

## Updated Summary of NIPA Methodologies

The Bureau of Economic Analysis (BEA) has recently improved its estimates of current-dollar gross domestic product (GDP), current-dollar gross domestic income (GDI), and real GDP as part of the 2008 annual revision of the national income and product accounts (NIPAs).<sup>1</sup> The sources of data and the methodologies that are now used to prepare the NIPA estimates are summarized in this report.<sup>2</sup>

### Current-dollar estimates of GDP and GDI

The current-dollar estimates of GDP and GDI for 2007 are presented in table 1. The components and subcomponents of GDP and GDI are listed according to the estimation method used by BEA (column 1). Information about the sources of data and the methods that are used to prepare the estimates for the comprehensive benchmark revisions and for the annual revisions in nonbenchmark years are also presented, and the major differences between the data and the methods used in benchmark revisions and those used in the annual revisions are noted (column 2). For example, for “most durable and nondurable goods” in personal consumption expenditures (PCE) (the first item in table 1), the table indicates that one methodology (commodity flow) is used to prepare estimates for benchmark years, and another methodology (retail control) is used to prepare the estimates for all the other years.

Additionally, information about the advance quarterly estimates, which are prepared about a month after the end of the quarter, are presented (column 3). Information about the advance quarterly estimates rather than about the preliminary or final quarterly estimates are provided because more attention tends to be focused on this “first look” at the estimate for a quarter. Only the source data and methods are listed; the number of months of available source data or whether the source data will be revised by the source agency are not listed.<sup>3</sup>

1. The concepts and methodologies that underlie the NIPAs are subject to periodic improvements as part of the comprehensive and annual NIPA revisions, and these improvements are described in a series of articles in the *SURVEY OF CURRENT BUSINESS*; for a list of these articles, see appendix B at the back of this issue. See also Eugene P. Seskin and Shelly Smith, “Annual Revision of the National Income and Product Accounts,” *SURVEY* 88 (August 2008): 6–22.

2. For descriptions of the fundamental concepts, definitions, classifications, and accounting framework that underlie the NIPAs and of the general sources and methods that are used to prepare the estimates, see *Concepts and Methods of the U.S. National Income and Product Accounts* on BEA’s Web site at [www.bea.gov/national/pdf/NIPAhandbookch1-4.pdf](http://www.bea.gov/national/pdf/NIPAhandbookch1-4.pdf).

3. For information on the key monthly source data, see “GDP and the Economy” in the *SURVEY*.

### Source data

The source data include 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 estimates are derived from source data that are “value data”: They encompass both the quantity data and the price data required to prepare current-dollar estimates. For these components, the value data are adjusted to derive estimates that are consistent with NIPA definitions and coverage (see table 1).

For the estimates that are not derived from value data, the sources of the quantity and price data that are used to prepare value estimates are indicated, and the major adjustments that are needed to derive estimates that are consistent with NIPA definitions and coverage are specified.

For the current-dollar estimates of GDP, a “physical quantity times price” method is used for several components. For example, the annual estimate of expenditures on new autos in a nonbenchmark year is calculated as unit sales times expenditure per auto (the average transactions price that reflects all discounts and customer rebates).

For the current-dollar estimates of GDI, two methods are used for several components—an “employment times earnings times hours” method and variations of a “stock of assets/liabilities times an effective interest rate” method.

Some of the source data are used as indicators to interpolate or extrapolate annual estimates. In some cases, extrapolation and interpolation may be based on trends; in that case, the use of “judgmental trend” is indicated.<sup>4</sup>

### Estimation methods

In some cases, BEA also uses four methods to estimate values: The commodity-flow method, the retail control method, the perpetual inventory method, and the fiscal year analysis method.

**The commodity-flow method** involves estimating values based on various measures of output. For example, the estimates of personal expenditures on new autos in benchmark years are based on data on manufacturers’ shipments from the Census Bureau, and BEA adjusts the data for imports and exports. In general, this method is used to derive estimates of various components of PCE, equipment and software, and of the commodity detail for state and local government consumption expenditures

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

and gross investment.<sup>5</sup> An abbreviated form of this method is used to prepare estimates of equipment and software in nonbenchmark years, and an even more abbreviated form is used to prepare the current quarterly estimates of equipment and software.

**The retail control method** uses retail sales data, usually compiled by the Census Bureau, to estimate expenditures.<sup>6</sup> It is used to prepare estimates of many subcomponents of durable and nondurable goods in nonbenchmark years.

