

Updated Summary NIPA Methodologies

This report presents summary descriptions of the principal source data and methods used to prepare the current-dollar estimates of gross domestic product (GDP) and the estimates of real GDP.¹ These descriptions have been updated to reflect the methodological improvements that were introduced in the annual revision of the national income and product accounts (NIPA's) that was released in July 2002.²

Current-dollar estimates

Table 1 lists the components of current-dollar GDP starting with the components on the product side and then proceeding to those on the income side (see page 22). The subcomponents, with their dollar values for 2001, are grouped according to the methodology used to prepare them.

The column for the annual estimates covers the revision cycle for those estimates and notes the major differences in methodology as the estimates move through the three annual revisions to a benchmark revision.³ For example, for "most durable and nondurable goods" in personal consumption expenditures (the first item on the product side), the table indicates one methodology for benchmark years and another for all other years.

The column for the quarterly estimates covers only the advance estimate for the current quarter—that is, the estimate prepared about a month after the end of the quarter. That estimate, rather than the preliminary or final quarterly estimate, is described because more attention focuses on the "first look" at the quarter. In addition, the column lists only the source data and methods; it does not indicate how many months of source data are available or whether the data are subject to revision by the source agency. Information on the key monthly source data appears each month in the "Business Situation" in the SURVEY OF CURRENT BUSINESS. Additional information on the monthly source data used for the advance estimate is available on BEA's Web site <www.bea.gov>.

The source data listed consist of a variety of economic measures, such as sales or receipts, wages and salaries, unit sales, housing stock, insurance premiums, expenses, interest rates, mortgage debt, and tax collections. For

most components, the source data are "value data"; that is, they encompass both the quantity and price dimensions that are required for current-dollar estimates. In these cases, the methodology indicated in table 1 covers only the adjustment of the value data to derive estimates consistent with NIPA definitions and coverage.

For those estimates not derived from value data, the table indicates the combination of data with separate quantity and price dimensions that is used to derive the required value estimate and the major adjustments needed to derive estimates consistent with NIPA definitions and coverage. On the product side, a "physical quantity times price" method is used for several components. For example, the estimate for new autos is calculated as unit sales times expenditure per auto (the average list price with options, adjusted for transportation charges, sales tax, dealer discounts, and rebates). On the income side, an "employment times earnings times hours" method and variations of a "stock of assets/liabilities times an effective interest rate" method are used for several components.

Some of the source data shown in table 1 for the annual estimates are used as indicators to interpolate and extrapolate the levels established by source data that are more comprehensive, and all of the source data shown for the advance quarterly estimates are used to extrapolate the level of the preceding quarter. In addition, extrapolation and interpolation may be based on trends, as is the case when "judgmental trend" is listed in the table.⁴

Estimating methods. Table 1 refers to four methods—commodity flow, retail control, perpetual inventory, and fiscal year analysis—that are used by BEA for estimating specific components.

The commodity-flow method is used to obtain the value of final users' purchases of goods and services (that is, commodities) for BEA's benchmark input-output accounts. These values serve as the benchmark for the NIPA estimates of personal consumption expenditures (PCE), of equipment and software, and of the commodity detail for State and local government consumption expenditures and gross investment.⁵ This method is also used for equipment and software in nonbenchmark years, but it is implemented in an abbreviated form. An even more abbreviated commodity-flow method is used

1. BEA has prepared a series of papers that provide detailed descriptions of NIPA concepts and methodologies and that are subject to periodic improvements, which are typically introduced as part of annual and comprehensive revisions; these improvements are described in the articles in the SURVEY OF CURRENT BUSINESS that cover these revisions. For more information, see appendix B at the back of this issue.

2. Eugene P. Seskin and Stephanie H. McCulla, "Annual Revision of the National Income and Product Accounts," SURVEY 82 (August 2002): 7–34.

3. For additional details on the release schedule for the NIPA estimates, go to BEA's Web site at <www.bea.gov>, click on "Methodologies," and under "National programs," see "A Guide to the NIPA's."

4. For a few components, the final quarterly estimates are based on newly available source data that replace judgmental trends.

5. For additional information on the commodity-flow method, see U.S. Bureau of Economic Analysis, *Personal Consumption Expenditures*, Methodology Paper No. 6 (Washington, DC: U.S. Government Printing Office, 1990): 31–34 and *GNP: An Overview of Source Data and Estimating Methods*, Methodology Paper No. 4 (Washington, DC: GPO, 1987): 16–17.

for current quarterly estimates of equipment and software.

The retail-control method is used to estimate more than a third of the value of PCE for periods other than benchmark years. This method provides the indicator series used in extrapolating and interpolating the total of “most durable and nondurable goods” and the “control” total to which the PCE categories and residential equipment included in this group must sum. These PCE categories consist of all goods except autos and trucks, food furnished to employees, food and fuel produced and consumed on farms, standard clothing issued to military personnel, school lunches, and net foreign remittances.⁶

The perpetual-inventory method is used to derive estimates of fixed capital stock, which in turn form the basis for the estimates of consumption of fixed capital. This method is based on investment flows and a geometric depreciation formula; it is used instead of direct measurement of the capital stock because direct measurement is seldom statistically feasible on a comprehensive basis.⁷

The fiscal year analysis method provides the framework for the annual and quarterly estimates of Federal Government consumption expenditures and gross investment. The estimates of expenditures are prepared by program—that is, by activity for a group of line items or for an individual line item in the *Budget of the U.S. Government*. For most programs, the fiscal year analysis begins by adjusting budget outlays for coverage and for netting and grossing differences between these outlays and NIPA expenditures. The expenditures total (as adjusted) for a program is then classified by type of NIPA expenditure—for example, transfer payments and interest paid—with nondefense consumption expenditures and gross investment determined residually. When a fiscal year analysis is completed, the detailed array of NIPA expenditures by program and by type of expenditure serves as a set of control totals for the quarterly estimates.⁸

International transactions accounts (ITA's). The source data for the foreign transactions reflected in most NIPA components—such as net exports of goods and services and rest-of-the-world corporate profits—are from the ITA's, which are also prepared by BEA.⁹ As noted

6. For additional information, see *Personal Consumption Expenditures*, 41–54; and *GNP: An Overview*, 17.

7. For additional information on the perpetual-inventory method, see U.S. Bureau of Economic Analysis, *Fixed Reproducible Tangible Wealth in the United States, 1925–94* (Washington, DC: GPO, August 1999): M–3–M–36; and *GNP: An Overview*, 17–18.

8. For additional information and an example of the fiscal year analysis method, see U.S. Bureau of Economic Analysis, *Government Transactions*, Methodology Paper No. 5 (Washington, DC: GPO, 1988): 19–20.

9. See U.S. Bureau of Economic Analysis, *The Balance of Payments of the United States: Concepts, Data Sources, and Estimating Procedures* (Washington, DC: GPO, 1990). The methodologies described in this publication are subject to periodic improvements, which are typically introduced as part of the annual revision of the ITA's; these improvements are described in the SURVEY articles that cover the annual ITA revisions, most recently in Christopher L. Bach, “Annual Revision of the U.S. International Transactions Accounts, 1993–2001,” SURVEY 82 (July 2002): 33–40.

in table 1, for some NIPA components, the ITA estimates are adjusted to conform to NIPA concepts and definitions.¹⁰ Annual estimates of these adjustments and their definitions are shown in NIPA table 4.5B, which was published in the August 2002 SURVEY on page 70; summary quarterly estimates are shown in “Reconciliation Tables” in appendix A of the SURVEY.

