

Updated Summary of NIPA Methodologies

The Bureau of Economic Analysis (BEA) recently improved its estimates of current-dollar gross domestic product (GDP), current-dollar gross domestic income (GDI), and real GDP as part of the 2018 comprehensive update of the National Income and Product Accounts (NIPAs).¹ The sources of data and the methodologies that are now used to prepare the NIPA estimates are summarized in this report.²

Current-dollar estimates of GDP and GDI

The major components and subcomponents of GDP and GDI are listed in [table 1](#). In column 1 of the table, the name of the component is shown along with the current-dollar estimate of that component for 2017. In column 2, information about the sources of data and the methods used to prepare the estimates for the comprehensive benchmark updates and for the annual updates in nonbenchmark years are presented. Major differences between the data and methods used in the benchmark updates and those used in the annual updates are also noted. For example, for “Furnishings and durable household equipment” in personal consumption expenditures (PCE) (the second item in table 1), the table indicates that one methodology (commodity flow) is used to prepare the estimates for benchmark years, and another methodology (retail control) is used to prepare the estimates for all the other years.

In column 3, information about the current quarterly estimates is also presented. For most components, information about the advance quarterly estimates, which are prepared about a month after the end of the quarter, are provided because more attention tends to be focused on this “first look” at GDP for a quarter. Major source data that become available for the “second” or “third” quarterly estimates for some NIPA components are also noted. Only the source data and methods are listed; the number of months of available source data and information about whether the source data will be revised by the source agency are not included.³

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 the current-dollar estimates. For these components, the value data are adjusted to derive estimates that are consistent with NIPA definitions and coverage.

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 general 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 quarterly (or monthly) estimates are derived using source data as indicators to interpolate or extrapolate annual estimates. In other cases, extrapolation and interpolation may be based on trends; in those cases, the use of “judgmental trend” is indicated.

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.⁴ 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.⁵

Reconciliation tables. In preparing the annual estimates of several components of GDI, BEA adjusts the source data to conform to 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 are available on BEA’s website: consumption of fixed capital in table 7.13, nonfarm proprietors’ income in table 7.14, net farm income in table 7.15, corporate profits in table 7.16, net monetary interest in table 7.17, and wages and salaries in table 7.18.

Estimation methods

For some components, BEA uses one of four methods: 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 PCE for “Furnishings and durable household equipment” 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, of equipment investment, and of the commodity detail for state and local government consumption expenditures and gross investment.⁶ An abbreviated form of this method is used to prepare estimates of equipment investment in nonbenchmark years, and an even more abbreviated form is used to prepare the current quarterly estimates of equipment investment.

The retail-control method uses retail sales data, usually compiled by the Census Bureau, to estimate expenditures.⁷ It is used to prepare estimates of many subcomponents of PCE for durable and nondurable goods in nonbenchmark years. This method ensures that the growth rate for these subcomponents is the same rate as the “retail control” group, a measure based on the total sales of most kinds of businesses selling goods from the Census Bureau’s monthly and annual retail trade surveys.

The perpetual-inventory method is used to derive estimates of fixed capital stock, which are used to estimate consumption of fixed capital—the economic depreciation of private and government fixed capital. This method is based on investment flows and a geometric depreciation formula.⁸

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 NIPA concepts and definitions and classifies the expenditures in the appropriate NIPA category, such as current transfer payments or interest payments, 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 provides a set of control totals for the quarterly estimates.⁹

Estimates of real 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 for estimation are listed in [table 2](#).