**The perpetual inventory method** is used to derive estimates of fixed capital stock, which are used to estimate consumption of fixed capital. This method is based on investment flows and a geometric depreciation formula.<sup>7</sup>

**The fiscal year analysis method** is used to estimate annual and quarterly estimates of consumption expenditures and gross investment by the Federal Government. The estimates of expenditures are calculated by program, that is, by activity for a single line item or for a group of line items in the *Budget of the U.S. Government*. For most programs, BEA adjusts budget outlays so that they conform to the NIPAs and classifies the expenditures in the appropriate NIPA category—such as current transfer payments and interest payments—with nondefense consumption expenditures and gross investment that are determined residually. When a fiscal year analysis is completed, the detailed array of NIPA expenditures by program and by type of expenditure provides a set of control totals for the quarterly estimates.<sup>8</sup>

### International transactions accounts

The source data for the foreign transactions that are reflected in most NIPA components—such as net exports of goods and services, net income receipts and rest-of-the-world corporate profits—are from the international transactions accounts (ITAs) that are prepared by BEA.<sup>9</sup>

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5. For additional information on the commodity-flow method, see “Estimating Methods” in *Concepts and Methods of the U.S. National Income and Product Accounts* at [www.bea.gov/national/pdf/NIPAhndbookch1-4.pdf](http://www.bea.gov/national/pdf/NIPAhndbookch1-4.pdf) (July 2008): 4–8–4–9.

6. See “Estimating Methods,” 4–9.

7. For additional information, see “Estimating Methods,” 4–11

8. For details, see the methodology paper *Government Transactions* at [www.bea.gov/bea/mp.htm](http://www.bea.gov/bea/mp.htm).

9. See *The Balance of Payments of the United States: Concepts, Data Sources, and Estimating Procedures* at [www.bea.gov/bea/mp/htm](http://www.bea.gov/bea/mp/htm). Improvements in methodology are usually introduced as part of annual ITA revision; see Christopher L. Bach, “Annual Revision of the U.S. International Transactions Accounts” *SURVEY* 88 (July 2008): 36–52.

As noted in table 1, for some NIPA components, the ITA estimates are adjusted to conform to NIPA concepts and definitions. For the annual estimates of these adjustments and their definitions, see NIPA table 4.3B in the August 2008 *SURVEY OF CURRENT BUSINESS* (page 109); for summary quarterly estimates, see the reconciliation table in appendix A in the *SURVEY*.

**Reconciliation tables.** In preparing the annual estimates of several components of GDI, BEA adjusts the source data to conform to the NIPA concepts and coverage. For each subcomponent, an annual NIPA table reconciles the value published by the source agency with the NIPA value published by BEA, and the adjustments are listed. Reconciliation tables for the following subcomponents were published in “National Income and Product Accounts Tables” in the August 2008 *SURVEY*: consumption of fixed capital in table 7.13; nonfarm proprietors’ income in table 7.14; corporate profits in table 7.16; net monetary interest in table 7.17; and wages and salaries in table 7.18.

### Real estimates of GDP

BEA uses three methods to estimate real GDP: The deflation method, the quantity extrapolation method, and the direct valuation method. These methods and the source data that are used are presented in table 2.

**The deflation method** is used for most components of GDP. The quantity index is derived by dividing the current-dollar index by an appropriate price index that has the base year—currently 2000—equal to 100. The result is then multiplied by 100.

**The quantity extrapolation method** uses quantity indexes that are obtained by using a quantity indicator to extrapolate from the base-year value of 100.

**The direct valuation method** uses quantity indexes that are obtained by multiplying the base-year price by actual quantity data for the index period. The result is then expressed 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 that are used to calculate the real estimates.<sup>10</sup>

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10. For real estimates, the distinction between annual and quarterly methodologies is 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.

*Tables 1 and 2 follow.*

Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Continues

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
<b>Gross domestic product of \$13,807.5 billion for 2007</b>		
<b>Personal consumption expenditures (\$9,710.2 billion)</b>		
<b>Durable and nondurable goods (\$3,915.8 billion)<sup>1</sup></b>		
Most durable and nondurable goods except those listed below (\$3,193.0 billion) <sup>2</sup>	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.	Same as the annual estimates for other years.
New autos (\$102.0 billion)	Other years. Retail-control method, using retail sales from Census Bureau annual survey of retail trade or, for the most recent year, monthly survey of retail trade.	
New autos (\$102.0 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 Bureau of Labor Statistics (BLS) monthly survey of auto sales prices. Sales tax rate from Census Bureau annual survey of retail trade.	Same as the annual estimates for other years.
Net purchases of used autos and used light trucks (\$121.2 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 the most recent. 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, extrapolated by retail sales of used vehicle dealers from Census Bureau monthly survey of retail trade. For dealers' margin, judgmental trend.
New light trucks (including utility vehicles) (\$138.3 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 transactions prices that reflect all discounts and customer rebates, all from trade sources. Sales tax rate from Census Bureau annual survey of retail trade.	Same as the annual estimate for other years.
Gasoline and oil (\$340.6 billion) <sup>2</sup>	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 the Energy Information Administration (EIA). Other years except the most recent year. Same as benchmark years. Most recent year. Physical quantity purchased times average retail price: Gallons consumed and average price from EIA.	Same as the annual estimate for the most recent year.
Food furnished to employees (including military) (\$14.7 billion)	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). Other years. Same as benchmark years except per capita expenditures for food based on BLS consumer price index (CPI) for food.	For commercial employees, same as the annual estimates for other years; for military personnel, judgmental trend.
Expenditures abroad by U.S. residents (\$9.1 billion) less personal remittances in kind to nonresidents (\$3.1 billion)	Estimated as part of the international transactions accounts; see the entry for exports and imports of services under net exports of goods and services.	Judgmental trend.