Other information. In preparing the annual estimates of several of the income-side components, BEA adjusts the source data for various coverage and conceptual differences. For each subcomponent listed below, an annual NIPA table reconciles the value published by the source agency with the NIPA value published by BEA and identifies the BEA adjustments. The following is a list of the subcomponents and their corresponding reconciliation tables, which were published in the August 2002 SURVEY, beginning on page 120: Consumption of fixed capital, table 8.22; nonfarm proprietors' income, table 8.23; farm proprietors' income, table 8.24; corporate profits, table 8.25; net interest, table 8.26; and wages and salaries, table 8.27.

Real estimates

Table 2 shows which one of three methods—deflation, quantity extrapolation, and direct base-year valuation—is used to prepare the quantity index for each detailed product-side component of real GDP and identifies the source data with which the method is implemented.¹¹ Deflation is used for most of the detailed components. In deflation, the quantity index is obtained by dividing the current-dollar index by an appropriate price index that has the base year—currently 1996—equal to 100 and then by multiplying the result by 100.

The quantity-extrapolation and direct base-year-valuation methods are similar: Both use explicit quantity data. In quantity extrapolation, quantity indexes are obtained by using a quantity indicator to extrapolate from the base-year value of 100 in both directions. In direct base-year valuation, quantity indexes are obtained by multiplying the base-year price by actual quantity data for the index period and then expressing the result as an index with the base year equal to 100.

The subcomponents in table 2 are the same as those shown in table 1, but the detail differs to highlight the alternative methodologies used for calculating the real estimates (see page 34).¹²

10. These adjustments are described in U.S. Bureau of Economic Analysis, *Foreign Transactions*, Methodology Paper No. 3 (Washington, DC: GPO, 1987): 15–25.

11. For additional information on the calculation of real GDP, go to BEA's Web site at <www.bea.gov>, click on “Methodologies,” and under “National programs,” see “A Guide to the NIPA's.”

12. For the real estimates, the distinction between annual and quarterly methodologies is far less important than it is for the current-dollar estimates. For the relatively few cases in which the annual and quarterly source data differ, the major differences are noted in the entry.

Table 1. Principal Source Data and Estimating Methods Used in Preparing Estimates of Current-Dollar GDP

Component	Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator	Advance quarterly estimates: Source data and methods used to prepare an extrapolator
Product side (Gross domestic product of \$10,082.2 billion for 2001)		
Personal consumption expenditures (\$6,987.0 billion)		
Durable and nondurable goods (\$2,877.2 billion) ¹		
Most durable and nondurable goods except those listed below (\$2,401.3 billion) ²	Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census and including an adjustment for exports and imports from Census Bureau foreign trade data. Other years. Retail-control method, using retail sales from Census Bureau annual survey of retail trade or, for most recent year, monthly survey of retail trade.	Same as the annual estimates for other years.
New autos (\$105.9 billion)	Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census and including an adjustment for exports and imports from Census Bureau foreign trade data. Other years. Physical quantity purchased times average retail price: Unit sales, information to allocate sales among consumers and other purchasers, and average list price with options, all from trade sources. Transportation charges, dealer discounts, and rebates from monthly survey of auto sales prices from the Bureau of Labor Statistics (BLS). Sales tax rate from Census Bureau annual survey of retail trade.	Same as the annual estimates for other years.
Net purchases of used autos (\$60.6 billion)	Benchmark years. For net transactions, residual based on net sales by other sectors. For dealers' margin, retail sales from Census Bureau quinquennial census and margin rate from Census Bureau annual survey of retail trade. Other years except the most recent year. For net transactions, change in consumer stock of autos from trade sources. For dealers' margin, for franchised dealers, unit sales and sales price from trade sources, times margin rate for independent dealers from Census Bureau annual survey of retail trade; for independent dealers, margin from Census Bureau annual survey of retail trade. Most recent year. For net transactions, same as other years except most recent year. For dealers' margin, for franchised dealers, unit sales and sales price from trade sources; for independent dealers, sales from Census Bureau monthly survey of retail trade.	For net transactions, residual based on net sales by other sectors. For dealers' margin, judgmental trend.
New trucks (\$121.8 billion)	Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census and including an adjustment for exports and imports from Census Bureau foreign trade data. Other years except the most recent year. Abbreviated commodity-flow method, starting with manufacturers' shipments from Census Bureau annual survey and including an adjustment for exports and imports from Census Bureau foreign trade data. Most recent year. Physical quantity purchased times average retail price: Unit sales, information to allocate sales among consumers and other purchasers, and average list price, all from trade sources.	Same as the annual estimate for the most recent year.
Gasoline and oil (\$162.1 billion) ²	Benchmark years. Physical quantity purchased times average retail price: Gallons consumed from the Department of Transportation; information to allocate that total among consumers and other purchasers from Federal agencies and trade sources; average retail price from Census Bureau quinquennial census. Other years except the most recent year. Same as benchmark years except that the average retail price is from the Energy Information Administration (EIA).	Same as the annual estimate for the most recent year.

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Product side (Gross domestic product of \$10,082.2 billion for 2001)		
<p>Food furnished to employees (including military)(\$9.7 billion)</p> <p>Expenditures abroad by U.S. residents (\$3.6 billion) less personal remittances in kind to nonresidents (\$2.2 billion)</p>	<p>Most recent year. Physical quantity purchased times average retail price: Gallons consumed and average price from EIA.</p> <p>Benchmark years. For commercial employees, number of employees of relevant industries from BLS tabulations times BEA estimate of per capita expenditures for food; for military personnel, outlays from the <i>Budget of the United States</i> prepared by the Office of Management and Budget (OMB).</p> <p>Other years. Same as benchmark years except per capita expenditures for food based on BLS consumer price index (CPI) for food.</p> <p>Estimated as part of the international transactions accounts; see entry for exports and imports of services under net exports of goods and services.</p>	<p>For commercial employees, same as annual estimates for other years; for military personnel, judgmental trend.</p> <p>Judgmental trend.</p>
Services (\$4,109.9 billion)		
<p>Nonfarm dwellings: Space rent for owner-occupied dwellings and rent for tenant-occupied dwellings (\$968.1 billion)</p>	<p>Benchmark years. Based on data on housing stock and average annual rent from Census Bureau decennial census of housing and survey of residential finance, adjusted for utilities included in rent.</p> <p>Other years. Based on data on housing stock and average annual rent from Census Bureau biennial housing survey or on the number of housing units from Census Bureau monthly current population survey and BLS CPI for rent</p>	<p>For housing stock, judgmental trend; for average rent, BLS CPI for rent.</p>
<p>Rental value of farm dwellings (\$8.0 billion)</p>	<p>Benchmark years. Based on data on housing stock and average annual rent from Census Bureau decennial census of housing and survey of residential finance.</p> <p>Other years. Based on data on current cost of farm housing stock from BEA capital stock series.</p>	<p>Judgmental trend.</p>
<p>Motor vehicle repair, rental and other services; other repair services; other purchased intercity transportation; legal and funeral services; barber shops, beauty parlors, and health clubs; nursing homes; laundries; employment agency fees; accounting and tax return preparation services; recreation (except cable TV, parimutuel net receipts, lotteries, and computer online services), hotels and motels; commercial business, trade, and correspondence schools; educational services not elsewhere classified; research organizations and foundations (\$686.3 billion)</p>	<p>Benchmark years. Receipts and expenses from Census Bureau quinquennial census adjusted for receipts from business and governments.</p> <p>Other years. For educational services not elsewhere classified and foundations, BLS annual tabulations of wages and salaries of employees covered by State unemployment insurance; for others in this group, receipts and expenses from Census Bureau service annual survey.</p>	<p>For nursing homes, research organizations and foundations, employment agency fees, and clubs and fraternal organizations, wages and salaries derived from BLS monthly employment times earnings times hours; for commercial business, trade, and correspondence schools, and for education services not elsewhere classified, employment times BLS CPI for technical and business school tuition and fees; for legitimate theaters and motion pictures, receipts from trade sources; for radio and TV repair, number of TV's based on stock and sales from trade source times BLS CPI for video and audio; for hotels and motels, rooms rented times average price per room from trade source; for casino gambling, receipts from State agencies; for others in this group, judgmental trend.</p>

