers and dealers lower the revisions.¹¹ In addition, the new treatment of disasters raises the revisions for years with catastrophic events (especially 1992, 1994, 2001, 2004, 2005, and 2008). For 2006–2008, the primary source of the revisions is the incorporation of revised IRS tabulations of corporate tax return data for 2006 and newly available IRS tabulations for 2007 as well as of revised regulatory agency and public financial reports for 2008.

As discussed in the section on CFC, the revisions to the CCAdj are of mixed sign and reflect the revisions to CCA and CFC discussed above.

For 1998–2002, the IVA is revised down by \$5 billion or less, and for 2003–2008, the IVA is revised up by about \$10 billion or less. The revisions reflect the use of revised commodity weights from the 2002 benchmark I-O accounts and revised price data.

Net interest and miscellaneous payments. Through 1993, the revisions to this component are \$2 billion or less in absolute value. For 1994–2005, the revisions are downward and range from about \$4 billion to about \$30 billion. For 2006–2008, the revisions are upward, with large revisions for 2007 and 2008 of about \$75 billion and about \$132.5 billion, respectively. The revisions reflect the incorporation of Census Bureau tabulations of mortgage interest payments from the 2001 Residential Finance Survey, data from BEA's international transactions accounts (ITAs), revised and newly available trade source data on the investment income of life insurance carriers, and revised 2006 and newly available 2007 IRS tabulations of business income tax returns. Beginning with 1985, the revisions also reflect the removal of mortgage-backed securities from the calculation of the reference rate that is used to derive estimates of imputed interest paid by and received from commercial banks.¹²

Business current transfer payments (net). This component consists of “transfer payments to persons (net),” “business transfer payments to government (net),” and “business transfer payments to the rest of the world (net).”

The revisions to “business current transfer payments (net)” through 2000 are less than \$2 billion in absolute value (table 14). For 2001–2008, the revisions

11. For more information on these improvements, see McCully and Payson, 12–14.

12. This treatment was introduced in the 2005 NIPA annual revision and is now being implemented for the entire historical period impacted by the change. See Eugene P. Seskin, Shelly Smith, and Teresa L. Weadock, “Annual Revision of the National Income and Product Accounts,” SURVEY 85 (August 2005): 32–33.

are of mixed sign and magnitude, reflecting the revisions to the three subcomponents, which are sometimes offsetting. Payments to persons are revised down for 2001–2008, primarily reflecting the new treatment of disasters for years with catastrophic events (such as 1992, 1994, 2001, 2004, 2005, and 2008). Payments to government are revised up throughout this period except for 2001, which is revised down \$1.5 billion, primarily reflecting the new treatment of disasters. The revisions also reflect the new treatment of insurance services provided by government enterprises.¹³ The notable revisions to payments to the rest of the world during this period also reflect the new treatment of disasters.

Table 14. Revisions to Business Current Transfer Payments (net)

[Billions of dollars]							
	1992	1997	2002	2005	2006	2007	2008
Total revision	-1.7	1.4	-1.9	25.9	-2.4	2.0	15.2
Definitional.....	-1.8	1.4	0.7	27.1	1.6	3.0	6.9
Statistical.....	0.1	0.0	-2.5	-1.3	-3.9	-1.0	8.3
Source of revision by component							
Payments to persons (net)	-3.3	0.0	-3.1	-13.0	-3.5	-1.7	-2.1
Definitional.....	-3.3	0.0	0.0	-10.7	0.0	0.0	-2.5
New treatment of disasters.....	-3.3	0.0	0.0	-10.7	0.0	0.0	-2.5
Statistical.....	0.0	0.0	-3.1	-2.3	-3.5	-1.7	0.4
Payments to government (net)	0.0	1.4	1.3	23.4	1.7	4.0	15.5
Federal.....	0.0	1.4	1.4	18.6	1.6	3.6	11.9
Definitional.....	0.0	1.4	0.7	18.0	1.6	3.0	5.6
New treatment of disasters.....	0.0	0.0	0.0	17.3	0.0	0.0	2.8
New treatment of government insurance enterprises.....	0.0	1.4	0.7	0.7	1.6	3.0	2.8
Statistical.....	0.0	0.0	0.7	0.6	0.0	0.6	6.3
State and local.....	0.0	0.0	0.0	4.8	0.1	0.4	3.6
Definitional.....	0.0	0.0	0.0	4.4	0.0	0.0	0.0
New treatment of disasters.....	0.0	0.0	0.0	4.4	0.0	0.0	0.0
Statistical.....	0.0	0.0	0.0	0.4	0.1	0.4	3.6
Payments to the rest of the world (net)	1.6	0.0	-0.1	15.4	-0.5	-0.3	1.8
Definitional.....	1.5	0.0	0.0	15.4	0.0	0.0	3.8
New treatment of disasters.....	1.5	0.0	0.0	15.4	0.0	0.0	3.8
Statistical.....	0.1	0.0	-0.1	0.0	-0.5	-0.3	-2.0

Personal income and outlays (account 3)

Personal income. Revisions of \$1 billion or larger in absolute value begin with 1978. For 1978–92, the revisions are downward, the largest of which is about \$32 billion for 1990. Beginning with 1993, the revisions are upward and generally increase over time to about \$274 billion for 2006. For 2007 and 2008, the revisions are somewhat smaller, about \$231 billion and \$138 billion, respectively (table 15). The revisions partly reflect the revisions to the components of national income that are included in personal income (wage and salary disbursements, supplements to wages and salaries, proprietors' income, and rental income of persons) and to the components of personal income (personal interest income and personal dividend income) that are derived from related components of national income. The revisions also reflect revisions to "personal current transfer receipts" and to "contributions for government social insurance, domestic."

Compensation of employees, received. This component consists of wage and salary disbursements and