See the footnotes at the end of the table.

**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Continues**

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
<b>Services (\$5,794.4 billion)</b>		
Nonfarm dwellings: Space rent for owner-occupied dwellings and rent for tenant-occupied dwellings (\$1,362.4 billion)	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. 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.	For housing stock, judgmental trend; for average rent, BLS CPI for rent.
Rental value of farm dwellings (\$15.2 billion)	U.S. Department of Agriculture (USDA) data on gross rental value of farm dwellings.	Judgmental trend.
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 (\$991.0 billion)	Benchmark years. Receipts and expenses from Census Bureau quinquennial census adjusted for receipts from business and governments. Other years. For educational services not elsewhere classified and foundations, BLS tabulations from the Quarterly Census of Employment and Wages (QCEW); for others in this group, receipts and expenses from Census Bureau service annual survey.	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 TVs 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.
Physicians, dentists, home health care, medical laboratories, eye examinations, all other professional medical services (\$744.8 billion)	Benchmark years. For nonprofit professional services, expenses, and for others in this group, receipts, adjusted for government consumption, all from Census Bureau quinquennial census. Other years. Receipts and expenses, adjusted for government consumption, from Census Bureau service annual survey.	For home health care, wages and salaries derived from BLS monthly employment times earnings times hours; for others in this group, judgmental trend.
Private nursery schools, elementary and secondary schools, day care, museums and libraries, welfare activities, political organizations, foundations, and trade unions and professional associations (\$263.1 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. For nursery schools and day care, same as benchmark years; for welfare activities, receipts and expenses from Census Bureau service annual survey; for others in this group, BLS tabulations from the QCEW.	For political organizations and foundations, judgmental trend; for elementary and secondary schools, employment times BLS CPI for all items less food and energy; for others in this group, wages and salaries derived from BLS monthly employment times earnings times hours.
Financial services furnished without payment by banks, other depository institutions, and investment companies (\$227.6 billion) <sup>3</sup>	See the entry for banks, credit agencies, and investment companies under net interest and miscellaneous payments.	Judgmental trend.

See the footnotes at the end of the table.

**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Continues**

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
<p>Brokerage charges and investment counseling, bank service charges, intercity transportation except "other," and private higher education (\$342.4 billion)</p>	<p>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.</p>	<p>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 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; for other brokerage charges and investment counseling and for bank service charges, judgmental trend; for intercity transportation, receipts from trade sources; for private higher education, employment times BLS CPI for all items less food and energy.</p>
<p>Domestic service (\$22.4 billion)</p>	<p>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.</p>	<p>Judgmental trend.</p>
<p>Public education and hospitals, water and other sanitary services, and lotteries (\$299.5 billion)</p>	<p>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.</p>	<p>Judgmental trend.</p>
<p>Insurance, private hospitals, religious activities, cable TV, electricity, natural gas, telephone, and local transport (\$1,378.5 billion)</p>	<p>Benchmark years. For life insurance, expenses from trade sources; for medical and hospitalization insurance, premiums from the Agency for Healthcare Research and Quality and benefits based on ratio of benefits to premiums from Census Bureau quinquennial census; for other insurance, premiums and dividends to policyholders from trade source, normal losses and expected investment income derived using incurred losses and investment gains, respectively, from trade source; for private hospitals, receipts and expenses from Census Bureau quinquennial census; for cable TV and telephone, receipts from Census Bureau quinquennial census; for religious activities, expenses based on contributions and membership from trade sources; for electricity and gas, receipts from EIA; for local transport, receipts from trade source. Other years except the most recent year. For private and nonprofit hospitals, expenses from trade source; for private proprietary hospitals and cable TV, receipts from Census Bureau service annual survey; for telephone, receipts from the Federal Communications Commission; for others in this group, same as benchmark years. Most recent year. For life insurance, wages and salaries from BLS tabulations from QCEW; for medical and hospitalization insurance, BLS employer costs for employee health insurance and wages and salaries from BLS tabulations of employees from QCEW; for other insurance, judgmental trend; for private hospitals, receipts and expenses from Census Bureau service annual survey; for religious activities, expenses based on population from the Census Bureau and per capita disposable personal income from BEA; for local transport, passenger trips from trade sources times BLS CPI for intracity mass transit; for electricity and natural gas, same as benchmark years; for cable TV, receipts from Census Bureau service annual survey; for telephone, receipts from company reports and trade sources.</p>	<p>For life insurance and private hospitals, wages and salaries derived from BLS monthly employment times earnings times 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 CPIs 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.</p>

See the footnotes at the end of the table.