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Product side (Gross domestic product of \$10,082.2 billion for 2001)		
Services [Continued]		
Physicians, dentists, and other professional medical services (\$487.7 billion)	Benchmark years. For nonprofit professional services, expenses, and for others in this group, receipts, adjusted for government consumption, all from Census quinquennial census. Other years. Receipts and expenses, adjusted for government consumptions from Census Bureau service annual survey.	For physicians and dentists, judgmental trend; for other professional medical services, wages and salaries derived from BLS monthly employment times earnings times hours.
Private nursery schools, elementary and secondary schools, day care, welfare activities, political organizations, foundations, and trade unions and professional associations (\$201.6 billion)	Benchmark years. For elementary and secondary schools, expenses from the Department of Education; for nursery schools and day care, expenditures from BLS consumer expenditure survey; for others in this group, receipts and expenses from Census Bureau quinquennial census. Other years except the most recent year. For nursery schools and day care, same as for benchmark years; for welfare activities, receipts and expenses from Census Bureau service annual survey; for others in this group, BLS annual tabulations of wages and salaries of employees covered by State unemployment insurance. Most recent year. For nursery schools and day care, judgmental trend; for welfare activities, same as for other years; for others in this group, BLS annual tabulations of wages and salaries of employees covered by State unemployment insurance.	For political organizations and foundations, judgmental trend; for elementary and secondary schools employment times BLS CPI for all items; for others in this group, wages and salaries derived from BLS monthly employment times earnings times hours.
Financial services furnished without payment by banks, credit agencies, and investment companies ³ (\$259.5 billion)	See the entry "Banks, credit agencies, and investment companies" under net interest.	Judgmental trend.
Brokerage charges and investment counseling, bank service charges, intercity transportation except other and private higher education (\$227.3 billion)	All years except the most recent year. For private higher education, expenses, and for others in this group, receipts from annual reports of government administrative agencies. Most recent year. For brokerage charges, bank service charges, and intercity transportation, receipts from annual reports of government administrative agencies; for investment counseling, receipts from Census Bureau service annual survey; for private higher education, enrollment from the Department of Education times price index for higher education from trade source.	For stock brokerage charges, stock exchange transactions from trade sources; for income from sales of investment company securities, sales of open-end investment company shares from trade source; for imputed commissions on debt securities, dealer transactions in U.S. government and agency securities from the Federal Reserve Bank of New York; for commodities commissions, futures contracts from trade source; for investment counseling, wages and salaries derived from BLS monthly employment times earnings times hours; other brokerage charges and investment counseling and for bank services charges, judgmental trend; for intercity transportation, receipts from trade sources; for private higher education, employment times BLS CPI for all items.

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Product side (Gross domestic product of \$10,082.2 billion for 2001)		
Domestic service (\$14.6 billion)	Benchmark years. For cleaning services, receipts from Census Bureau quinquennial census; for other domestic services, number of workers times weekly hours times earnings from BLS. Other years. Number of workers times weekly hours times earnings from BLS.	Judgmental trend.
Public education and hospitals, water and other sanitary services, and lotteries (\$203.4 billion)	All years except the most recent year. For lotteries, net receipts from Census Bureau quinquennial census and annual surveys of State and local governments, adjusted to a calendar year basis from a fiscal year basis; for others in this group, receipts from the same sources. Most recent year. Judgmental trend.	Judgmental trend.
Insurance, private hospitals, religious activities, cable TV electricity, natural gas, telephone, and local transport (\$945.0 billion)	Benchmark years. For life insurance, expenses from trade sources; for medical hand hospitalization insurance, premiums and benefits from the Center for Medicare and Medicaid Services; for other insurance, premiums and benefits from trade sources; for private hospitals, receipts and expenses from the Census Bureau quinquennial census; for cable TV and telephone, receipts from the Census Bureau quinquennial census; for religious activities, expenses based on contributions and membership from trade sources; for electricity and gas, receipts from the EIA; for local transport, receipts from trade source.	For life insurance, hospital, and religious activities, wages and salaries derived from BLS monthly employment times earnings time hours; for cable TV, number of cable TV and direct broadcast satellite subscribers from trade source; for electricity and gas, projected quantities based on degree-day data from the National Oceanic and Atmospheric Administration times prices based on BLS CPI's for electricity and gas; for cellular telephone, number of subscribers from trade source times BLS CPI for cellular telephone service; for others in this group, judgmental trend.
Foreign travel by U.S. residents (\$76.3 billion) less expenditures in the United States by nonresidents (\$90.6 billion)	Estimated as part of the international transactions accounts; see entry for exports and imports of services under net exports of goods and services.	Same as the annual estimates.
Other services: Motor vehicle leasing; parimutuel net receipts; other housing except hotels and motels; tolls; other household operations except repairs and insurance; travel and entertainment card fees; stenographic and reproduction services; money orders and classified advertising; and computer online service (\$122.6 billion)	Various source data.	For motor vehicle leasing, number of leased vehicles based on registrations and terms from trade source, and lease payments based on new vehicle prices, BEA depreciation schedules, and Federal Reserve Board interest rates on new motor vehicle loans; for others in this group, judgmental trend.
Fixed investment (\$1,646.3 billion)		
Nonresidential structures (\$324.5 billion) ⁴		
Utilities		
Telecommunication (\$18.4 billion)	Value put in place from Census Bureau monthly construction survey.	Same as annual.
Other (\$36.6 billion)	Expenditures from Federal regulatory agencies and trade sources.	Judgmental trend.