The deflation method is used for most components of GDP. A quantity index is derived by dividing the current-dollar index by an appropriate price index that has the base year—currently 2012—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.¹⁰

Table 1. Source Data and Methods for Current-Dollar Gross Domestic Product and Current-Dollar Gross Domestic Income

| Component | Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator | Current quarterly estimates: Source data and methods used to prepare an extrapolator ¹ |
|--|---|--|
| Gross domestic product (GDP) of \$19,485.4 billion for 2017 | | |
| Personal consumption expenditures (\$13,321.4 billion) | | |
| Goods (\$4,156.1 billion) | | |
| Durable goods (\$1,406.5 billion) | | |
| Motor vehicles and parts (\$498.2 billion) | Benchmark years. For new motor vehicles, 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. For net transactions, commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. For dealers' margins, retail sales from Census Bureau quinquennial census and margin rates from Census Bureau Annual Retail Trade Survey (ARTS). For motor vehicle parts and accessories, commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. Other years except the most recent year. For new motor vehicles, same as the benchmark years. For net transactions, change in consumer stock of motor vehicles from trade sources. For dealers' margins, gross margins from Census Bureau ARTS and wholesale margins from Census Bureau annual survey of wholesale trade. For motor vehicle parts and accessories, retail-control method, using retail sales from Census Bureau ARTS. Most recent year. For new motor vehicles and for net transactions, same as the annual estimates for other years. For dealers' margins, retail sales of used vehicle dealers from Census Bureau monthly survey of retail trade. For motor vehicles parts and accessories, retail-control method, using retail sales from Census Bureau monthly survey of retail trade. | For new motor vehicles, same as the annual estimates for other years. For net transactions, extrapolated by retail sales of used vehicle dealers from Census Bureau monthly survey of retail trade. For dealers' margins, same as the annual estimates for the most recent year. For motor vehicle parts and accessories, same as the annual estimates for the most recent year. |
| Furnishings and durable household equipment (\$315.4 billion) | Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. Other years except the most recent year. Retail-control method, using retail sales from Census Bureau ARTS. Most recent year. Retail-control method, using Census Bureau monthly survey of retail trade. | Same as the annual estimates for the most recent year. |
| Recreational goods and vehicles (\$378.1 billion) | Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. Other years except the most recent year. For prerecorded audio discs, vinyl, and permanent digital downloads, sales of physical media and permanent digital downloads from a trade source. For all others, retail-control method, using retail sales from Census Bureau ARTS. Most recent year. For prerecorded audio discs, vinyl, and permanent digital downloads, sales of physical media and permanent digital downloads from a trade source. For all others, retail-control method, using Census Bureau monthly survey of retail trade. | For prerecorded audio discs, vinyl, and permanent digital downloads, quantity purchased times consumer price: quantity purchased data from a trade source times the consumer price index (CPI) for recorded music and music subscriptions. For all others, same as the annual estimates for the most recent year. |
| Other durable goods (\$214.7 billion) | Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. Other years except the most recent year. Retail-control method, using retail sales from Census Bureau ARTS. Most recent year. Retail-control method, using Census Bureau monthly survey of retail trade. | Same as the annual estimates for the most recent year. |