**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Continues**

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
<p>Foreign travel by U.S. residents (\$113.6 billion) less expenditures in the United States by non-residents (\$122.6 billion)</p> <p>Other services: Motor vehicle leasing; parimutuel net receipts; other housing except hotels and motels; bridge, etc. tolls; other household operation except repairs and insurance; travel and entertainment card fees; stenographic and reproduction services; money orders and classified advertising; and computer online services (\$156.3 billion)</p>	<p>Estimated as part of the international transactions accounts; see the entry for exports and imports of services under net exports of goods and services.</p> <p>Various source data.</p>	<p>Same as the annual estimates.</p> <p>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 (FRB) interest rates on new motor vehicle loans; for others in this group, judgmental trend.</p>
<b>Fixed investment (\$2,134.0 billion)</b>		
<b>Nonresidential structures (\$480.3 billion)</b>		
Commercial and health care (\$147.4 billion)	Benchmark years. BEA's benchmark input-output table. Other years. Construction spending (value put in place) from Census Bureau monthly construction survey.	Same as the annual estimates for other years.
Manufacturing (\$33.0 billion)	Construction spending (value put in place) from Census Bureau monthly construction survey.	Same as the annual estimates.
Power and communication (\$62.3 billion)	Construction spending (value put in place) from Census Bureau monthly construction survey.	Same as the annual estimates.
Mining exploration, shafts, and wells (\$118.1 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 the annual estimate for the most recent year; for mining, judgmental trend.
Other structures (\$92.6 billion)	Benchmark years. BEA's benchmark input-output table. Other years. Construction spending (value put in place) from Census Bureau monthly construction survey.	Same as the annual estimates for other years.
<b>Nonresidential equipment and software (\$1,023.5 billion)</b>		
Equipment except new autos, new light trucks, and net purchases of used autos and used light trucks (\$696.6 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 manufacturers' shipments from Census Bureau annual survey or, for the most recent year (except aircraft, computers, and heavy trucks), monthly survey of manufacturers and including an adjustment for exports and imports from Census Bureau foreign trade data. For aircraft, manufacturers' shipments from Census Bureau current industrial report, adjusted for exports and imports. For computers, manufacturers' shipments from FRB industrial production index and Census Bureau monthly survey of manufacturers, adjusted for exports and imports. For heavy trucks, physical quantity purchased times average price: Unit sales and information to allocate sales among business and other purchasers, from trade sources; for truck trailers, shipments from trade source.</p>	Same as the annual estimates for other years but with less detail.
New autos, new light trucks, and net purchases of used autos and used light trucks (\$99.6 billion)	See the entries under personal consumption expenditures.	See the entries under personal consumption expenditures.

See the footnotes at the end of the table.

**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Continues**

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
Software (\$227.3 billion)	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. Other years. For purchased software, commodity-flow method, starting with industry receipts data from Census Bureau service annual survey 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.	For purchased software, receipts from company reports to the Securities and Exchange Commission; for own-account software, private fixed investment in computers and peripheral equipment.
<b>Residential investment (\$630.2 billion)<sup>4</sup></b>		
Permanent-site new single-family housing units (\$305.2 billion)	Construction spending (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 multi-family housing units (\$48.2 billion)	Construction spending (value put in place) from Census Bureau monthly construction survey.	Same as the annual estimates.
Manufactured homes (\$6.1 billion)	Benchmark years. See the entry for "Equipment except new autos, new light trucks, and net purchases of used autos and used light trucks" 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 (\$174.9 billion)	Benchmark years. For 1997, Construction spending (value put in place) from Census Bureau construction survey based on expenditures by owner-occupants from BLS quarterly consumer expenditure survey and by landlords from Census Bureau quarterly survey of landlords. Others years. A weighted 3-year moving average of the improvements estimates from Census Bureau construction spending (value put in place) construction survey.	Judgmental trend.
Brokers' commissions (\$86.4 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 (\$9.5 billion)	See the entry for "Most durable and nondurable goods" under personal consumption expenditures.	Same as the annual estimates.
<b>Change in private inventories (−\$3.6 billion)</b>		
Manufacturing and trade (−\$7.5 billion)	Benchmark years. Inventories from Census Bureau quinquennial census 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 Census Bureau quinquennial censuses and annual surveys, combined with prices, largely based on BLS producer price indexes. (The difference between Census Bureau change in inventories and BEA change in private inventories is the inventory valuation adjustment.) 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 other, inventories from Census Bureau monthly surveys, revalued as described above.	Same as the annual estimate for the most recent year.
Mining, utilities, construction, and other nonfarm industries (\$2.3 billion)	Benchmark years. Mining and construction inventories from Census Bureau quinquennial census revalued to current replacement cost as described above for manufacturing and trade. Other years except the most recent. 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 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.