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Product side (Gross domestic product of \$10,082.2 billion for 2001)		
Nonresidential structures [Continued]		
Mining exploration, shafts, and wells (\$42.7 billion)	<p>Benchmark years. Expenditures from Census Bureau quinquennial census.</p> <p>All years except the most recent year. For petroleum and natural gas, physical quantity times average price: Footage drilled and cost per foot from trade sources; for other mining, expenditures from Census Bureau annual capital expenditure survey.</p> <p>Most recent year. For petroleum and natural gas, physical quantity times average price: Footage drilled and cost per foot from trade sources extrapolated by BLS producer price index for oil and gas well drilling.</p>	For petroleum and natural gas, same as annual estimates for the most recent year; for mining, judgmental trend.
Industrial buildings (\$25.6 billion)	<p>Benchmark years except 1992. Value put in place from Census Bureau monthly construction survey and improvements from Department of Energy (DOE) commercial buildings energy consumption survey. For 1992, tabulations from Census Bureau annual capital expenditure survey, adjusted for undercoverage.</p> <p>Other years. Value put in place from Census Bureau monthly construction survey.</p>	Same as the annual estimates for other years.
Other nonfarm buildings and structures (\$191.4 billion)	<p>Benchmark years. Value put in place from Census Bureau monthly construction survey and improvements from DOE commercial buildings energy consumption survey.</p> <p>Other years. Value put in place from Census Bureau monthly construction survey.</p>	Same as the annual estimates for other years
Farm buildings (\$6.1 billion)	Expenditures for new construction from the U.S. Department of Agriculture (USDA) surveys.	Value put in place from Census Bureau monthly construction survey.
Nonresidential equipment and software (\$877.1 billion)		
Equipment, except autos (\$662.6 billion)	<p>Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census and including an adjustment for exports and imports from Census Bureau foreign trade data.</p> <p>Other years. Abbreviated commodity-flow method, starting with the Census Bureau's annual manufacturers' shipments or, for the most recent year (except for aircraft and trucks), monthly survey of manufactures and including the adjustment for exports and imports. For aircraft, manufacturers' shipments from Census Bureau current industrial report, adjusted for exports and imports. For trucks, domestic and North American imports, physical quantity purchased times average retail price: Unit sales, information to allocate sales among business and other purchasers, and average list price, all from trade sources; for truck trailers, shipments from Census Bureau current industrial report.</p>	For trucks, see the entry for new trucks under personal consumption expenditures; for others in this group, same as the annual estimates for other years but with less detail.
New and used autos (\$34.1 billion)	For new autos, see the entry for new autos under personal consumption expenditures; for used autos, change-in-business stock of autos at least 1-year old from trade source.	For new autos, same as the annual estimates; for used autos, judgmental trend.
Software (\$180.4 billion)	<p>Benchmark years. For purchased software, commodity-flow method, starting with industry receipts data from Census Bureau quinquennial census and including an adjustment for exports and imports from Census Bureau foreign trade data; for own-account software, production costs based on BLS employment data and on Census Bureau quinquennial census.</p> <p>Other years. For purchased software, commodity-flow method, starting with industry receipts data from Census Bureau service annual survey and including the adjustment for exports and imports; for own-account software, production costs based on BLS employment data or, for the most recent 2 years, private fixed investment in computers and peripheral equipment.</p>	For purchased software, receipts from company reports to the Securities and Exchange Commission and retail sales of business software from trade sources; for own-account software, same as the annual estimates for the most recent 2 years.

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Product side (Gross domestic product of \$10,082.2 billion for 2001)		
Residential investment (\$444.8 billion) ⁵		
Permanent-site new single-family housing units (\$232.1 billion)	Value put in place based on phased housing starts and average construction cost from Census Bureau monthly construction survey.	Same as the annual estimates.
Permanent-site new multifamily housing units (\$30.7 billion)	Value put in place from Census Bureau monthly construction survey.	Same as the annual estimates.
Manufactured homes (\$8.8 billion)	Benchmark years. See the entry "Equipment, except autos" under nonresidential equipment and software. Other years. Physical quantity shipped times price: Shipments from trade source and average retail price from Census Bureau monthly survey.	Same as the annual estimates for other years.
Improvements (\$104.6 billion)	Expenditures by owner-occupants from BLS quarterly consumer expenditure survey and by landlords from Census Bureau quarterly survey of landlords.	Judgmental trend.
Brokers' commissions (\$60.0 billion)	Physical quantity times price times BEA estimate of average commission rate: Number of single-family houses sold and mean sales price from Census Bureau monthly construction survey and trade source.	Same as the annual estimates.
Equipment (\$9.3 billion)	See the entry "Most durable and nondurable goods" under personal consumption expenditures.	Same as the annual estimates.
Change in private inventories (-\$60.3 billion)		
Manufacturing and trade (-\$72.2 billion)	Benchmark years. Inventories from Census Bureau quinquennial censuses revalued to current replacement cost, with information on the proportions of inventories reported using different accounting methods, on the commodity composition of goods held in inventory, and on the turnover period, all from the quinquennial censuses and annual surveys, combined with prices, largely based on BLS producer price indexes. (The difference between the Census Bureau change in inventories and the BEA change in private inventories is the inventory valuation adjustment (IVA).) Other years except the most recent year. Inventories from Census Bureau annual surveys, revalued as described above. Most recent year. For retail auto dealers, quantities times average prices from trade sources; for all others, inventories from the Census Bureau monthly surveys, revalued as described above.	Same as the annual estimate for the most recent year.
Construction, mining, utilities, and other nonfarm industries (\$10.3 billion)	Benchmark years. Mining and construction inventories from Census Bureau quinquennial censuses revalued to current replacement cost the same as for manufacturing and trade. Other years except the most recent year. Internal Revenue Service (IRS) tabulations of business tax returns, revalued as described above. Most recent year. Census Bureau quarterly survey of mining corporations, monthly physical quantities from the EIA combined with BLS producer price indexes for electric utilities, and for all others, judgmental trend, revalued as described above (except when noted as physical quantity times price).	For electric utilities, same as the annual estimate for the most recent year; for all others, judgmental trend.
Farm (\$1.6 billion)	Changes in physical quantities times current prices from USDA surveys	For crops, BEA quarterly allocation of USDA annual projections of crop output and cash receipts; for livestock, USDA quarterly data.

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Product side (Gross domestic product of \$10,082.2 billion for 2001)		
Net exports of goods and services (–\$348.9 billion)		
Exports and imports of goods, net (–\$433.7 billion)	Estimated as part of the international transactions accounts: Export and import documents compiled monthly by the Census Bureau with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis. Adjusted for the balance-of-payments coverage of U.S. territories and Puerto Rico with data from the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the Census Bureau, and coverage of gold transactions adjusted with data from the U.S. Geological Survey and trade sources.	For territorial adjustment and coverage of gold, judgmental trend; for all other years, same as the annual estimates.
Exports and imports of services, net (\$84.8 billion)	Estimated as part of the international transactions accounts: For government transactions, reports by Federal agencies on their purchases and sales abroad; for most others in this group (including travel, passenger fares, other transportation, and royalties and license fees), BEA quarterly or annual surveys (supplemented with data from other sources). Adjusted for the balance-of-payments coverage of U.S. territories and Puerto Rico (see the above entry); adjusted to include financial services furnished without payment, see the entry for banks, credit agencies, and investment companies under imputed net interest, and adjusted for NIPA treatment of military grants.	For territorial adjustment, judgmental trend; for all other years, same as the annual estimates.
Government consumption expenditures and gross investment (\$1,858.0 billion)		
Federal Government (\$628.1 billion)		
National defense except consumption of general government fixed capital (\$336.4 billion)	Within a control total established by fiscal year analysis: For compensation, military wages from OMB's <i>Budget of the United States</i> , civilian wages and benefits from Office of Personnel Management (OPM), and other labor income for Federal employee retirement plans from outlays from the <i>Monthly Treasury Statement</i> ; for other than compensation by type, based mainly on data from Department of Defense (DOD) reports; for software, see the entry for software under nonresidential equipment and software.	For components of compensation, military employment from DOD and civilian employment from BLS; for other than compensation, same as annual; for software, see the entry for software under nonresidential equipment and software.
National defense consumption of general government fixed capital (\$63.5 billion)	Perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	Same as the annual estimates.
Nondefense except consumption of general government fixed capital (\$199.5 million)	Within a control total established by fiscal year analysis: For Commodity Credit Corporation inventory change, book values of acquisitions and physical quantities of dispositions from agency reports times average market prices from the USDA; for compensation, civilian wages and benefits from OPM and other labor income for Federal employee retirement plans from outlays from the <i>Monthly Treasury Statement</i> ; for petroleum sales (Naval Petroleum Reserve), distribution and price data from the DOE; for research and development, obligations from the National Science Foundation and disbursements from the National Aeronautics and Space Administration; for construction, value put in place from Census Bureau monthly construction survey; for software, see the entry for software under nonresidential equipment and software; for all others, outlays from the <i>Monthly Treasury Statement</i> . For financial services furnished without payment, see the entry for banks, credit agencies, and investment companies under imputed net interest.	For components of compensation, employment from BLS; for software, see software under nonresidential equipment and software; for other than compensation and software, same as the annual estimates.