| Nondurable goods (\$2,749.6 billion) | | |
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| Food and beverages purchased for off- premises consumption (\$965.8 billion) | Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. For food produced and consumed on farms, U.S. Department of Agriculture (USDA) data. Other years except the most recent year. Retail-control method, using retail sales from Census Bureau ARTS. For food produced and consumed on farms, same as for benchmark years. Most recent year. Retail-control method, using Census Bureau monthly survey of retail trade. For food produced and consumed on farms, same as for benchmark years. | For food produced and consumed on farms, judgmental trend. For all others, same as the annual estimates for the most recent year. |
| Clothing and footwear (\$379.7 billion) | Benchmark years. For standard clothing issued to military personnel, data from the Office of Management and Budget's (OMB) <i>Budget of the U.S. Government</i> . For all others, commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. Other years except the most recent year. For standard clothing issued to military personnel, same as for benchmark years. For all others, retail- control method, using retail sales from Census Bureau ARTS. Most recent year. For standard clothing issued to military personnel, same as for benchmark years. For all others, retail-control method, using Census Bureau monthly survey of retail trade. | For standard clothing issued to military personnel, judgmental trend. For all others, same as the annual estimates for the most recent year. |
| Gasoline and other energy goods (\$307.0 billion) | Benchmark years. For gasoline and other motor fuels, merchandise line data on receipts of automotive fuels from Census Bureau quinquennial census. For all others, commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. Other years except the most recent year. For nondiesel gasoline, quantity shipments from the Energy Information Administration (EIA) times average retail price from BLS. For diesel gasoline, data from BLS consumer expenditure survey. For lubricants and fluids, manufacturers' shipments Census Bureau annual survey. For fuel oil and other fuels, retail-control method, using Census Bureau ARTS. Most recent year. For nondiesel gasoline, same as other years. For diesel gasoline, quantity shipments from EIA times average retail price from the Bureau of Labor Statistics (BLS). For lubricants and fluids, quantity shipments from EIA times CPI for motor oil, coolants, and fluids. For fuel oil and other fuels, retail-control method, using Census Bureau monthly survey of retail trade. | Same as the annual estimates for the most recent year. |
| Other nondurable goods (\$1,097.2 billion) | Benchmark years. For prescription drugs, Census Bureau quinquennial product-line data on retail sales for prescription drugs. For expenditures abroad by U.S. residents (net), Bureau of Economic Analysis (BEA) international transactions accounts. For all others, commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. Other years except the most recent year. For prescription drugs, value of sales to consumers from a trade source. For tobacco, quantity shipped times consumer price: quantity shipments data from the U.S. Department of the Treasury, Alcohol and Tobacco Tax and Trade Bureau times the CPI for tobacco and smoking products from BLS. For expenditures abroad by U.S. residents (net), same as for benchmark years. For all others, retail-control method, using retail sales from Census Bureau ARTS. Most recent year. For prescription drugs, for tobacco, and for expenditures abroad by U.S. residents (net), same as other years. For all others, retail-control method, using Census Bureau monthly survey of retail trade. | For expenditures abroad by U.S. residents (net), same as for benchmark years. For all others, same as the annual estimates for the most recent year. |

| Services (\$9,165.3 billion) | | |
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| Household consumption expenditures (for services) (\$8,761.9 billion) | | |
| Housing and utilities (\$2,447.8 billion) | Benchmark years. For rental value of nonfarm dwellings, 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. For rental value of farm dwellings, USDA data on gross rental value of farm dwellings. For electricity and natural gas, variation of commodity-flow method, using annual residential revenue from EIA. For all others, commodity-flow method, starting with 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. Other years except the most recent year. For rental value of nonfarm dwellings, data from Census Bureau biennial American housing survey or data on the number of housing units from Census Bureau monthly current population survey and BLS CPI for rent. For rental value of farm dwellings and for electricity and gas, same as for benchmark years. For garbage and trash collection, receipts from Census Bureau service annual survey. Most recent year. For electricity and gas, residential revenue from EIA. For all others, same as for other years. | For housing, unit stock adjusted using Census Bureau data on housing completions and judgmental trend. For average rent, BLS CPI for rent. For garbage and trash collection, advance estimate, judgmental trend; second and third estimates, receipts from Census Bureau quarterly services survey. For electricity and gas, EIA data on kilowatt-hour sales and on cents per kilowatt hour of electricity to residential customers and on cubic-foot sales and cents per cubic foot of gas to residential customers, both adjusted from a billing to a usage basis. For all others, judgmental trend. |
| Health care (\$2,271.2 billion) | Benchmark years. Commodity-flow method, starting with receipts from Census Bureau quinquennial census and census of governments. Other years. Receipts from Census Bureau service annual survey, annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis and judgmental trend. | For government hospitals, judgmental trend. For dental services, advance and second estimates, judgmental trend; third estimate, receipts from Census Bureau quarterly services survey. For all others, advance estimate, wages and salaries derived from BLS monthly employment times earnings times hours and judgmental trend; second and third estimates, receipts from Census Bureau quarterly services survey. |
| Transportation services (\$437.0 billion) | Benchmark years. Commodity-flow method, starting with receipts from Census Bureau quinquennial census, BLS consumer expenditure survey, and trade sources. Other years. Receipts from Census Bureau service annual survey, ARTS, and trade sources. | For motor vehicle maintenance and repair, for motor vehicle rentals, for taxicabs, for other road transportation, and for water transportation, advance and second estimates, judgmental trend; third estimate, receipts from Census Bureau quarterly services survey. For intercity buses, advance and second estimates, trade source data; third estimate, receipts from Census Bureau quarterly services survey. For intracity mass transit, advance estimate, trade source data; second and third estimates, receipts from Census Bureau quarterly services survey. For all others, trade sources and judgmental trend. |