See the footnotes at the end of the table.

**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Continues**

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
Farm (\$1.6 billion)	USDA change in inventories adjusted to exclude Commodity Credit Corporation (CCC) forfeitures and to include net CCC loans at market value.	For crops, BEA quarterly allocation of USDA annual projections of crop output and cash receipts; for livestock, USDA quarterly data.
<b>Net exports of goods and services (–\$707.8 billion)</b>		
Exports and imports of goods, net (–\$836.0 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, Census Bureau foreign trade data and judgmental trend; for gold, judgmental trend; for all others, same as the annual estimates.
Exports and imports of services, net (\$128.2 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 by 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 net interest miscellaneous payments).	For territorial adjustment, judgmental trend; for all others, same as the annual estimates.
<b>Government consumption expenditures and gross investment (\$2,674.8 billion)</b>		
<b>Federal Government (\$979.3 billion)</b>		
National defense except consumption of general government fixed capital (\$585.6 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 the Office of Personnel Management (OPM), and employer contributions 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 the annual estimates; for software, see the entry for software under nonresidential equipment and software.
National defense consumption of general government fixed capital (\$76.6 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 (\$288.3 billion)	Within a control total established by fiscal year analysis: For CCC inventory change, book values of acquisitions and physical quantities of dispositions from agency reports times average market prices from USDA; for compensation, civilian wages and benefits from OPM and employer contributions for Federal employee retirement plans from outlays from the <i>Monthly Treasury Statement</i> ; for petroleum sales, distribution and price data from the Department of Energy; for research and development, obligations from the National Science Foundation and disbursements from the National Aeronautics and Space Administration; for construction, construction spending (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 net interest and miscellaneous payments.	For components of compensation, employment from BLS; for software, see the entry for software under nonresidential equipment and software; for other than compensation and software, same as the annual estimates.
Nondefense consumption of general government fixed capital (\$28.9 billion)	Perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	Same as the annual estimates.

See the footnotes at the end of the table.

**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Continues**

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
<b>State and local government (\$1,695.5 billion)</b>		
Consumption expenditures and gross investment except those items listed below (\$289.2 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 NIPAs 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 items not directly included in GDP (interest, subsidies, net expenditures of government enterprises, and transfer payments); and to exclude items described below. The 3 most recent years. Judgmental trend.	Judgmental trend.
Compensation of general government employees (\$963.1 billion)	For wages and salaries, BLS tabulations from the QCEW for employer contributions for government social insurance, tabulations from the Social Security Administration and other agencies administering social insurance programs; for employer contributions for employee pension and insurance funds, data from 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 from a fiscal year basis, and Census Bureau annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal 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 (\$135.9 billion)	Perpetual-inventory calculations at current cost, based on gross investment and on investment prices.	Same as the annual estimates.
Structures (\$281.0 billion)	Construction spending (value put in place) from Census Bureau monthly construction survey.	Same as the annual estimates.
Software (\$13.0 billion)	See the entry for software under nonresidential equipment and software.	Same as the annual estimates.
Brokerage charges and financial services furnished without payment (\$13.3 billion)	See the entries for brokerage charges and financial services furnished without payment under personal consumption expenditures.	Same as the annual estimates.

**Gross domestic income of \$13,889.0 billion for 2007****Compensation of employees, paid (\$7,819.4 billion)<sup>5</sup>****Wage and salary accruals (\$6,362.8 billion).**

Private industries (\$5,287.5 billion)	For most industries, BLS tabulations from the QCEW; for others, wages from a variety of sources (such as 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 (\$282.5 billion)	For civilians, wages from BLS tabulations from the QCEW; 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 (\$792.7 billion)	BLS tabulations from the QCEW.	Derived from BLS monthly employment times earnings from BLS employment cost index.

**Employer contributions for employee pension and insurance funds (\$991.9 billion)**

Group health insurance (\$532.1 billion)	All years except the 2 most recent years. For private and state and local governments, total contributions from the Centers for Medicare and Medicaid Services (CMS) less employee contributions from BLS consumer expenditure survey. The 2 <sup>nd</sup> most recent year. For private, preliminary CMS tabulations; for state and local governments, judgmental trend. Most recent year. Judgmental trend.	Judgmental trend.
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See the footnotes at the end of the table.