Table 1. Principal Source Data and Estimating Methods Used in Preparing Estimates of Current-Dollar GDP

Component	Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator	Advance quarterly estimates: Source data and methods used to prepare an extrapolator
Product side (Gross domestic product of \$10,082.2 billion for 2001)		
Nondefense consumption of general government fixed capital (\$28.7 billion)	Perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	Same as the annual estimates.
State and local government (\$1,229.9 billion)		
Consumption expenditures and gross investment except those items listed below (\$226.9 billion)	All years except the 3 most recent years. Total expenditures from Census Bureau quinquennial census and annual surveys of State and local governments, selectively replaced with source data that are more appropriate for the NIPA's and adjusted as follows: For coverage; for netting and grossing differences to a calendar year basis from a fiscal year basis; for other timing differences; to exclude interest, subsidies, net expenditures of government enterprises, and transfer payments; and to exclude compensation, software, and structures. The 3 most recent years. Judgmental trend.	Judgmental trend.
Compensation of general government employees, except own-account investment (\$700.4 billion)	For wages and salaries, BLS annual tabulations of wages and salaries of employees covered by State unemployment insurance (UI); for employer contributions for social insurance, tabulations from the Social Security Administration and other agencies administering social insurance programs; for other labor income, trade sources, Centers for Medicare and Medicaid Services; Census Bureau annual surveys of State and local government retirement funds, adjusted to a calendar year basis and Census Bureau annual surveys of State and local governments, adjusted to a calendar year basis.	For wages and salaries, derived from BLS monthly employment times earnings from BLS employment cost index; for other compensation, judgmental trend.
Consumption of general government fixed capital (\$95.4 billion)	Perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	Same as the annual estimates.
Structures (\$177.6 billion)	Value of construction put in place from Census Bureau monthly construction survey.	Same as the annual estimates.
Software (\$16.0 billion)	See the entry for software under nonresidential equipment and software.	Same as the annual estimates.
Brokerage charges and financial services furnished without payment (\$13.6 billion)	See the entries for brokerage charges and for financial services furnished without payment under personal consumption expenditures for services.	Same as the annual estimates.
Income side (Gross national income of \$10,221.4 billion for 2001)		
Compensation of employees (\$5,874.9 billion) ⁶		
Wage and salary accruals (\$4,950.6 billion)		
Private industries (\$4,145.9 billion)	For most industries, BLS annual tabulations of wages and salaries of employees covered by State UI; for others, wages from a variety of sources (such as the USDA for farms and the Railroad Retirement Board for railroad transportation), adjusted for understatement of income on tax returns and for coverage differences.	For most industries, wages and salaries derived from BLS monthly employment times earnings times hours; for others, judgmental trend.
Federal Government (\$197.4 billion)	For civilians, wages from the Office of Personnel Management; for military personnel, wages from OMB's <i>Budget of the United States</i> .	For civilians, employment from BLS and judgmental trend; for military personnel, DOD employment and judgmental trend.
State and local governments (\$613.5 billion)	BLS annual tabulations of wages and salaries of employees covered by State UI.	Derived from BLS monthly employment times earnings from BLS employment cost index.

Table 1. Principal Source Data and Estimating Methods Used in Preparing Estimates of Current-Dollar GDP

Component	Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator	Advance quarterly estimates: Source data and methods used to prepare an extrapolator
Income side (Gross national income of \$10,221.4 billion for 2001)		
Compensation of employees [Continued]		
Employer contributions for social insurance (\$353.9 billion)	Tabulations from the Social Security Administration and other agencies that administer social insurance programs.	For Federal programs, BEA-derived wages and salaries of employees covered by the programs; for State and local government programs judgmental trend.
Other labor income (\$570.4 billion)		
Group health insurance (\$327.4 billion)	All years except the 3 most recent years. Total contributions from the Centers for Medicare and Medicaid Services less employee contributions from BLS consumer expenditure survey. The 3rd most recent year. Employer costs for health insurance from Department of Health and Human Services survey The 2 years after the most recent year. BLS employer costs for employee health insurance and wages and salaries from annual tabulations of employees covered by State UI.	Judgmental trend
Government employee retirement plans (\$110.9 billion)	All years except the most recent year. For Federal plans, outlays from the <i>Monthly Treasury Statement</i> ; for State and local government plans, Census Bureau annual surveys of State and local government retirement funds, adjusted to a calendar year basis. Most recent year. For Federal plans, same as the estimates for all years; for State and local government plans, Census Bureau annual surveys of State retirement funds, adjusted to a calendar year basis.	For Federal plans, same as the annual estimate for the most recent year; for State and local government plans, judgmental trend
Private pension and profit-sharing funds (\$75.9 billion)	All years except the 3 most recent years. Tabulations from the Department of Labor. The 3 most recent years. Employer costs for employee compensation from BLS or IRS tabulations of business tax returns.	Judgmental trend.
Workers' compensation (\$39.2 billion)	All years except the most recent year. Employer contributions from trade sources. The most recent year. Judgmental trend.	Judgmental trend.
Group life insurance (\$12.3 billion)	All years except the most recent year. Group premiums and estimates of employer share from trade sources. The most recent year. Judgmental trend.	Judgmental trend.
Proprietors' income with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAdj) (\$727.9 billion)		
Farm proprietors' income with IVA (\$26.7 billion)	USDA data on net income derived from gross income (cash receipts from marketing, inventory change, government payments, other cash income, and nonmonetary income) less production expenses, adjusted to exclude corporate income based on USDA quinquennial census and annual survey data.	For crops, BEA quarterly allocation of USDA annual projections of crop output; for livestock, USDA quarterly projections of cash receipts and inventories; for both crops and livestock, quarterly allocation of USDA annual projections of government subsidy payments and production expenses.
Farm proprietors' income CCAdj (-\$7.7billion)	See the entry "Less: Capital consumption adjustment" under consumption of fixed capital.	
Nonfarm proprietors' income (\$621.6 billion)	All years except the most recent year. Income from IRS tabulations of business tax returns, adjusted for understatement of income on tax returns and for conceptual differences Most recent year. For construction, trade, and services, indicators of activity (such as value of housing put in place); for most others, judgmental trend.	Same as the annual estimates for the most recent year.