Table 15. Revisions to Personal Income and Its Disposition

[Billions of dollars]							
	1992	1997	2002	2005	2006	2007	2008
Total revision	-14.7	85.6	178.2	216.1	274.2	230.9	138.2
Definitional.....	2.0	0.0	0.0	25.5	0.0	0.0	0.4
New treatment of disasters.....	2.0	0.0	0.0	25.5	0.0	0.0	0.4
Statistical.....	-16.6	85.7	178.0	190.6	274.0	231.0	137.6
Misreporting adjustments.....	-29.4	27.5	77.4	43.7	48.2	.....	.....
Cafeteria plans.....	13.5	25.6	54.5	75.6	86.3	87.3	.....
Other.....	-0.7	32.7	46.1	71.3	139.5	.....	.....
Source of revision by component							
Compensation of employees, received	-4.0	4.0	19.6	34.2	43.1	44.1	-10.4
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	-4.0	4.0	19.6	34.2	43.1	44.1	-10.4
Misreporting adjustments.....	-20.5	-26.0	-37.7	-46.2	-46.3	-43.2	.....
Cafeteria plans.....	13.5	25.6	54.5	75.6	86.3	87.3	.....
Other.....	3.0	4.4	2.8	4.8	3.1	0.0	.....
Proprietors' income with inventory valuation and capital consumption adjustments	-12.7	52.2	121.9	110.0	118.3	40.2	33.9
Definitional.....	0.7	0.0	0.0	6.2	0.0	0.0	0.7
New treatment of disasters.....	0.7	0.0	0.0	6.2	0.0	0.0	0.7
Statistical.....	-13.3	52.2	121.9	103.8	118.1	40.1	33.0
Misreporting adjustments.....	-8.9	53.5	115.1	89.9	94.5	.....	.....
Other.....	-4.3	-1.3	6.8	13.9	23.6	.....	.....
Rental income of persons with capital consumption adjustment	6.6	47.7	65.8	137.3	102.2	104.9	146.0
Definitional.....	4.6	0.0	0.0	30.0	0.0	0.0	2.2
New treatment of disasters.....	4.6	0.0	0.0	30.0	0.0	0.0	2.2
Statistical.....	2.0	47.7	65.8	107.3	102.2	104.9	143.8
Personal income receipts on assets	-1.2	-16.2	-23.6	-54.9	4.9	31.4	-43.3
Personal interest income.....	-1.2	-12.9	-24.2	-35.0	2.1	52.1	99.5
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	-1.2	-12.9	-24.2	-35.0	2.1	52.1	99.5
Personal dividend income.....	0.2	-3.3	0.5	-19.9	2.8	-20.7	-142.7
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	0.2	-3.3	0.5	-19.9	2.8	-20.7	-142.7
Personal current transfer receipts	-3.6	-2.0	-4.1	-12.1	2.0	4.7	6.8
Definitional.....	-3.3	0.0	0.0	-10.7	0.0	0.0	-2.5
New treatment of disasters.....	-3.3	0.0	0.0	-10.7	0.0	0.0	-2.5
Statistical.....	-0.3	-2.0	-4.1	-1.4	2.0	4.7	9.3
Less: Contributions for government social insurance, domestic	0.0	0.0	1.5	-1.6	-3.7	-5.8	-5.1
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	0.0	0.0	1.5	-1.6	-3.7	-5.8	-5.1
Less: Personal current taxes	-0.1	-0.1	-1.4	0.8	-0.8	-1.9	-24.9
Definitional.....	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.0
Reclassification of transactions with U.S. territories and commonwealths.....	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.0
Statistical.....	0.0	-0.1	-1.3	0.9	-0.7	-1.7	-24.9
Equals: Disposable personal income	-14.7	85.8	179.6	215.3	275.0	232.6	163.1
Definitional.....	2.1	0.0	0.1	25.6	0.1	0.1	0.4
New treatment of disasters.....	2.0	0.0	0.0	25.5	0.0	0.0	0.4
Reclassification of transactions with U.S. territories and commonwealths.....	0.1	0.0	0.1	0.1	0.1	0.1	0.0
Statistical.....	-16.5	85.8	179.4	189.8	274.8	232.9	162.5
Misreporting adjustments.....	-29.4	27.5	77.4	43.7	48.2	.....	.....
Cafeteria plans.....	13.5	25.6	54.5	75.6	86.3	87.3	.....
Other.....	-0.6	32.8	47.5	70.5	140.3	.....	.....
Less: Personal outlays	3.3	23.7	82.2	120.1	110.7	111.2	69.3
Personal consumption expenditures.....	1.6	23.2	88.5	124.9	115.5	116.2	72.0
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	1.6	23.2	88.5	124.9	115.5	116.2	72.0
Personal interest payments.....	-0.5	-4.2	-5.1	-4.2	-5.3	-8.6	-10.5
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	-0.5	-4.2	-5.1	-4.2	-5.3	-8.6	-10.5
Personal current transfer payments.....	2.2	4.7	-1.2	-0.6	0.6	3.5	7.8
Definitional.....	0.2	0.3	0.4	0.5	0.5	0.5	0.6
Reclassification of transactions with U.S. territories and commonwealths.....	0.2	0.3	0.4	0.5	0.5	0.5	0.6
Statistical.....	2.0	4.4	-1.6	-1.1	0.1	3.0	7.2
Equals: Personal saving	-17.9	62.1	97.5	95.2	164.3	121.5	93.7
Definitional.....	1.9	-0.3	-0.3	25.1	-0.4	-0.4	-0.2
New treatment of disasters.....	2.0	0.0	0.0	25.5	0.0	0.0	0.4
Reclassification of transactions with U.S. territories and commonwealths.....	-0.1	-0.3	-0.3	-0.4	-0.4	-0.4	-0.6
Statistical.....	-19.6	62.4	97.6	70.2	164.5	122.3	93.8
Misreporting adjustments.....	-29.4	27.5	77.4	43.7	48.2	.....	.....
Cafeteria plans.....	13.5	25.6	54.5	75.6	86.3	87.3	.....
Other.....	-3.7	9.4	-34.3	-49.1	30.0	.....	.....

13. For more information on the new treatment of insurance services, see Seskin and Smith, 17.

supplements to wages and salaries received by U.S. residents, including wages and salaries received from the rest of the world. The major sources of revision to this aggregate are the same as those already discussed in the section “Compensation of employees, paid.” Differences primarily reflect the exclusion of the adjustment “wage accruals less disbursements” (WALD).¹⁴

Personal income receipts on assets. This aggregate consists of personal interest income and personal dividend income. Personal interest income consists of monetary and imputed interest received by persons from all sources, and it is calculated as net interest plus interest paid by persons and interest paid by government less interest received by government. Revisions to personal interest income begin with 1985 and are

14. WALD is the difference between wages earned, or accrued, and wages paid, or disbursed. In the NIPAs, wages accrued is the appropriate measure for national income, and wages disbursed is the appropriate measure for personal income. To estimate WALD, BEA converts annual disbursements data based on BLS tabulations of wages and salaries to an accrual basis. WALD primarily consists of BEA estimates of bonus payments that are declared at the end of a year but that are actually paid the next year.

downward through 2005 and tend to increase in magnitude during this period, peaking at \$35 billion for 2001. For 2006–2008, the revisions are upward: about \$2 billion for 2006, about \$52 billion for 2007, and \$99.5 billion for 2008. Revisions over the entire period, 1995–2008, reflect the revisions to net interest (described above) and the incorporation of revised data on consumer debt outstanding from the Federal Reserve Board that are used to estimate interest paid by persons. For 2006–2008, the revisions also reflect the incorporation of revised and newly available Census Bureau government finances data on monetary interest received by state and local governments. Additionally, for 2008, the revision reflects revised estimates of monetary interest paid by the federal government, based on the incorporation of revised and newly available federal budget data.

The revisions to personal dividend income begin with 1992 and are less than \$4 billion in absolute value through 2003. For 2004–2007, the revisions are of mixed sign and range from an upward revision of

New and Revised Source Data

The 2009 comprehensive revision of the national income and product accounts (NIPAs) incorporated a wide array of new and revised source data.

The most important source data that affect the estimates prior to 2006 are BEA’s benchmark 2002 input-output accounts. The revised estimates also incorporate data on inventories, on receipts and expenses of business establishments and of governments, on sales by detailed commodity and by product line, and on final industry and product shipments from the 2002 Economic Census, and on trade margins from both the 2002 Economic Census and the 2002 annual surveys of merchant wholesale and retail trade.

The revised estimates also reflect data on housing from the 2000 decennial Census of Housing and the 2001 Residential Finance Survey. In addition, estimates that are based on BEA’s international transactions accounts (ITAs)—primarily net exports of goods and services and rest-of-the-world income receipts and payments—are revised to reflect improvements to the ITAs that have been introduced since 2003.

Estimates of nonreported income are updated using newly available data from the Census Bureau’s 2003–2007 “exact-match” studies, and estimates of underreported income are revised using data from the IRS National Research Program for 2001 and from the IRS Taxpayer Compliance Measurement Program reports for 1988 and 1996.

Other data that are incorporated include revised data on the expenditures and receipts of state and local gov-

ernments for fiscal years 2001–2005 from the Census Bureau and revised data on employer pension and profit-sharing plans for 1996–2006 from the Department of Labor.

The revised estimates for 2006–2008 also reflect the incorporation of newly available and revised source data that became available after the last annual NIPA revision in July 2008. The most important of these data sources are the following:

- Census Bureau annual surveys of state and local governments for fiscal year 2006 (revised) and fiscal year 2007 (preliminary), of manufacturers for 2006 (revised), of merchant wholesale trade and of retail trade for 2006 (revised) and 2007 (preliminary), and of services and of construction spending (value put in place) for 2006 and 2007 (revised) and 2008 (preliminary)
- Preliminary economic census “advance summary statistics” shipments and inventories for 2007
- Federal government budget data for fiscal years 2008 and 2009
- ITAs data for 2006–2008 (revised)
- Bureau of Labor Statistics Quarterly Census of Employment and Wages for 2006–2008 (revised)
- Internal Revenue Service tabulations of corporate tax returns for 2006 (revised) and 2007 (preliminary) and of sole proprietorship and partnership tax returns for 2007
- U.S. Department of Agriculture farm statistics for 2006–2008 (revised)

about \$11.5 billion for 2004 to downward revisions of about \$20 billion for 2005 and for 2007. For 2008, there is a very large downward revision of about \$142.5 billion. For 2004 and 2006, the revisions are more than accounted for by upward revisions to dividends from the rest of the world, reflecting the incorporation of newly available estimates from the ITAs. For 2007, the revision reflects a downward revision to domestic dividends based on the incorporation of newly available IRS tabulations of corporate tax return data that is partly offset by an upward revision to dividends from the rest of the world based on the incorporation of the newly available estimates from the ITAs. For 2008, the large revision primarily reflects the incorporation of data from an expanded sample of public financial reports.