**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI**

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
Private pension and profit-sharing funds (\$199.9 billion)	All years except the 2 most recent. Tabulations from the Department of Labor. The 2 most recent years. Tabulations from the Pension Benefit Guaranty Corporation and corporate financial data.	Judgmental trend.
Government employee retirement plans (\$183.7 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 from a fiscal year basis. Most recent year. For Federal plans, same as all years except the most recent; for state and local government plans, Census Bureau annual surveys of state retirement funds, adjusted to a calendar year basis from a fiscal year basis.	For Federal plans, same as the annual estimate for the most recent year; for state and local government plans, judgmental trend.
Workers' compensation (\$57.2 billion)	All years except the most recent year. Employer contributions from trade sources. Most recent year. Judgmental trend.	Judgmental trend.
Group life insurance (\$17.3 billion)	All years except the most recent year. Group premiums and estimates of employer share from trade sources. Most recent year. Judgmental trend.	Judgmental trend.
Employer contributions for government social insurance (\$464.7 billion)	Tabulations from the Social Security Administration and other agencies administering 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.

**Taxes on production and imports (\$1,015.5 billion)**

Federal Government (\$97.7 billion)	For excise taxes, collections from the Office of Tax Analysis, from the Alcohol and Tobacco tax and Trade Bureau, and from the IRS; for customs duties, receipts from the <i>Monthly Treasury Statement</i> .	For customs duties, receipts from the <i>Monthly Treasury Statement</i> ; for most excise taxes, derived from indicators of activity (such as gasoline production for gasoline tax); for others, judgmental trend.
State and local governments (\$917.8 billion)	Receipts from Census Bureau quinquennial census and annual surveys, adjusted to a calendar year basis from a fiscal year basis.	Judgmental trend.

**Less: Subsidies (\$52.3 billion)**

Federal Government (\$45.2 billion)	Payments by the CCC from agency reports and, for most other agencies, outlays from the <i>Monthly Treasury Statement</i> .	CCC reports and judgmental trend.
State and local governments (\$7.1 billion)	For 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.	Judgmental trend and California administrative records.

**Net operating surplus (\$3,386.0 billion)****Private enterprises (\$3,393.9 billion)****Net interest and miscellaneous payments (\$899.6 billion)<sup>6</sup>**

Domestic monetary interest, net (\$373.4 billion)	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 FRB 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. Most recent year. For farm and mortgage interest paid, same as all years except the most recent; for other interest, interest receipts and payments from regulatory agencies (such as the Federal Deposit Insurance Corporation), from trade sources, or derived by applying BEA interest rates to interest-bearing assets/liabilities from FRB flow-of-funds accounts.	Derived by combining estimates of (1) interest received by persons, (2) government interest paid less received, and (3) interest paid by persons. For (1), judgmental trend; for (2), data from the <i>Monthly Treasury Statement</i> and the Bureau of the Public Debt for Federal and judgmental trend for state and local; and for (3), consumer debt from FRB times BEA estimates of interest rates.
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**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Continues**

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
Nonfarm proprietors' income with CCAAdj (\$125.5 billion)	See the entry "Less: Capital consumption adjustment" under consumption of fixed capital.	
<b>Rental income of persons with capital consumption adjustment (\$40.0 billion)</b>		
Owner-occupied nonfarm housing (–\$23.8 billion)	Benchmark years. Derived as space rent (see the entry for nonfarm dwellings under personal consumption expenditures) less related expenses, including property insurance from trade source and mortgage interest and property taxes from Census Bureau decennial survey of residential finance. Other years. Same as benchmark years, except mortgage interest, based on mortgage debt from FRB times a BEA interest rate, and property taxes from Census Bureau annual surveys of state and local tax collections.	For owner-occupied space rent, same as 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 (\$27.4 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 owner-occupied nonfarm housing.
Farm housing (\$8.2 billion)	Benchmark years. Owner- and tenant-occupied housing derived as space rent (see the entry for farm dwellings under personal consumption expenditures) less related expenses, such as mortgage interest and property taxes, from USDA. Farms owned by nonoperator landlords derived from USDA data. Other years. Space rent (see the entry for farm dwellings under personal consumption expenditures); expenses from USDA data. Farms owned by nonoperator landlords derived from USDA data.	Judgmental trend.
Nonfarm nonresidential properties (\$0.2 billion)	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. Other years. BEA capital stock series and judgmental trend.	Judgmental trend.
Royalties (\$28.0 billion)	All years except the most recent year. IRS tabulations of royalties reported on individual income tax returns. Most recent year. Judgmental trend.	Judgmental trend.
<b>Corporate profits with inventory valuation adjustment (IVA) and capital consumption adjustment (CCAAdj) (\$1,297.8 billion)</b>		
Domestic profits before tax (\$1,541.6 billion)	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. Most recent year. Profits from Census Bureau Quarterly Financial Report, regulatory agency reports, and compilations of publicly available corporate financial statements.	For some industries in transportation and in finance, judgmental trend; for others, same as the annual estimates for the most recent year. (Released with the preliminary estimate of GDP for the first, second, and third quarters and the final estimate for the fourth quarter.)
Inventory valuation adjustment (IVA) (–\$51.2 billion)	The IVA on the income side (for corporations and for nonfarm sole proprietorships and partnerships) and the IVA on the product side (see the entry "Change in private inventories") differ because the source data reflect different proportions of inventories reported using different accounting methods (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.
Capital consumption adjustment (CCAAdj) (–\$192.7 billion)	See the entry "Less: Capital consumption adjustment" under consumption of fixed capital.	
<b>Current surplus of government enterprises (–\$7.9 billion)</b>		
Federal Government (–\$2.2 billion)	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.	Judgmental trend; for CFC estimates, the same as the annual estimates.