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| <p>Recreation services (\$541.8 billion)</p> | <p>Benchmark years. Commodity-flow method, starting with receipts from Census Bureau quinquennial census, census of governments, and trade sources. Other years. Receipts from Census Bureau service annual survey, annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis, ARTS, and judgmental trend.</p> | <p>For membership clubs, sports centers, parks, theaters and museums (except motion picture theaters), for repair of audio-visual equipment, for pari-mutuel net receipts, and for package tours, advance and second estimates, wages and salaries derived from BLS monthly employment times earnings times hours, trade source, and judgmental trend; third estimate, receipts from Census Bureau quarterly services survey. For cable television, advance estimate, judgmental trend; second and third estimates, receipts from Census Bureau quarterly services survey. For motion picture theaters, trade sources. For casino gambling, advance and second estimates, various state gaming control commissions; third estimate, receipts from Census Bureau quarterly services survey and various state gaming control commissions. For all others, wages and salaries derived from BLS monthly employment times earnings times hours and judgmental trend.</p> |
| <p>Food services and accommodations (\$897.3 billion)</p> | <p>Benchmark years. Commodity-flow method, starting with receipts from Census Bureau quinquennial census, census of governments, and federal government agency data. Other years. Receipts from Census Bureau ARTS, annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis, trade sources, and judgmental trend.</p> | <p>For food services, monthly food services sales from Census Bureau monthly survey of retail trade and food services. For all others, trade source and judgmental trend.</p> |
| <p>Financial services and insurance (\$1,060.4 billion)</p> | <p>Benchmark years. For insurance services, trade sources. For all others, commodity-flow method, starting with receipts from Census Bureau quinquennial census, and data from federal and state government administrative agencies and from trade sources. Other years. For insurance services, same as benchmark years and judgmental trend. For all others, Census Bureau service annual survey, federal and state government administrative data, and trade sources.</p> | <p>For financial service charges and fees and for trust, fiduciary, and custody activities, advance and second estimates, judgmental trend; third estimate, Federal Deposit Insurance Corporation (FDIC) <i>Call Report</i> data. For financial services furnished without payment, advance and second estimates, judgmental trend; third estimate, Federal Reserve Board (FRB) tabulations of <i>Call Report</i> data. For all others, wages and salaries derived from BLS monthly employment times earnings times hours, trade sources, and judgmental trend.</p> |