Personal current transfer receipts. This aggregate consists of government social benefits and “business current transfer payments to persons (net).” The revisions begin with 1988 and are less than \$1 billion in absolute value through 1991. For 1992–2005, the revisions are generally downward; the largest downward revision is about \$12 billion for 2005. There are small upward revisions for 1993 and 1995. For 2006–2008, the revisions are upward, ranging from \$2 billion to about \$7 billion. Through 2005, the revisions mostly reflect the pattern of revisions to “other current transfer receipts, from business (net)” and result from the new treatment of disasters. For 2006–2008, upward revisions to government social benefits dominate the revisions, reflecting upward revisions to health insurance benefits, based on the incorporation of revised data from the Centers for Medicare and Medicaid Services (CMS) for 2006 and 2007 and newly available CMS data for 2008.

Contributions for government social insurance, domestic. This component is deducted in the calculation of personal income and consists of both personal and employer contributions. The revisions begin with 1993 and are below \$1 billion in absolute value through 1999. For 2000–2003, the revisions are upward and less than \$3.5 billion, and for 2004–2008, the revisions are downward and less than \$6 billion.

Personal current taxes. The revisions to this component are less than \$3.5 billion in absolute value through 2007. For 2008, these taxes are revised down about \$25 billion, reflecting the incorporation of tax collections data from the Treasury Department and of preliminary taxable wage data from the Social Security Administration.

Disposable personal income (DPI). The pattern of revisions to DPI (which is equal to personal income less personal current taxes) reflects the revisions to

these two components. Through 1978, the revisions to DPI do not exceed \$1 billion in absolute value. For 1979 forward, the revisions tend to be larger, with downward revisions through 1992 and upward revisions thereafter. The largest downward revision is about \$32 billion for 1990, and the largest upward revision is \$275 billion for 2006.

Personal outlays. This component consists of personal consumption expenditures (PCE), personal interest payments, and personal current transfer payments. The revisions to personal outlays are downward and below \$10 billion in absolute value through 1991 and upward thereafter; the largest upward revision is about \$120 billion for 2005. The revisions primarily reflect the revisions to PCE.

Personal saving. This component equals the difference between DPI and personal outlays. Through 1978, the revisions do not exceed \$1 billion in absolute value. For 1979–92, the revisions are larger and downward; the largest is a downward revision of about \$26.5 billion for 1985. For 1993–2008, the revisions are upward and generally become larger over time; the largest is an upward revision of about \$164 billion for 2006. The revisions to personal saving result in corresponding revisions to the personal saving rate—personal saving as a percentage of DPI. Through 1980, the revisions to the saving rate do not exceed 0.2 percentage point in absolute value. For 1981–92, the saving rate is revised down by between 0.3 percentage point and 0.8 percentage point. The saving rate is unrevised for 1993, and beginning with 1994, it is revised up, on average, about 1.0 percentage point.

Government current receipts and expenditures (account 4)

Government current receipts is the sum of current tax receipts, contributions for government social insurance, income receipts on assets, current transfer receipts, and current surplus of government enterprises. Current expenditures is the sum of consumption expenditures, current transfer payments, interest payments, and subsidies, less wage accruals less disbursements. Net government saving is the difference between current receipts and current expenditures.

Federal government. Current receipts is revised less than \$1 billion in absolute value each year through 1982 and less than \$2 billion in absolute value for 1983–95. Beginning with 1996, the revisions are upward except for 2008, which is revised down about \$94.5 billion (table 16). The upward revisions from 1996 to 2007 range from about \$2.5 billion to about \$23 billion for 2005 and are mostly statistical, reflecting the incorporation of revised and newly available

source data. However, for 2005, the upward revision primarily reflects the new treatment of disasters, which raises current transfer receipts from business. For 2008, the downward revision primarily reflects downward revisions to taxes on corporate income, based on the revised estimate for corporate profits (discussed above), and to personal current taxes (discussed above).

Federal government current expenditures is revised less than \$1 billion in absolute value through 1973. For 1974–95, the revisions are upward and generally grow over time to \$10.5 billion for 1995. For 1996–2008, the revisions remain upward and range from about \$7.5 billion for 1997 and 2000 to about \$23.5 billion for 2008. The revisions reflect upward revisions from the reclassification of transactions between the federal government and the U.S. territories and commonwealths—specifically, government social benefits and other current transfer payments to the rest of the world.

Federal government net saving is revised less than \$1 billion in absolute value through 1974. Beginning with 1975, the upward revisions to current expenditures tend to be greater than the upward revisions to current receipts, and as a result, the revisions to federal government net saving are downward except for 2005,

(that upward revision reflects the new treatment of disasters). The downward revisions do not exceed \$10 billion except for 2008, which is revised down \$117.5 billion (discussed above).

State and local government. Current receipts is unrevised through 1988. For 1989–2004, the revisions to current receipts are upward and are below \$7 billion in absolute value. For 2005–2008, the revisions remain upward, but grow larger, reaching about \$39 billion for 2008. For the most part, the upward revisions are statistical, reflecting the incorporation of revised and newly available source data. For 2001, 2004, and 2005, the revisions also reflect the new treatment of disasters.

State and local current expenditures is unrevised through 1985. For 1986–2007, the revisions to current expenditures are upward, generally increasing over time and reaching \$22.5 billion for 2002 before gradually becoming smaller and reaching about \$13 billion for 2007. The revision is slightly downward for 2008. For the most part, the revisions are statistical, reflecting the incorporation of revised and newly available source data. However, beginning with 1986, the revisions also reflect improved estimates of state and local government wages and salaries that incorporate the new information on “cafeteria plans” (discussed above).

Through 1989, the revisions to state and local government net saving are less than \$1 billion in absolute value. For 1990–2005, the revisions are downward, reflecting upward revisions to state and local government current expenditures that exceed upward revisions to current receipts. For 2006 and 2007, state and local government net saving is revised up, reflecting upward revisions to current receipts that exceed upward revisions to current expenditures. For 2008, a relatively large upward revision to net government saving reflects the relatively large upward revision to current receipts.

The statistical revisions to current receipts and current expenditures mainly reflect the incorporation of the 2002 benchmark I-O accounts, revised and newly available Census Bureau government finances data, and revised data from Census Bureau surveys of construction spending (value put in place).

Foreign transactions (accounts 5 and 7)

Current receipts from the rest of the world. This aggregate consists of exports of goods and services and income receipts from the rest of the world. The revisions to exports were discussed above. The revisions to income receipts begin with 1986 and are downward and less than \$1 billion through 1992. For 1993–2000, the revisions remain downward and range from about \$1 billion to about \$7 billion; for 2001–2004, the revisions

Table 16. Revisions to Government Current Receipts and Expenditures

(Billions of dollars)

	1992	1997	2002	2005	2006	2007	2008
Federal							
Current receipts	0.8	3.1	6.1	23.2	14.1	9.6	-94.3
Definitional	1.8	3.6	5.0	23.8	6.6	7.3	11.8
New treatment of disasters	0.0	0.0	0.0	17.3	0.0	0.0	2.8
Reclassification of transactions with U.S. territories and commonwealths	1.6	2.7	3.2	4.2	4.2	4.2	4.6
New treatment of government insurance enterprises	0.2	0.9	1.8	2.3	2.4	3.1	4.4
Statistical	-1.0	-0.5	1.1	-0.6	7.5	2.3	-106.1
Current expenditures	5.9	7.4	11.0	14.5	16.7	16.7	23.3
Definitional	7.2	9.7	13.2	15.1	16.2	17.5	21.5
Reclassification of transactions with U.S. territories and commonwealths	7.0	8.8	11.4	12.8	13.8	14.5	17.1
New treatment of government insurance enterprises	0.2	0.9	1.8	2.3	2.4	3.0	4.4
Statistical	-1.3	-2.3	-2.2	-0.6	0.5	-0.8	1.8
Net federal government saving	-5.1	-4.3	-4.9	8.7	-2.7	-7.2	-117.6
Definitional	-5.4	-6.1	-8.2	8.7	-9.6	-10.2	-9.7
Statistical	0.3	1.8	3.3	0.0	7.0	3.1	-107.9
State and local							
Current receipts	0.5	2.1	2.6	16.0	18.3	24.5	39.1
Definitional	0.0	0.0	0.0	4.4	0.0	0.0	0.0
New treatment of disasters	0.0	0.0	0.0	4.4	0.0	0.0	0.0
Statistical	0.5	2.1	2.6	11.6	18.3	24.5	39.1
Current expenditures	2.6	4.9	22.5	19.6	13.3	13.2	-0.8
Definitional	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical	2.6	4.9	22.5	19.6	13.3	13.2	-0.8
Cafeteria plans	2.8	4.6	8.0	11.7	12.9	13.1	13.1
Other	-0.2	0.3	14.5	7.9	0.4	0.1	-13.9
Net state and local government saving	-2.1	-2.8	-19.9	-3.6	4.8	11.3	39.9
Definitional	0.0	0.0	0.0	4.4	0.0	0.0	0.0
Statistical	-2.1	-2.8	-19.9	-8.0	4.8	11.3	39.9
Addenda:							
Net government saving	-7.2	-7.1	-24.8	5.1	2.3	4.1	-77.6
Definitional	-5.4	-6.1	-8.2	13.1	-9.6	-10.2	-9.7
Statistical	-1.8	-1.0	-16.6	-8.0	11.9	14.3	-67.9

are upward and range from about \$0.5 billion to \$16.5 billion, and for 2005–2008, the revisions are both downward and upward and range from less than \$1 billion to about \$11 billion (table 17). These revisions reflect the incorporation of revised estimates from the ITAs.