See the footnotes at the end of the table.

**Table 1. Source Data and Methods for Current-Dollar GDP and Current-Dollar GDI—Table Ends**

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
State and local governments (–\$5.7 billion)	For current operating receipts, mainly revenue data from Census Bureau annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis; for current operating expenditures, see the entries for “Consumption expenditures and gross investment” and “Consumption of general government fixed capital” under state and local government.	Judgmental trend.
<b>Consumption of fixed capital (\$1,720.5 billion)</b>		
<b>Government (\$289.4 billion)</b>		
General government (\$241.4 billion)	Perpetual-inventory method, based on gross investment and on investment prices.	Same as the annual estimates.
Government enterprises (\$48.0 billion)	Perpetual-inventory method, based on gross investment and on investment prices.	Same as the annual estimates.
<b>Private (\$1,431.1 billion)</b>		
Domestic business (\$1,147.0 billion)	Perpetual-inventory method, based on gross investment and on investment prices.	Same as the annual estimates.
Capital consumption allowances (\$1,055.5 billion)	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 farm proprietorships and partnerships and other private business), perpetual-inventory calculations based on investment at acquisition cost; for accidental damage to fixed capital, losses reported to insurance companies and to government agencies. Most recent year. For depreciation of corporations and of nonfarm sole proprietorships and partnerships, BEA estimates of tax-return-based depreciation; for other depreciation and accidental damage to fixed capital, same as above.	Judgmental trend.
Less: Capital consumption adjustment (–\$91.5 billion)	The difference between capital consumption allowances and consumption of fixed capital.	Same as the annual estimates.
Households and institutions (\$284.1 billion)	Perpetual-inventory method, based on gross investment and on investment prices.	Same as the annual estimates.

## NIPAs National income and product accounts

1. Personal consumption expenditures (PCE) for durable and nondurable goods includes \$1.0 billion for food produced and consumed on farms and standard clothing issued to military personnel.

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 estimates of most durable and nondurable goods.

3. This line item is also referred to as “services furnished without payment by financial intermediaries, except life insurance carriers.”

4. Residential investment includes –\$0.2 billion for dormitories and net purchases of used structures.

5. Compensation of employees includes \$1.7 billion for supplemental unemployment.

6. Net interest and miscellaneous payments includes \$20.1 billion for government rents and royalties.

**Table 2. Methodology Used in Preparing Estimates of Real GDP—Continues**

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
<b>Personal consumption expenditures</b>			
<b>Durable and nondurable goods</b>			
Most durable and nondurable goods except those listed below	CPI		
New autos	PPI, for military clothing		
Net purchases of used autos and used light trucks	CPI	.....	Direct valuation. For used autos and used light trucks margins, unit sales from trade sources with dealers' margins from Census Bureau and trade sources.
	CPI, for net transactions		
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 CPIs <sup>1</sup>	
<b>Services</b>			
Nonfarm dwellings: Space rent for owner-occupied dwellings and rent for tenant-occupied dwellings	CPI		
Rental value of farm dwellings	.....	.....	Quantity extrapolation. Real dollar net stock of farm housing from BEA capital stock estimates.
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 proprietary and government 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		
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.	

See the footnotes at the end of the table.

**Table 2. Methodology Used in Preparing Estimates of Real GDP—Continues**

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
Financial services furnished without payment by banks, other depository institutions, and investment companies <sup>2</sup>	PPI, for investment companies' securities commissions	BEA composite index of input prices, for investment companies' "total deductions."	Quantity extrapolation. Banks, BLS index of total output (less BEA real bank service charges) times consumer share based on shares of deposits and loans; for other depository institutions, 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 securities commissions and air transportation	BEA composite index of input prices for private higher education.	Quantity 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, for 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.	Quantity extrapolation. For auto insurance, premiums deflated by CPI; for medical care and hospitalization insurance, benefits deflated by PPI; 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 CPIs, <sup>1</sup> for foreign travel; for airfares in foreign travel, BLS import price index.	
Other services: Motor vehicle leasing; parimutuel net receipts; other housing except hotels and motels; tolls; other household operation except repairs and insurance; travel and entertainment card fees; stenographic and reproduction services; money orders and classified advertising; and computer online services	CPI	.....	Quantity extrapolation. For parimutuel net receipts, gross winnings deflated by CPI.
<b>Fixed investment</b>			
<b>Nonresidential structures</b>			
Commercial and health care	PPI, for warehouses and offices	BEA index based on costs per square foot from trade source for commercial structures; for health care, BEA index based on cost index from trade source and on Census Bureau price deflator for single-family houses under construction.	
Manufacturing	PPI, for industrial buildings	BEA index based on costs per square foot from trade source.	
Power and communication	PPI, for power excluding electric	Cost indexes from trade sources and government agencies, for power; for communication, cost index from trade source.	
Mining exploration, shafts, and wells	PPI, for casing, oil and gas well drilling, and oil and gas field services	BEA index based on cost index from trade source and on Census Bureau price deflator for single-family houses under construction, for mines.	Quantity extrapolation. For drilling, footage by geographic area from trade source.