Table 1. Principal Source Data and Estimating Methods Used in Preparing Estimates of Current-Dollar GDP

Component	Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator	Advance quarterly estimates: Source data and methods used to prepare an extrapolator
Income side (Gross national income of \$10,221.4 billion for 2001)		
Nonfarm proprietors' income IVA (\$0.9 billion)	See the entry for inventory valuation adjustment under corporate profits.	
Nonfarm proprietors' income CCAAdj (\$86.3 billion)	See the entry "Less: Capital consumption adjustment" under consumption of fixed capital.	
Rental income of persons (\$137.9 billion)		
Owner-occupied nonfarm housing (\$139.6 billion)	<p>Benchmark years. Derived as space rent (see entry for nonfarm dwellings under services in personal consumption expenditures) less related expenses, including property insurance from trade source; mortgage interest and property taxes from Census Bureau decennial survey of residential finance.</p> <p>Other years. Same as benchmark years except that mortgage interest is based on mortgage debt from the Federal Reserve Board times a BEA interest rate and property taxes are from Census Bureau annual surveys of State and local tax collections</p>	For owner-occupied space rent, same the annual estimates; for depreciation, interest closing costs, real estate dealers' commissions, and taxes, based on NIPA estimates of those components; for other expenses, judgmental trend.
Tenant-occupied nonfarm housing (\$45.4 billion)	Same as owner-occupied nonfarm housing, adjusted to cover only rental income accruing to persons not primarily engaged in the real estate business from Census Bureau decennial survey of residential finance.	Same as the annual estimate.
Farms owned by nonoperator landlords (\$6.8 billion)	Prepared with farm proprietors' income; see the entry for farm proprietors' income with IVA under proprietors' income.	Judgmental trend.
Nonfarm nonresidential properties (\$0.9 billion)	<p>Benchmark years. Nonfarm nonresidential fixed assets from BEA capital stock series times a rate of return on capital based on IRS tabulations of business tax returns.</p> <p>Other years. BEA capital stock series and judgmental trend.</p>	Judgmental trend.
Royalties (\$11.7 billion)	<p>All years except the most recent year. IRS tabulations of royalties reported on individual income tax returns.</p> <p>Most recent year. Judgmental trend.</p>	Judgmental trend.
Capital consumption adjustment (-\$66.5 billion)	See entry for "Less: Capital consumption adjustment" under consumption of fixed capital.	
Corporate profits with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAAdj) (\$731.6 billion)		
Domestic profits before tax (\$519.4 billion)	<p>All years except the most recent year. Receipts less deductions from IRS tabulations of business tax returns, adjusted for understatement of income on tax returns and for conceptual differences.</p> <p>Most recent year. Profits from Census Bureau quarterly survey of corporate profits, regulatory agency reports, and compilations of publicly available corporate financial statements.</p>	For some industries in transportation and in finance, judgmental trend; for others, same as the annual estimate for the most recent year. (Released with the preliminary estimates of GDP for the first, second, and third quarters and the final estimate for the fourth quarter.)
Rest-of-the-world profits before tax (\$150.8 billion)	Estimated as part of the international transactions accounts. For direct investment income, BEA surveys; for portfolio income, Treasury Department surveys. Adjusted for NIPA coverage of U.S. territories and Puerto Rico; see the entry for exports and imports of goods under net exports of goods and services.	Same as the annual estimates. (Released on same schedule as domestic profits before tax.)
Inventory valuation adjustment (IVA) (\$5.0 billion)	The IVA on the income side (for corporations and for nonfarm sole proprietorships and partnerships) differs from the IVA on the product side (see the entry "Change in private inventories") because the source data reflect different proportions of inventories reported on the basis of different accounting methods (such as last-in, first-out (LIFO)). The income-side IVA is based on the product-side IVA, adjusted by the relationship between non-LIFO inventories from IRS tabulations of business tax returns and non-LIFO inventories from the Census Bureau.	Same as the annual estimates.

Table 1. Principal Source Data and Estimating Methods Used in Preparing Estimates of Current-Dollar GDP

Component	Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator	Advance quarterly estimates: Source data and methods used to prepare an extrapolator
Income side (Gross national income of \$10,221.4 billion for 2001)		
Corporate profits with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAdj) [Continued]		
Capital consumption adjustment (CCAdj) (\$56.5 billion)	See the entry "Less: Capital consumption adjustment" under consumption of fixed capital.	
Net interest (\$649.8 billion)		
Domestic monetary interest, net (\$282.3 billion)	<p>All years except the most recent year. For farm interest paid, USDA surveys; for residential mortgage interest paid, Census Bureau decennial survey of residential finance and mortgage debt from the Federal Reserve Board times a BEA interest rate; for most other interest paid and received by business, IRS tabulations of business tax returns, adjusted for misreporting on tax returns and for conceptual differences.</p> <p>Most recent year. For farm and mortgage interest paid, same as the estimates for other years; for other interest, interest receipts and payments from regulatory agencies (such as the Federal Deposit Insurance Corporation) and from trade sources or by applying BEA interest rates to interest-bearing assets or liabilities from Federal Reserve Board flow-of-funds accounts.</p>	Derived by combining estimates of (1) interest received by persons, (2) government interest paid and received, and (3) interest paid by persons. For (1), judgmental trend; for (2), <i>Monthly Treasury Statement</i> for Federal and judgmental trend for State and local; for (3), consumer debt from the Federal Reserve Board times BEA estimates of interest rates.
Rest-of-the-world monetary interest, net (-\$104.4 billion)	Estimated as part of the international transactions accounts: For direct investment income, BEA surveys; for portfolio income, Treasury Department surveys. Adjusted for NIPA coverage of U.S. territories and Puerto Rico; see the entry for exports and imports of goods under net exports of goods and services.	Same as the annual estimates.
Imputed interest		
Banks, credit agencies, and investment companies (\$270.6 billion)	Property income earned on investment of deposits less monetary interest paid to depositors (and for mutual depositories, profits from IRS tabulations of business tax returns) from annual reports of regulatory agencies and the Federal Reserve Board. Imputed interest (financial services furnished without payment) is allocated to persons, government, and to the rest of the world on the basis of deposit liabilities from the same sources.	Judgmental trend.
Life insurance carriers (\$201.3 billion)	Property income earned and profits from IRS tabulations of business tax returns, trade sources, and the Federal Reserve Board.	Judgmental trend.
Business transfer payments (\$42.5 billion)	<p>All years except the most recent year. Payments to persons for charitable contributions, IRS tabulations of business tax returns; for other components (such as liability payments for personal injury), information from government agency reports and trade sources; payments to the rest of the world, estimated as part of the international transactions accounts.</p> <p>Most recent year. Payments to persons for charitable contributions and for other components, judgmental trend.</p>	Judgmental trend.
Indirect business tax and nontax liability (\$774.8 billion)		
Federal Government (\$110.3 billion)	For excise taxes, collections from the Bureau of Alcohol, Tobacco, and Firearms and the IRS; for customs duties, receipts from the <i>Monthly Treasury Statement</i> ; and for nontaxes (such as fines), receipts from OMB's <i>Budget of the United States</i> .	For most excise taxes, derived from indicators of activity (such as gasoline production for gasoline tax); customs duties, same as the annual estimates; for others, judgmental trend.
State and local governments (\$664.4 billion)	Receipts from Census Bureau quinquennial census and annual surveys, adjusted to a calendar year basis from a fiscal year basis.	Judgmental trend.