Current payments to the rest of the world. This aggregate consists of imports of goods and services, income payments, and “current taxes and transfer payments to the rest of the world (net).” The revisions to imports were discussed above. The revisions to income payments also begin with 1986 and are less than \$1 billion in absolute value through 1994. For 1995–99, the revisions are upward and never exceed \$5 billion. For 2000–2002, the revisions are downward and range from about \$1 billion to about \$10.5 billion. For 2003–2008, the revisions follow a mixed pattern and range from \$1.5 billion to about \$13.5 billion in absolute value. These revisions again reflect the incorporation of revised estimates from the ITAs.

The revisions to “current taxes and transfer payments to the rest of the world (net)” are all upward; they remain below \$1 billion through 1974. For 1975–2001, the revisions generally grow over time, reaching \$10 billion for 2000 and jumping to about \$25.5 billion for 2001. For 2002 to 2008, the upward revisions range from \$9 billion to about \$24.5 billion. Beginning with 1951, these revisions reflect the reclassification of transactions between the federal government and the U.S. territories and commonwealths; by

2008, this reclassification adds about \$12.5 billion to the overall revision (about \$24 billion). In addition, beginning with 1992, the revisions reflect the new treatment of disasters; for years with catastrophic events, such as 2001 and 2005, the new treatment adds about \$13 billion and \$15.5 billion, respectively, to the overall revisions.

Saving and investment (account 6)

Gross saving consists of net saving and consumption of fixed capital (CFC). Net saving consists of net private saving and net government saving. Through 1978, the revisions to gross saving do not exceed \$2 billion in absolute value (table 18). For 1979–92, the revisions

Table 18. Revisions to Saving and Investment

[Billions of dollars]

Table 17. Revisions to Foreign Transactions

[Billions of dollars]

	1992	1997	2002	2005	2006	2007	2008
Current receipts from the rest of the world	-1.2	-8.1	4.9	-6.9	-14.0	-6.4	-17.4
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	-1.2	-8.1	4.9	-6.9	-14.1	-6.4	-17.4
Source of revision by component							
Exports of goods and services.....	-0.3	-0.9	-2.9	-6.4	-9.8	-6.5	-28.3
Income receipts.....	-0.9	-7.2	7.8	-0.5	-4.3	0.1	10.9
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	-0.9	-7.2	7.8	-0.5	-4.3	0.1	10.9
Current payments to the rest of the world	7.5	11.1	-1.8	22.7	12.8	-0.3	36.3
Definitional.....	6.6	6.1	8.0	24.0	9.7	10.2	16.5
Statistical.....	0.9	5.0	-9.8	-1.3	3.1	-10.5	19.8
Source of revision by component							
Imports of goods and services.....	-0.8	-1.1	-0.1	2.7	2.2	-0.5	10.3
Income payments.....	-0.3	2.4	-10.6	-4.6	1.5	-13.3	2.2
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	-0.3	2.4	-10.6	-4.6	1.5	-13.3	2.2
Current taxes and transfer payments to the rest of the world (net).....	8.5	9.8	9.0	24.7	9.0	13.4	23.7
Definitional.....	6.6	6.1	8.0	24.0	9.7	10.2	16.5
New treatment of disasters.....	1.5	0.0	0.0	15.4	0.0	0.0	3.8
Reclassification of transactions with U.S. territories and commonwealths.....	5.1	6.1	8.0	8.6	9.7	10.2	12.7
Statistical.....	1.9	3.7	1.0	0.7	-0.7	3.2	7.2
Balance on current account, NIPAs.....	-8.7	-19.1	6.7	-29.6	-26.8	-6.1	-53.6
Definitional.....	-6.6	-6.1	-8.0	-24.0	-9.7	-10.2	-16.5
Statistical.....	-2.1	-13.1	14.7	-5.6	-17.2	4.1	-37.2
Addenda:							
Net lending or borrowing, NIPAs.....	-7.3	-19.3	6.3	-14.6	-27.1	-6.4	-50.7
New treatment of disasters.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other.....	-7.3	-19.3	6.3	-14.6	-27.1	-6.4	-50.7
Balance on current account, NIPAs.....	-8.7	-19.1	6.7	-29.6	-26.8	-6.1	-53.6
New treatment of disasters.....	-1.5	0.0	0.0	-15.4	0.0	0.0	-3.8
Other.....	-7.2	-19.1	6.7	-14.2	-26.8	-6.1	-49.8
Less: Capital account transactions, (net).....	-1.4	0.2	0.4	-15.1	0.3	0.4	-2.8
New treatment of disasters.....	-1.5	0.0	0.0	-15.4	0.0	0.0	-3.8
Other.....	0.1	0.2	0.4	0.3	0.3	0.4	1.0

	1992	1997	2002	2005	2006	2007	2008
Gross saving.....	-15.9	64.6	71.8	59.2	135.9	84.2	126.4
Definitional.....	-7.0	-6.3	-8.5	-28.0	-10.0	-10.6	-18.4
Statistical.....	30.6	-53.8	-115.1	-53.2	-183.1	-149.3	-42.9
Net saving.....	-8.4	75.3	58.8	129.8	99.2	44.6	111.6
Net private saving.....	-1.2	82.4	83.6	124.7	97.0	40.5	189.3
Personal saving.....	-17.9	62.1	97.5	95.2	164.3	121.5	93.7
Definitional.....	1.9	-0.3	-0.3	25.1	-0.4	-0.4	-0.2
Statistical.....	-19.6	62.4	97.6	70.2	164.5	122.3	93.8
Undistributed corporate profits with IVA and CCAAdj.....	16.8	20.3	-13.9	29.5	-67.2	-81.0	100.5
Definitional.....	14.4	0.0	0.0	36.6	0.0	0.0	10.4
Statistical.....	2.3	20.3	-13.9	-7.1	-67.2	-81.0	90.1
Wage accruals less disbursements.....	0.0	0.0	0.0	0.0	0.0	0.0	-5.0
Net government saving.....	-7.2	-7.1	-24.8	5.1	2.3	4.1	-77.6
Federal.....	-5.1	-4.3	-4.9	8.7	-2.7	-7.2	-117.6
Definitional.....	-5.4	-6.1	-8.2	8.7	-9.6	-10.2	-11.4
Statistical.....	0.3	1.8	3.3	0.0	7.0	3.1	-106.2
State and local.....	-2.1	-2.8	-19.9	-3.6	4.8	11.3	39.9
Definitional.....	0.0	0.0	0.0	4.4	0.0	0.0	0.0
Statistical.....	-2.1	-2.8	-19.9	-8.0	4.8	11.3	39.9
Consumption of fixed capital.....	-7.5	-10.6	13.0	-70.6	36.8	39.5	14.8
Private.....	-7.4	-10.6	13.7	-68.9	35.4	38.5	13.1
Domestic business.....	-9.6	-16.7	14.9	-16.6	37.8	41.5	27.3
Definitional.....	-8.2	0.0	0.0	-48.8	0.0	0.0	-9.9
Statistical.....	-1.4	-16.7	14.9	32.2	37.8	41.5	37.3
Households and institutions.....	2.2	6.1	-1.3	-52.3	-2.4	-3.0	-14.2
Definitional.....	-9.8	0.0	0.0	-50.4	0.0	0.0	-7.5
Statistical.....	12.0	6.1	-1.3	-1.9	-2.4	-3.0	-6.8
Government.....	-0.1	0.0	-0.7	-1.7	1.3	1.0	1.7
Federal.....	-0.1	0.0	0.3	1.3	1.0	0.8	1.9
Definitional.....	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Statistical.....	-0.1	-0.1	0.3	1.3	1.0	0.8	1.7
State and local.....	0.0	0.0	-0.9	-3.1	0.4	0.3	-0.1
Definitional.....	0.0	0.0	0.0	-3.5	0.0	0.0	0.0
Statistical.....	0.0	0.0	-0.9	0.4	0.4	0.3	-0.1
Gross domestic investment, capital account transactions, and net lending, NIPAs.....	-8.7	-20.0	70.8	50.7	78.3	150.8	89.3
Gross domestic investment.....	0.0	-0.9	64.0	80.3	105.2	156.8	142.9
Gross private domestic investment.....	0.0	-1.1	64.9	86.1	106.8	158.1	142.6
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	0.0	-1.1	64.9	86.1	106.8	158.1	142.6
Gross government investment.....	0.0	0.2	-0.8	-5.8	-1.6	-1.2	0.3
Definitional.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Statistical.....	0.0	0.2	-0.8	-5.7	-1.5	-1.2	0.4
Capital account transactions, (net).....	-1.4	0.2	0.4	-15.1	0.3	0.4	-2.8
Definitional.....	-1.5	0.0	0.0	-15.4	0.0	0.0	-3.8
New treatment of disasters.....	-1.5	0.0	0.0	-15.4	0.0	0.0	-3.8
Statistical.....	0.1	0.2	0.4	0.3	0.3	0.4	1.0
Net lending or borrowing (-), NIPAs.....	-7.3	-19.3	6.3	-14.6	-27.1	-6.4	-50.7
Definitional.....	-6.6	-6.1	-8.0	-24.0	-9.7	-10.2	-16.5
Reclassification of transactions with U.S. territories and commonwealths.....	-6.6	-6.1	-8.0	-24.0	-9.7	-10.2	-16.5
Statistical.....	-0.7	-13.2	14.3	9.4	-17.4	3.8	-34.2
Statistical discrepancy.....	7.3	-84.7	-1.1	-8.5	-57.6	66.6	-37.1
Addendum:							
Gross saving as a percentage of gross national income.....	-0.2	0.5	0.4	0.2	0.7	0.4	0.7