See the footnotes at the end of the table.

**Table 2. Methodology Used in Preparing Estimates of Real GDP—Continues**

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
Other structures	PPI, for brokers' commissions and educational and vocational structures	BEA price index for railroads; for other components, BEA index based on cost index from trade source and on Census Bureau price deflator for single-family houses under construction.	
<b>Nonresidential equipment and software</b>			
Equipment except those listed below	PPI, for most domestic components and for imported transportation equipment	BLS import price indexes, for imported components except transportation equipment.	
New autos, new light trucks, and net purchases of used autos and used light trucks	CPI, for new autos and new light trucks	.....	Direct valuation. For used autos and used light trucks, see the entry "Net purchases of used autos and used light trucks" under personal consumption expenditures.
Telephone and telegraph installation	.....	BEA cost index	
Telephone switching equipment	.....	BEA price index	
Photocopying equipment	.....	BEA price index	
Software	PPI, for prepackaged software	BEA cost index, BLS employment cost index, and PPI, for own-account and custom software.	
<b>Residential investment</b>			
Permanent-site new single-family housing units	.....	Census Bureau price deflator for single-family houses under construction.	
Permanent-site new multifamily 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		
<b>Change in private inventories</b>			
Nonfarm			
Purchased goods of all industries	PPI	Composite price from the Energy Information Administration, 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 Energy Information Administration.
Work-in-process and finished goods, manufacturing	PPI	BEA indexes of unit labor costs.	
Farm			
	.....	USDA average market prices	

See the footnotes at the end of the table.

**Table 2. Methodology Used in Preparing Estimates of Real GDP—Continues**

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
<b>Net exports of goods and services</b>			
Exports and imports of goods	PPI, for gold; semi-conductor 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	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 CPIs, <sup>1</sup> for travel payments, for miscellaneous services, and U.S. students' expenditures abroad; BLS exports and imports price indexes, for selected other transportation; and for royalties and fees, and other private services, BEA price indexes, CPI, PPI, and implicit price deflator for final sales to domestic purchasers.	Quantity extrapolation. For exports of financial services furnished without payment, <sup>2</sup> BLS index of total bank output (less BEA real bank service charges); for exports and imports of insurance, premiums deflated by PPI.
<b>Government consumption expenditures and gross investment</b>			
<b>Federal Government</b>			
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.	Quantity 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 DOE.
National defense consumption of general government fixed capital	.....	.....	Direct valuation. Perpetual-inventory calculations based on gross investment.
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.	Quantity extrapolation. For compensation, full-time equivalent employment by grade, adjusted for change from base year in hours worked; for financial services furnished without payment, <sup>2</sup> BLS index of total bank output (less BEA real bank service charges). Direct valuation. For net purchases of agricultural commodities by the Commodity Credit Corporation, quantities by crop from agency reports and USDA prices; for selected petroleum transactions, DOE quantities and prices.

**Table 2. Methodology Used in Preparing Estimates of Real GDP—Table Ends**

Component	Deflation, using price based on		Using quantity for extrapolation or direct valuation
	CPI or PPI	Other index	
Nondefense consumption of general government fixed capital	.....	.....	Direct valuation. Perpetual-inventory calculations based on gross investment.
<b>State and local government</b>			
Consumption expenditures and gross investment except those 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	.....	.....	Quantity 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 change from base year in hours worked.
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 nonresidential equipment and software.	
Brokerage charges and financial services furnished without payment	.....	.....	Quantity extrapolation. See the entries for brokerage charges and for financial services under personal consumption expenditures.

BEA Bureau of Economic Analysis  
 BLS Bureau of Labor Statistics  
 CPI Consumer price index  
 DOD Department of Defense  
 DOE Department of Energy

DOT Department of Transportation  
 PPI Producer price index  
 USDA U.S. Department of Agriculture  
 1. The foreign CPIs have been adjusted for differences in exchange rates.  
 2. This line item is also referred to as "services furnished without payment by financial intermediaries, except life insurance carriers."