Table 1. Principal Source Data and Estimating Methods Used in Preparing Estimates of Current-Dollar GDP

Component	Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator	Advance quarterly estimates: Source data and methods used to prepare an extrapolator
Income side (Gross national income of \$10,221.4 billion for 2001)		
Subsidies less current surplus of government enterprises (\$47.3 billion)		
Federal Government (\$50.3 billion)	For subsidies, payments by the Commodity Credit Corporation (CCC) from agency reports and, for most other agencies, outlays from the <i>Monthly Treasury Statement</i> ; for current surplus, mainly reports of various agencies, such as the Postal Service, and consumption of fixed capital (CFC) estimates derived with perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	For subsidies, CCC reports and judgmental trend; for current surplus, judgmental trend and CFC estimates derived the same as the annual estimates.
State and local governments (-\$3.1 billion)	For subsidies, limited to railroad and electric power, Census Bureau annual surveys of expenditures adjusted to a calendar year basis from a fiscal year basis and California administrative records. For current surplus: For current operating receipts, mainly revenue data from Census Bureau annual surveys of State and local governments, adjusted to a calendar year from a fiscal year basis; for current operating expenditures, see the entries "Consumption expenditures and gross investment" and "Consumption of general government fixed capital" under State and local government.	Judgmental trend and California administrative records.
Consumption of fixed capital (\$1,329.3 billion)		
Government (\$222.4 billion)		
General government (\$187.7 billion)	Perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	Same as the annual estimates.
Government enterprise (\$34.8 billion)	Perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	Same as the annual estimates.
Private (\$1,106.8 billion)		
Capital consumption allowances (\$1,168.4 billion)	Perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	Same as the annual estimates.
	All years except the most recent year. For depreciation of corporations and of nonfarm sole proprietorships and partnerships, IRS tabulations of business tax returns, adjusted for conceptual differences; for other depreciation (including for noncorporate farms, nonprofit institutions, and owner-occupied housing), perpetual-inventory calculations based on investment at acquisition cost; for accidental damage to fixed capital, losses reported to insurance companies and government agencies.	Judgmental trend.
	Most recent year. For depreciation of corporations and nonfarm sole proprietorships and partnerships, BEA estimates of tax-return-based depreciation; for other depreciation and accidental damage to fixed capital, same as above.	
Less: Capital consumption adjustment (\$61.6 billion)	For corporations and nonfarm sole proprietorships and partnerships, the difference between tax-return-based calculations and perpetual-inventory calculations; for others (including noncorporate farms, nonprofit institutions and owner-occupied houses), the difference between perpetual-inventory calculations at historical cost and at current cost.	Judgmental trend.

NIPA National income and product account

1. Personal consumption expenditures (PCE) for durable and nondurable goods includes \$14.0 billion for food produced and consumed on farms, standard clothing issued to military personnel, and used trucks.

2. The Census Bureau data for retail sales include sales of gasoline service stations. The estimates of PCE for gasoline and oil are derived from the sources listed and are deducted from the retail-control totals to derive estimates of most durable and nondurable goods.

3. This line item is also referred to as "services furnished without payment by financial inter-

mediaries except life insurance carriers."

4. Nonresidential structures includes \$3.7 billion for brokers' commissions on sales of structures and net purchases of used structures.

5. Residential investment includes -\$0.7 billion for other structures (dormitories, fraternity and sorority houses, and nurses' homes) and net purchases of used structures.

6. Compensation of employees includes -\$6.2 billion for net wage and salary accruals for the rest of the world and \$4.8 billion for supplemental unemployment, directors' fees, and judicial fees in other labor income.

Table 2. Methodology Used in Preparing Estimates of Real GDP

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation	
	CPI or PPI	Other index		
Personal consumption expenditures				
Durable and nondurable goods				
Most durable and nondurable goods except those listed below	CPI PPI for military clothing		Direct valuation. For used autos, in two parts: (1) Margin, unit sales from trade sources with dealers' margins from Census Bureau and trade sources; (2) net transactions, net change in unit stock of autos held by consumers by year of original sale, valued by depreciated original value in base-year dollars.	
New autos	CPI			
Net purchases of used autos	.....	.....
New trucks	CPI			
Gasoline and oil	CPI			
Food furnished to employees (including military)	CPI			
Expenditures abroad by U.S. residents less personal remittances in kind to nonresidents	.....	Foreign CPI's ¹	
Services				
Nonfarm dwellings: Space rent for owner-occupied dwellings and rent for tenant-occupied dwellings	CPI			Extrapolation. BEA value of farm housing stock derived from USDA data on capital expenditures, depreciation, and farm dwelling construction costs.
Rental value of farm dwellings	.....	.....
Motor vehicle repair, rental and other services; other repair services; other purchased intercity transportation; legal and funeral services; barber shops, beauty parlors, and health clubs; nursing homes; laundries; employment agency fees; accounting and tax return preparation services; recreation (except cable TV, parimutuel net receipts, lotteries, and computer online services), hotels and motels; commercial business, trade, and correspondence schools; educational services not elsewhere classified; research organizations and foundations	CPI PPI, for private for-profit nursing homes and employment agency fees	Composite index of input prices from the Centers for Medicare and Medicaid Services, for private nonprofit nursing homes; for clubs and fraternal organizations and for nonprofit research and foundation expenses, BEA composite indexes of input prices.		
Physicians, dentists, and other professional medical services	CPI PPI, for physicians, home health care, and medical laboratories			

Table 2. Methodology Used in Preparing Estimates of Real GDP

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
Private nursery schools, elementary and secondary schools, day care, welfare activities, political organizations, foundations, and trade unions and professional associations	.....	BEA composite indexes of input prices.	
Financial services furnished without payment by banks, credit agencies, and investment companies ²	.....	BEA composite index of input prices, for investment companies' "total deductions."	Extrapolation. For banks, BLS index of total output (less BEA real bank service charges); for credit agencies, paid employee hours of relevant financial institutions; for investment companies' "implicit charges," BEA orders derived from volume data from trade sources.
Brokerage charges and investment counseling, bank service charges, intercity transportation except other and private higher education	CPI PPI, for stock brokerage charges	BEA index based on revenue per passenger mile from DOT and trade source and CPI for airline fares, for airline transportation; for private higher education, BEA composite index of input prices.	Extrapolation. For mutual fund sales charges, value of new sales deflated by CPI.
Domestic service	CPI		
Public education and hospitals, water and other sanitary services, and lotteries	CPI PPI, for public hospitals		
Insurance, private hospitals, religious activities, cable TV electricity, natural gas, telephone, and local transport	CPI PPI, private for-profit hospitals	BEA composite indexes of input prices, for life insurance and religious activities; for private nonprofit hospitals, composite index of input prices from the Centers for Medicare and Medicaid Services.	Extrapolation. For auto insurance, premiums deflated by CPI; for medical care and hospitalization insurance, benefits deflated by CPI; for workers' compensation, premiums deflated by PPI.
Foreign travel by U.S. residents less expenditures in the United States by nonresidents	CPI, for expenditures in the United States	BEA composite index of foreign CPI's, ¹ for foreign travel; for air fares paid to foreign carriers, BLS import price index; for air fares paid to U.S. carriers, BLS international price index.	
Other services: Motor vehicle leasing; parimutuel net receipts; other housing except hotels and motels; tolls; other household operations except repairs and insurance; travel and entertainment card fees; stenographic and reproduction services; money orders and classified advertising; and computer online service	CPI	.....	Extrapolation. For parimutuel net receipts, gross winnings deflated by CPI.