are downward and larger, especially after 1983. For 1993, gross saving is revised down \$4 billion, and beginning with 1994, the revisions are all upward and generally become large—the largest being about \$136 billion for 2006. Beginning with 1978, except for 1991–93, the revisions to net private saving generally dominate the revisions to net government saving and to CFC, including the relatively large downward revisions to CFC for 2005 and to net government saving for 2008 (discussed above).

For 1980–91, the downward revisions to net private saving mainly reflect revisions to personal saving. For 1992, the downward revision to personal saving is largely offset by an upward revision to undistributed corporate profits with IVA and CCAdj. For 1993, an upward revision to net private saving is more than offset by a downward revision to net government saving. For 1994–2001 and for 2004, 2005, and 2008, the upward revisions to net private saving reflect upward revisions to both personal saving and undistributed corporate profits with IVA and CCAdj. For 2002 and 2003 and for 2006 and 2007, upward revisions to personal saving are partly offset by downward revisions to undistributed corporate profits with IVA and CCAdj.

“Net lending or net borrowing, NIPAs” (hereafter referred to as “net lending”) is the difference between the sum of gross saving and the statistical discrepancy and the sum of gross domestic investment and capital account transactions (net). Through 1978, the revisions to “net lending” are less than \$2.5 billion in absolute value. For 1979–1992, the revisions are downward and generally increase in magnitude to around \$7.5 billion, primarily reflecting downward revisions to gross saving that are partly offset by upward revisions to the statistical discrepancy. For 1993, a downward revision to “net lending” primarily reflects downward revisions to both gross saving and the statistical discrepancy. For 1994–2008, the revisions to “net lending” remain downward except for

2002 and 2004, generally reflecting downward revisions to the statistical discrepancy and upward revisions to gross domestic investment that are partly offset by upward revisions to gross saving. For 2001, 2005, and 2008, downward revisions to capital account transactions—reflecting the new treatment of disasters—are also notable offsets to the downward revisions to “net lending.”

Annual Estimates of Real GDP and Real DPI

Real GDP

Revisions to year-to-year growth rates of real GDP are generally small: for 70 of the 79 years since 1929, the revision is between –0.1 percentage point and 0.1 percentage point (table 19 and chart 1).

The revisions to real GDP result from the following:

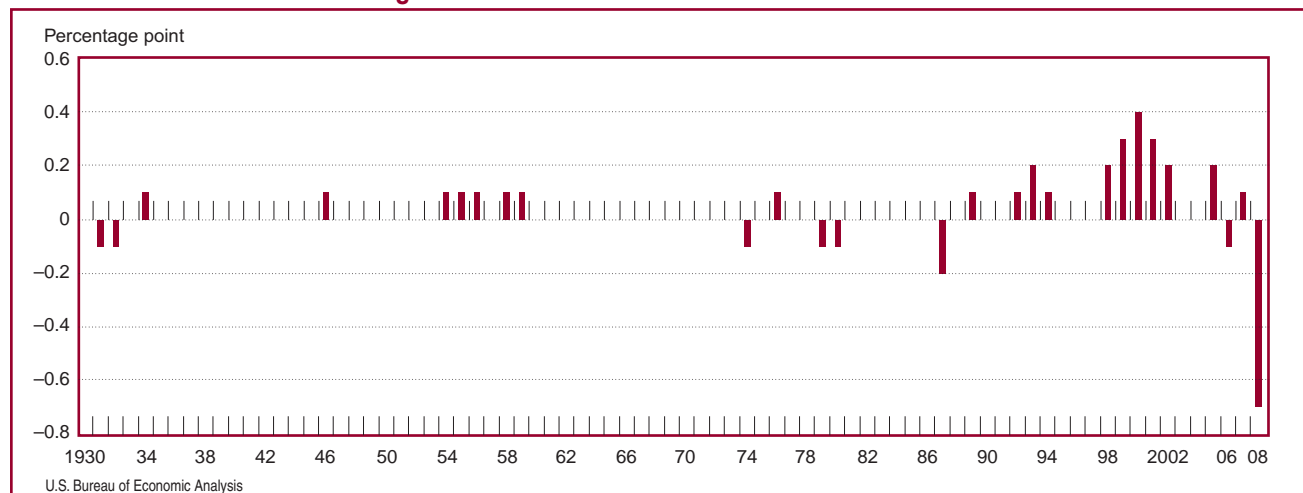
- Revisions to the current-dollar components of GDP for which chained-dollar estimates are prepared by deflation.
- Revisions to the prices used to estimate components of real GDP by deflation.
- Revisions to the quantities used to estimate the components of real GDP by extrapolation or direct valuation.

In contrast, changing the reference year (from 2000 to 2005) does not affect the percent changes in real

Table 19. Distribution of Revisions to Percent Change in Real Gross Domestic Product

Size of revision (percentage point)	Number of revisions
–0.7	1
–0.2	1
–0.1	6
0.0	52
0.1	12
0.2	4
0.3	2
0.4	1

Chart 1. Revision to Percent Change in Real GDP



GDP. (Neither does it affect the percent changes in the price indexes.)

For 19 years, the rate of growth of real GDP is revised up. Seven of the revisions are larger than 0.1 percentage point; the largest revision, at 0.4 percentage point (from 3.7 percent to 4.1 percent), is for 2000. Upward revisions to the change in current-dollar GDP play a role in these seven revisions; downward revisions to prices play a role in three of these revisions.

For 8 years, the rate of growth of real GDP is revised down. Two of the revisions are larger than 0.1 percentage

point; the largest revision, at 0.7 percentage point (from 1.1 percent to 0.4 percent), is for 2008. A downward revision to the change in current-dollar GDP plays a role in one of these revisions, and an upward revision to prices plays a role in the other revision.

For 52 years, the rate of growth of real GDP is unrevised.

For 1929–2008, the average annual growth rate of real GDP is revised up 0.1 percentage point (from 3.3 percent to 3.4 percent) (table 20). The period 1929–2008 can be usefully divided into three subperiods: 1929–59,

Table 20. Gross Domestic Product and Its Major Components: Revisions to Average Annual Rates of Change Over Selected Periods

[Percent]

	Current dollars			Chained dollars			Current dollars			Chained dollars		
	Revised	Previously published	Revision	Revised	Previously published	Revision	Revised	Previously published	Revision	Revised	Previously published	Revision
1929–2008						1929–1959						
Gross domestic product	6.4	6.4	0.0	3.4	3.3	0.1	5.4	5.4	0.0	3.5	3.5	0.0
Personal consumption expenditures	6.4	6.4	0.0	3.3	3.2	0.1	4.8	4.8	0.0	2.9	2.9	0.0
Goods	5.7	5.8	–0.1	3.2	.....	.....	4.7	4.8	–0.1	2.7	.....	.....
Durable goods	6.2	6.1	0.1	4.5	4.5	0.0	5.2	5.2	0.0	3.2	3.2	0.0
Nondurable goods	5.5	5.7	–0.2	2.6	2.7	–0.1	4.5	4.7	–0.2	2.5	2.7	–0.2
Services	6.9	6.9	0.0	3.4	3.4	0.0	5.0	4.9	0.1	3.2	3.1	0.1
Gross private domestic investment	6.3	6.3	0.0	3.8	3.8	0.0	5.3	5.3	0.0	3.6	3.6	0.0
Fixed investment	6.5	6.4	0.1	3.5	3.4	0.1	5.5	5.5	0.0	2.7	2.7	0.0
Nonresidential	6.6	6.5	0.1	4.0	3.9	0.1	4.9	4.9	0.0	2.1	2.1	0.0
Structures	6.1	6.0	0.1	1.8	1.8	0.0	4.1	4.1	0.0	1.0	1.0	0.0
Equipment and software	6.9	6.8	0.1	5.0	4.9	0.1	5.6	5.6	0.0	2.9	2.9	0.0
Residential	6.2	6.3	–0.1	2.3	2.3	0.0	6.7	6.7	0.0	3.6	3.6	0.0
Change in private inventories .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Net exports of goods and services .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Exports	7.5	7.6	–0.1	4.9	4.9	0.0	4.6	4.6	0.0	2.7	2.7	0.0
Goods	7.2	7.2	0.0	4.8	4.8	0.0	3.9	3.9	0.0	2.1	2.1	0.0
Services	9.1	9.1	0.0	5.5	5.5	0.0	8.2	8.2	0.0	5.1	5.1	0.0
Imports	8.1	8.0	0.1	4.9	4.9	0.0	4.7	4.7	0.0	2.8	2.8	0.0
Goods	8.1	8.1	0.0	5.0	4.9	0.1	4.2	4.2	0.0	2.2	2.2	0.0
Services	7.8	7.8	0.0	4.5	4.5	0.0	6.4	6.4	0.0	4.6	4.6	0.0
Government consumption expenditures and gross investment	7.5	7.5	0.0	3.7	3.7	0.0	8.5	8.5	0.0	6.1	6.1	0.0
Federal	8.5	8.5	0.0	4.7	4.7	0.0	12.9	12.9	0.0	10.4	10.4	0.0
National defense	8.9	8.9	0.0	5.1	5.1	0.0	14.6	14.6	0.0	12.1	12.1	0.0
Nondefense	8.0	7.9	0.1	4.3	4.2	0.1	9.3	9.3	0.0	6.8	6.8	0.0
State and local	7.2	7.2	0.0	2.9	2.9	0.0	6.1	6.1	0.0	2.9	2.9	0.0
Addendum:												
Disposable personal income	6.4	4.9	1.5	3.3	3.2	0.1	4.9	4.9	0.0	3.0	3.0	0.0
1959–1997						1997–2008						
Gross domestic product	7.6	7.6	0.0	3.4	3.4	0.0	5.1	5.0	0.1	2.8	2.7	0.1
Personal consumption expenditures	7.8	7.8	0.0	3.5	3.5	0.0	5.6	5.6	0.0	3.3	3.2	0.1
Goods	6.7	6.8	–0.1	3.3	.....	.....	4.9	5.1	–0.2	4.0	.....	.....
Durable goods	7.6	7.6	0.0	5.1	5.2	–0.1	3.9	3.6	0.3	6.1	5.7	0.4
Nondurable goods	6.3	6.5	–0.2	2.5	2.6	–0.1	5.4	5.7	–0.3	2.8	3.0	–0.2
Services	8.8	8.9	–0.1	3.8	3.9	–0.1	5.9	5.9	0.0	2.9	2.8	0.1
Gross private domestic investment	7.9	7.9	0.0	4.4	4.4	0.0	4.0	3.3	0.7	2.4	1.8	0.6
Fixed investment	7.8	7.8	0.0	4.3	4.3	0.0	4.6	4.1	0.5	2.9	2.4	0.5
Nonresidential	8.3	8.3	0.0	5.3	5.3	0.0	5.2	4.4	0.8	4.5	3.8	0.7
Structures	7.2	7.2	0.0	2.4	2.4	0.0	8.4	7.5	0.9	2.1	1.7	0.4
Equipment and software	8.9	8.9	0.0	6.7	6.7	0.0	3.8	3.0	0.8	5.1	4.3	0.8
Residential	6.9	6.9	0.0	2.2	2.2	0.0	2.9	3.1	–0.2	–1.0	–0.7	–0.3
Change in private inventories .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Net exports of goods and services .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Exports	10.3	10.3	0.0	6.8	6.8	0.0	6.1	6.2	–0.1	4.3	4.4	–0.1
Goods	10.3	10.3	0.0	7.1	7.1	0.0	5.7	5.8	–0.1	4.2	4.3	–0.1
Services	10.4	10.4	0.0	6.0	6.0	0.0	7.0	7.2	–0.2	4.5	4.5	0.0
Imports	10.7	10.7	0.0	6.3	6.3	0.0	8.3	8.3	0.0	5.6	5.6	0.0
Goods	11.3	11.3	0.0	7.0	7.0	0.0	8.3	8.2	0.1	5.7	5.7	0.0
Services	8.8	8.8	0.0	4.2	4.3	–0.1	8.4	8.3	0.1	5.1	4.9	0.2
Government consumption expenditures and gross investment	7.1	7.1	0.0	2.1	2.1	0.0	6.3	6.3	0.0	2.4	2.4	0.0
Federal	5.7	5.7	0.0	0.9	0.9	0.0	6.7	6.6	0.1	3.2	3.1	0.1
National defense	5.0	5.0	0.0	0.3	0.3	0.0	7.0	7.0	0.0	3.4	3.4	0.0
Nondefense	7.5	7.5	0.0	2.7	2.7	0.0	6.0	5.8	0.2	2.9	2.7	0.2
State and local	8.4	8.3	0.1	3.2	3.2	0.0	6.1	6.2	–0.1	1.9	2.0	–0.1
Addendum:												
Disposable personal income	7.6	7.6	0.0	3.4	3.4	0.0	5.4	5.4	0.0	3.1	3.0	0.1

1959–97, and 1997–2008. For 1929–59 and for 1959–97, the average rates of growth of the revised estimates are the same as in the previously published estimates. For 1997–2008, the average rate of growth of real GDP in the revised estimates is revised up 0.1 percentage point (from 2.7 percent to 2.8 percent.) For 1929–59 and 1959–97, the average rates of growth for the major components of real GDP are also unrevised. For 1997–2008, the average rates of growth of PCE and of nonresidential fixed investment are revised up, the rates of growth of residential fixed investment and of exports of goods and services are revised down, and the rates of growth of imports of goods and services and of government spending are unrevised.

Nonzero revisions are more common for the most recent subperiod than for the two earlier ones (table 21). For 1997–2008, the revisions to 9 of 11 (about 82 percent) of the year-to-year growth rates are nonzero; for 1929–59, the revisions to 9 of 30 (30 percent) of the growth rates are nonzero, and for 1959–97, the revisions to 9 of 38 (about 24 percent) of the growth rates are nonzero. The nonzero revisions are not only more common for 1997–2008 than for the earlier subperiods, but they also tend to be somewhat larger.

For 1929–59, in all but one case, the revisions to the contributions that the major components make to the percent change in real GDP are zero (table 22).¹⁵ PCE contributes 0.01 percentage point more on average to GDP growth in the revised estimates than in the previ-

15. This excludes the downward revisions to the contributions from PCE for nondurable goods that are mostly offset by upward revisions to the contributions for PCE for services, which reflect the new PCE classification introduced in this comprehensive revision.

Table 21. Summary of Revisions to Year-to-Year Growth Rates of Real Gross Domestic Product for Selected Periods

	1929–2008	1929–59	1959–97	1997–2008
In percentage points:				
Average revision.....	0.0	0.0	0.0	0.1
Average absolute revision.....	0.2	0.1	0.1	0.1
Largest negative revision.....	-0.7	-0.1	-0.2	-0.7
Largest positive revision.....	0.4	0.1	0.2	0.4
Number of:				
Upward revisions.....	19	7	5	7
Downward revisions.....	8	2	4	2
Zero revisions.....	52	21	29	2

ously published estimates.