Fixed investment

Nonresidential structures

Utilities

PPI, for gas and petroleum pipelines

Cost index from trade source, for telecommunications; for railroads, BEA price index; for other components, cost indexes from trade sources and government agencies.

Mining exploration, shafts, and wells

PPI, for casing, oil and gas well drilling, oil and gas field services, and geophysical exploration

Implicit price deflator for nonfarm residential buildings, for mines.

Extrapolation. For drilling, footage by geographic area from trade source.

Table 2. Methodology Used in Preparing Estimates of Real GDP

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
Nonresidential structures [Continued]			
Nonfarm buildings and structures	.....	BEA index based on cost index from trade source and on Census Bureau price deflator for single-family houses under construction, for buildings; for structures, cost indexes from government agencies.	
Farm buildings	.....	Implicit price deflator, for nonfarm nonresidential buildings.	
Nonresidential equipment and software			
Equipment, except autos	PPI, for most domestic components and for imported transportation equipment	BLS import price indexes, for imported components except transportation equipment.	
New and used autos	CPI, for new autos	.....	Direct valuation. For used autos, see the entry "Net purchases of used autos" under durable and nondurable goods.
Telephone and telegraph installation	.....	BEA cost index	
Telephone switching equipment	.....	BEA price index	
Telephone and telegraph apparatus	.....	BEA price index	
Software	PPI, for repackaged software	BEA cost index, BLS employment cost index, and PPI, for own-account and custom software.	
Residential investment			
Permanent-site new single-family housing units	.....	Census Bureau price deflator for single-family houses under construction.	
Permanent-site new single-family housing units	.....	BEA price index	
Manufactured homes	PPI		
Improvements	.....	BEA composite index of input prices, for major replacements; for additions and alterations, BEA index based on Census Bureau price deflator for single-family houses under construction and BEA index for major replacements.	
Brokers' commissions	PPI		
Equipment	CPI		
Change in private inventories			
Nonfarm			
Purchased goods of all industries	PPI	Composite price from the Energy Information Administration (EIA), for crude petroleum; BLS import price indexes, for imported goods purchased by trade industries.	Direct valuation. Quantities and prices of stocks of coal, petroleum, and natural gas for utilities from the EIA.
Work-in-process and finished goods of manufacturing	PPI	BEA indexes of unit labor cost	
Farm	.....	USDA average market prices	

Table 2. Methodology Used in Preparing Estimates of Real GDP

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
Net exports of goods and services³			
Exports and imports of goods ³	PPI, for gold; semiconductor exports, selected transportation equipment; selected agricultural foods, feeds, and beverages and selected imports of refined petroleum	BLS export and import price indexes; for electric energy exports and imports and for petroleum imports, unit-value indexes based on Census Bureau values and quantities.	
Exports and imports of services ³	CPI, for travel receipts, medical receipts, and nonresident students' expenditures PPI, for selected other transportation	Selected deflators, for military transfers and defense expenditures; see "National defense, Except consumption of general government fixed capital" below. BLS export and import price indexes, for passenger fares; BEA composite index of foreign CPI's, ¹ for travel payments for miscellaneous services and U.S. students' expenditures abroad; BLS export and import price indexes, for selected other transportation; and for royalties and fees and for other private services, BEA price indexes, CPI, PPI, and implicit price deflator for final sales to domestic purchasers.	Extrapolation. For exports of financial services furnished without payment. ² BLS index of total bank output (less BEA real bank service charges).
Government consumption expenditures and gross investment			
Federal Government			
National defense except consumption of general government fixed capital	PPI, for selected goods and services CPI and PPI, for utilities and communications	BEA indexes based on DOD prices paid, for some goods and services and for most military structures; for some services, BLS employment cost indexes; for nonmilitary structures, cost indexes from trade sources and government agencies; for own-account software, BEA index derived from nondefense compensation; for custom software, BEA index derived from nondefense compensation price index and PPI.	Extrapolation. For military compensation, full-time equivalent employment by rank and length of service; for civilian compensation, full-time equivalent employment by grade, adjusted for change from base year in hours worked. Direct valuation. For some goods and services and a few military structures, quantities and prices from DOD reports; for electricity and natural gas, quantities from the DOE.
National defense consumption of general government fixed capital	.....	.....	Direct valuation. Perpetual-inventory calculations based on gross investment.

Table 2. Methodology Used in Preparing Estimates of Real GDP

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
Government consumption expenditures and gross investment [Continued]			
Nondefense except consumption of general government fixed capital	PPI, for most goods and selected services CPI, for rent, utilities, and communications	Cost indexes from trade sources and government agencies, for structures; for some services, BLS employment cost indexes; for own-account software, BEA index derived from nondefense compensation; for custom software, BEA index derived from nondefense compensation price index and PPI.	Extrapolation. For compensation, full-time equivalent employment by grade and adjusted for change from base year in hours worked; for financial services furnished without payment, ¹ BLS index of total bank output (less BEA real bank service charges). Direct valuation. For net purchases of agricultural commodities by the CCC, quantities by crop from agency reports and USDA prices; for selected petroleum transactions, DOE quantities and prices.
Nondefense consumption of general government fixed capital	.....	.....	Direct valuation. Perpetual-inventory calculations based on gross investment.
State and local government			
Consumption expenditures and gross investment except those items listed below	CPI for services PPI for electricity, hospitals, most professional services, and goods	BEA indexes based on Federal nondefense prices paid, for transportation, books, and postal services; for elementary and secondary education, welfare and libraries, BEA composite indexes of input prices; for maintenance and repair services, BEA composite price index for State and local construction.	
Compensation of general government employees, except own-account investment	.....	.....	Extrapolation. For employees in education, full-time equivalent employment by education and experience, adjusted for change from base year in hours worked; for other employees, full-time equivalent employment adjusted for the change from base year
Consumption of general government fixed capital	.....	.....	Direct valuation. Perpetual-inventory calculations based on gross investment.
Structures	.....	Cost indexes from trade sources and government agencies.	
Software	.....	See the entry for software under non-residential equipment and software.	
Brokerage charges and financial services furnished without payment	.....	.....	Extrapolation. See the entries for brokerage charges and for financial services under personal consumption expenditures for services.

BLS Bureau of Labor Statistics
CPI Consumer price index
DOE Department of Energy
DOT Department of Transportation
PPI Producer price index
USDA U.S. Department of Agriculture

1. The foreign CPI's have been adjusted for differences in exchange rates.
2. Also referred to as "services furnished without payment by financial intermediaries, except life insurance carriers."

3. Real net receipts of income from the rest of the world—the difference between real GDP and real gross national product—is prepared using the implicit price deflator for final sales to domestic purchasers; imputed interest paid to nonresidents is extrapolated by the BLS index of total bank output (less BEA real bank service charges).