For 1959–97, on average, nonresidential fixed investment contributes 0.01 percentage point more to real GDP growth, while imports of goods contributes 0.01 percentage point less to real GDP growth in the revised estimates than in the previously published estimates.

For 1997–2008, the revisions to the contributions are slightly larger. On average, equipment and software investment contributes 0.07 percentage point more to GDP growth in the revised estimates than in the previously published estimates, and nonresidential structures and PCE each contribute 0.02 percentage point more to real GDP growth. In contrast, on average, exports of goods and services contributes 0.02 percentage point less in the revised estimates than in the previously published estimates. The revisions to the contributions of the other major GDP components are equal to or less than 0.01 percentage point in absolute value.

Real DPI

For 1929–2008, the average annual rate of growth of real disposable personal income (DPI) is 3.3 percent, 0.1 percentage point higher than in the previously published estimates (table 20). The average annual

Table 22. Contributions to Percent Change in Real Gross Domestic Product, Averages for Selected Periods

	1929–2008			1929–59			1959–97			1997–2008		
	Revised	Previously published	Revision	Revised	Previously published	Revision	Revised	Previously published	Revision	Revised	Previously published	Revision
Percent change at annual rate:												
Gross domestic product.....	3.4	3.3	0.1	3.5	3.5	0.0	3.4	3.4	0.0	2.8	2.7	0.1
Percentage points at annual rates:												
Personal consumption expenditures.....	2.12	2.11	0.01	1.89	1.88	0.01	2.26	2.26	0.00	2.25	2.23	0.02
Goods.....	1.00			1.05			0.97			0.98		
Durable goods.....	0.40	0.38	0.02	0.27	0.26	0.01	0.46	0.44	0.02	0.55	0.49	0.06
Nondurable goods.....	0.60	0.75	-0.15	0.78	0.96	-0.18	0.51	0.63	-0.12	0.43	0.59	-0.16
Services.....	1.11	0.98	0.13	0.84	0.66	0.18	1.29	1.18	0.11	1.27	1.15	0.12
Gross private domestic investment.....	0.55	0.54	0.01	0.38	0.38	0.00	0.72	0.72	0.00	0.41	0.32	0.09
Fixed investment.....	0.49	0.48	0.01	0.28	0.28	0.00	0.67	0.67	0.00	0.49	0.41	0.08
Nonresidential.....	0.39	0.38	0.01	0.12	0.12	0.00	0.57	0.56	0.01	0.51	0.43	0.08
Structures.....	0.05	0.05	0.00	-0.01	-0.01	0.00	0.09	0.09	0.00	0.08	0.06	0.02
Equipment and software.....	0.34	0.33	0.01	0.14	0.14	0.00	0.47	0.47	0.00	0.43	0.36	0.07
Residential.....	0.11	0.11	0.00	0.16	0.16	0.00	0.10	0.10	0.00	-0.03	-0.02	-0.01
Change in private inventories.....	0.05	0.05	0.00	0.11	0.11	0.00	0.05	0.05	0.00	-0.07	-0.08	0.01
Net exports of goods and services.....	-0.05	-0.05	0.00	-0.01	-0.01	0.00	-0.01	-0.01	0.00	-0.32	-0.30	-0.02
Exports.....	0.35	0.35	0.00	0.10	0.10	0.00	0.51	0.51	0.00	0.46	0.48	-0.02
Goods.....	0.25	0.26	-0.01	0.06	0.06	0.00	0.39	0.39	0.00	0.32	0.33	-0.01
Services.....	0.09	0.09	0.00	0.04	0.04	0.00	0.12	0.12	0.00	0.14	0.15	-0.01
Imports.....	-0.40	-0.40	0.00	-0.11	-0.11	0.00	-0.51	-0.51	0.00	-0.78	-0.78	0.00
Goods.....	-0.33	-0.33	0.00	-0.06	-0.06	0.00	-0.45	-0.44	-0.01	-0.66	-0.66	0.00
Services.....	-0.07	-0.07	0.00	-0.06	-0.06	0.00	-0.07	-0.07	0.00	-0.12	-0.12	0.00
Government consumption expenditures and gross investment.....	0.87	0.87	0.00	1.56	1.56	0.00	0.45	0.45	0.00	0.44	0.44	0.00
Federal.....	0.59	0.59	0.00	1.35	1.35	0.00	0.11	0.11	0.00	0.21	0.21	0.00
National defense.....	0.49	0.49	0.00	1.19	1.19	0.00	0.04	0.04	0.00	0.15	0.15	0.00
Nondefense.....	0.10	0.10	0.00	0.16	0.16	0.00	0.07	0.07	0.00	0.06	0.06	0.00
State and local.....	0.28	0.28	0.00	0.21	0.21	0.00	0.35	0.35	0.00	0.22	0.23	-0.01

rates of growth for 1929–59 (3.0 percent) and for 1959–97 (3.4 percent) are the same as those previously published. For 1997–2008, the average annual rate of growth of real DPI is 3.1 percent, 0.1 percentage point higher than in the previously published estimates.

The revisions to real DPI result from the following:

- Revisions to the current-dollar DPI.
- Revisions to the implicit price deflator for PCE, which is used to deflate current-dollar DPI.

The revisions to the growth rate of real DPI exceed 0.1 percentage point (in absolute value) for 21 years (of the 79 years). For all but one of these 21 years (1934), the revisions to current-dollar DPI play a role; the revisions to the implicit price deflator for PCE play a role for 7 of the 21 years.

1929–59. The growth rate of real DPI is revised up for 7 years, and it is revised down for 6 years. The average revision is zero, and the average of the absolute values of the revisions is 0.1 percentage point. Only two of the revisions are larger than 0.1 percentage point in absolute value: the upward revisions for 1934 and 1946 are each 0.2 percentage point.

1959–97. The growth rate of real DPI is revised up for 13 years, and it is revised down for 10 years. The average revision is zero, and the average of the absolute values of the revisions is 0.3 percentage point. The largest upward revision is 0.7 percentage point for 1993. The upward revision for 1994 is 0.5 percentage point, the upward revisions for 1991 and 1996 are each 0.3 percentage point, and the upward revisions for 1986 and 1995 are each 0.2 percentage point. For 15 years, the growth rate of real DPI is unrevised. The largest downward revision, 0.4 percentage point, is for 1984. The downward revision for 1985 is 0.3 percent-

age point, and the downward revisions for 1979 and 1980 are each 0.2 percentage point.

1997–2008. The growth rate of real DPI is revised up for 6 years, and it is revised down for 4 years. The average revision is zero, and the average of the absolute values of the revisions is 0.6 percentage point. The largest upward revisions, 0.5 percentage point, are for 2001 and 2006. The upward revisions for 2000 and 2003 are each 0.3 percentage point, and the upward revisions for 1998 and 2002 are each 0.2 percentage point. For 1 year, the growth rate of real DPI is unrevised. The largest downward revision, 0.8 percentage point, is for 2008. The downward revision for 2007 is 0.6 percentage point, and the downward revision for 2004 is 0.2 percentage point.

Annual Prices

The revisions to the percent changes in the chain-type price indexes result from the incorporation of revised and newly available source data and of revised weights into the chain formula.

For 1929–2008 and for the subperiods 1929–59 and 1997–2008, the revised estimates of the average annual rates of change in the price index for gross domestic purchases are the same as those in the previously published estimates. For the 1959–97 subperiod, the revised estimates for the price index for gross domestic purchases prices show an average annual growth rate of 4.2 percent, an upward revision of 0.1 percentage point. For 1929–2008 and for all three subperiods, the revised estimates of the average annual rates of change in the price index for GDP prices are the same as those in the previously published estimates (table 23).

There are notable revisions to the prices of several

Table 23. Prices of Gross Domestic Product and Its Major Components: Revisions to Average Annual Rates of Change Over Selected Periods

	Revised	Previously published	Revision	Revised	Previously published	Revision	Revised	Previously published	Revision	Revised	Previously published	Revision
	1929–2008			1929–59			1959–97			1997–2008		
Gross domestic product.....	3.0	3.0	0.0	1.9	1.9	0.0	4.1	4.1	0.0	2.3	2.3	0.0
Personal consumption expenditures	3.0	3.0	0.0	1.9	1.9	0.0	4.1	4.1	0.0	2.2	2.3	-0.1
Goods.....	2.4	2.4	0.0	1.9	1.9	0.0	3.2	3.2	0.0	0.9	0.9	0.0
Durable goods.....	1.5	1.5	0.0	1.9	1.9	0.0	2.3	2.3	0.0	-2.1	-2.0	-0.1
Nondurable goods.....	2.8	2.9	-0.1	1.9	1.9	0.0	3.7	3.8	-0.1	2.6	2.6	0.0
Services	3.4	3.4	0.0	1.8	1.7	0.1	4.8	4.8	0.0	3.0	3.0	0.0
Gross private domestic investment.....	2.4	2.4	0.0	1.7	1.7	0.0	3.3	3.3	0.0	1.6	1.5	0.1
Fixed investment	2.9	2.9	0.0	2.7	2.8	-0.1	3.4	3.4	0.0	1.7	1.6	0.1
Nonresidential	2.5	2.5	0.0	2.8	2.8	0.0	2.9	2.9	0.0	0.7	0.6	0.1
Structures.....	4.3	4.2	0.1	3.1	3.1	0.0	4.6	4.6	0.0	6.2	5.6	0.6
Equipment and software	1.8	1.8	0.0	2.7	2.7	0.0	2.0	2.0	0.0	-1.2	-1.2	0.0
Residential	3.9	3.9	0.0	3.0	3.0	0.0	4.5	4.5	0.0	3.9	3.8	0.1
Change in private inventories.....												
Net exports of goods and services	2.5	2.5	0.0	1.8	1.8	0.0	3.3	3.3	0.0	1.7	1.8	-0.1
Exports.....	2.3	2.3	0.0	1.7	1.7	0.0	3.0	3.0	0.0	1.4	1.4	0.0
Goods	3.4	3.4	0.0	2.9	2.9	0.0	4.1	4.1	0.0	2.4	2.6	-0.2
Services	3.0	3.0	0.0	1.9	1.9	0.0	4.1	4.1	0.0	2.6	2.5	0.1
Imports	3.0	3.0	0.0	2.0	2.0	0.0	4.0	4.0	0.0	2.4	2.4	0.0
Goods	3.2	3.2	0.0	1.7	1.7	0.0	4.4	4.3	0.1	3.2	3.3	-0.1
Services												
Government consumption expenditures and gross investment.....	3.7	3.7	0.0	2.3	2.3	0.0	4.8	4.8	0.0	3.8	3.8	0.0
Federal	3.6	3.6	0.0	2.3	2.3	0.0	4.7	4.7	0.0	3.4	3.3	0.1
National defense	3.6	3.6	0.0	2.2	2.2	0.0	4.7	4.7	0.0	3.5	3.5	0.0
Nondefense	3.5	3.5	0.0	2.3	2.3	0.0	4.7	4.6	0.1	3.1	3.1	0.0
State and local	4.1	4.1	0.0	3.1	3.1	0.0	5.0	5.0	0.0	4.1	4.1	0.0
Addendum:												
Gross domestic purchases.....	3.0	3.0	0.0	1.9	1.9	0.0	4.2	4.1	0.1	2.4	2.4	0.0

major components of GDP for the subperiod 1997–2008:

- Prices of nonresidential structures are revised up 0.6 percentage point, primarily reflecting the incorporation of revised and new expenditure data and cost per foot data for petroleum and natural gas well drilling.
- Prices of residential fixed investment and of federal government spending are revised up 0.1 percentage point.
- In contrast, prices of exports of services are revised down 0.2 percentage point, and prices of PCE and of imports of services are revised down 0.1 percentage point.

Quarterly Real GDP

The revisions to the quarterly (and monthly) NIPA estimates reflect the revisions to the annual estimates, the incorporation of new and revised monthly and quarterly source data (including the updating of seasonal factors), and the introduction of changes in methodology.

This section focuses on the effect of the revisions on business cycles that are measured by the turning points in quarterly real GDP (table 24) with an emphasis on the current and preceding contractions (table 25). These turning points do not always coincide with the business-cycle turning points determined by the

National Bureau of Economic Research (NBER). The NBER considers a number of monthly indicators—such as employment, personal income, and industrial production—as well as the change in quarterly GDP growth for dating business cycles. Therefore, while declines in quarterly real GDP often track closely with recessions, the movements of monthly indicators (especially employment) that the NBER also considers may affect the relationship between the pattern of change in real GDP and the identification of recessions.¹⁶

In the revised estimates for the 10 complete contractions since 1947, 4 have slightly steeper declines than in the previously published estimates—the contractions beginning in the fourth quarter of 1973, in the first quarter of 1980, in the third quarter of 1981, and in the third quarter of 1990. For the remaining six complete contractions, three have slightly less steep declines—the contractions beginning in the fourth quarter of 1948, in the third quarter of 1957, and in the first quarter of 1960. For two of the three remaining complete contractions, the average annual rates of change for real GDP are unrevised—for the contraction beginning in the second quarter of 1953 and the contraction beginning in the third quarter of 1969. In the revised estimates for the contraction that began in the fourth quarter of 2000 and ended in the third quarter of 2001, real GDP now increases at an annual rate of 0.1 percent; in the previously published estimates, it had *decreased* at a rate of 0.2 percent.

For the second quarter of 2001, the percent change in real GDP is revised up 1.4 percentage points, from an increase of 1.2 percent to an increase of 2.6 percent.

16. More information about NBER business-cycle dating is available at www.nber.org/cycles/jan08bcdc_memo.

Table 24. Revisions to Cyclical Fluctuations in Real Gross Domestic Product, 1948–2009

[Average annual rate of change, in percent]

	Revised	Previously published	Revision
Contractions			
1948:IV–1949:IV	–1.6	–1.7	0.1
1953:II–1954:I	–3.5	–3.5	0.0
1957:III–1958:I	–7.3	–7.4	0.1
1960:I–1960:IV	–2.1	–2.2	0.1
1969:III–1970:IV	–0.5	–0.5	0.0
1973:IV–1975:I	–2.6	–2.5	–0.1
1980:I–1980:III	–4.4	–4.3	–0.1
1981:III–1982:I	–5.7	–5.6	–0.1
1990:III–1991:I	–2.7	–2.5	–0.2
2000:IV–2001:III	0.1	–0.2	0.3
2007:IV–2009:I ¹	–2.8	–1.8	–1.0
Expansions			
1949:IV–1953:II	7.5	7.5	0.0
1954:I–1957:III	3.7	3.7	0.0
1958:I–1960:I	6.3	6.2	0.1
1960:IV–1969:III	5.0	5.0	0.0
1970:IV–1973:IV	5.2	5.2	0.0
1975:I–1980:I	4.3	4.3	0.0
1980:III–1981:III	4.4	4.4	0.0
1982:I–1990:III	3.8	3.8	0.0
1991:I–2000:IV	3.7	3.5	0.2
2001:III–2007:IV	2.7	2.6	0.1

1. The current contraction is shown through the first quarter of 2009.

Table 25. Rates of Growth of Real Gross Domestic Product

	Revised	Previously published	Revision
2001:I–2001:III			
2001:I	–1.3	–0.5	–0.8
2001:II	2.6	1.2	1.4
2001:III	–1.1	–1.4	0.3
	Revised	Previously published	Revision
2008:I–2009:I			
2008:I	–0.7	0.9	–1.6
2008:II	1.5	2.8	–1.3
2008:III	–2.7	–0.5	–2.2
2008:IV	–5.4	–6.3	0.9
2009:I	–6.4	–5.5	–0.9

As a result of this large upward revision to the second quarter, the first quarter of 2001 is now considered the cyclical “GDP” trough for this contraction. (In the previously published estimates, the trough had been the third quarter of 2001.)

In the revised estimates for the current contraction that began in the fourth quarter of 2007, real GDP decreases at an average annual rate of 2.8 percent through the first quarter of 2009; in the previously published estimates, it had decreased at a rate of 1.8 percent. The percent change in real GDP is revised down for four quarters, and is revised up for one.

For the fourth quarter of 2007, the percent change in real GDP is revised up 2.3 percentage points, from a decrease of 0.2 percent to an increase of 2.1 percent. As a result, the fourth quarter of 2007 is the cyclical peak for the last expansion.

In the revised estimates for the ten expansions since 1947, three have slightly stronger increases than in the previously published estimates—the expansions beginning in the first quarter of 1958, in the first quarter of 1991, and in the third quarter of 2001. For the remaining seven expansions, the average annual rates of growth for real GDP are unrevised.

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Table A follows.