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| <p>Other services (\$1,106.5 billion)</p> | <p>Benchmark years. For net foreign travel, estimated as part of the international transactions accounts, see the entry "Exports and imports of services" under "Net exports of goods and services." For all others, commodity-flow method, starting with receipts from Census Bureau quinquennial census, census of governments, and trade sources. Other years. For net foreign travel, same as benchmark years. For all others, receipts from Census Bureau service annual survey, trade sources, annual surveys of state and local governments, and judgmental trend.</p> | <p>For telephone services, for other delivery services, for legal services, for funeral services, for personal care and clothing services, and for internet service providers, advance estimate, judgmental trend; second and third estimates, receipts from Census Bureau quarterly services survey. For commercial and vocational schools, for day care and nursery schools, for nonprofit professional associations services, for child care, for individual and family services, for vocational rehabilitation services, for community food and housing/emergency/other relief services, for social advocacy and civic and social organizations, and for household maintenance, advance and second estimates, wages and salaries derived from BLS monthly employment times earnings times hours and judgmental trend; third estimate, receipts from Census Bureau quarterly services survey. For net foreign travel, same as benchmark years. For all others, wages and salaries derived from BLS monthly employment times earnings times hours, trade sources, and judgmental trend.</p> |
| <p>Final consumption expenditures of nonprofit institutions serving households (\$403.4 billion)</p> | <p>Benchmark years. For gross output of nonprofit institutions, operating expenses from Census Bureau quinquennial census for tax-exempt and religious organizations and trade sources. Other years. For gross output of nonprofit institutions, operating expenses from Census Bureau annual survey for tax-exempt organizations and trade sources.</p> | <p>For gross output of health services, for recreation services, for nonprofit commercial and vocational schools, for nonprofit day care and nursery schools, for nonprofit child care providers, for nonprofit individual and family services, for nonprofit vocational rehabilitation services, for nonprofit community food and housing services, for foundations and grant making, for social advocacy organizations, for civic and social organizations, for professional associations, and for "all other similar organizations," advance and second estimates, wages and salaries derived from BLS monthly employment times earnings times hours and judgmental trend; third estimate, operating expenses from Census Bureau quarterly services survey. For all others, wages and salaries derived from BLS monthly employment times earnings times hours and judgmental trend.</p> |

| Component | Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator | Current quarterly estimates: Source data and methods used to prepare an extrapolator ¹ |
|---|---|--|
| Fixed investment (\$3,342.5 billion) | | |
| Nonresidential structures (\$585.4 billion) | | |
| Commercial and health care (\$180.6 billion) | Benchmark years. BEA's benchmark input-output (I-O) accounts. Other years. Construction spending (value put in place) from Census Bureau monthly construction survey. | Same as the annual estimates for other years. |
| Manufacturing (\$65.8 billion) | Construction spending (value put in place) from Census Bureau monthly construction survey. | Same as the annual estimates. |
| Power and communication (\$115.3 billion) | Construction spending (value put in place) from Census Bureau monthly construction survey. | Same as the annual estimates. |
| Mining exploration, shafts, and wells (\$107.4 billion) | Benchmark years. Expenditures from Census Bureau quinquennial census. Other years except the most recent year. For petroleum and natural gas, physical quantity times average price, footage drilled completions from a trade source, composite index of BLS PPIs for oil and gas wells and for oil and gas field services, and base-year cost per footage drilled from Census Bureau annual capital expenditures survey, and footage drilled from a trade source. For other mining, expenditures from Census Bureau annual capital expenditures survey. Most recent year. For petroleum and natural gas, physical quantity times average price, footage drilled from a trade source, composite index of BLS producer price indexes (PPIs), base-year cost per footage drilled from a trade source, footage drilled completions from a trade source, and judgmental trend. For mining, BEA data on private investment in mining equipment. | For petroleum and natural gas, average physical quantity times average price, weighted average of footage drilled completions and of rotary rig counts from trade sources, and weighted average of BLS PPIs for oil and gas wells and for oil and gas field services. For mining, same as the annual estimates for the most recent year. |
| Other structures (\$116.4 billion) | Benchmark years. BEA's benchmark I-O accounts. Other years. Construction spending (value put in place) from Census Bureau monthly construction survey. | Same as the annual estimates for other years. |
| Nonresidential equipment (\$1,150.4 billion) | | |
| Equipment except new autos, new light trucks, and net purchases of used autos and used light trucks (\$978.8 billion) | Benchmark years. Commodity-flow method, starting with manufacturers' shipments from Census Bureau quinquennial census, 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 of manufactures, adjusted for exports and imports. Most recent year. For computers, manufacturers' shipments from Census Bureau monthly survey of manufactures and FRB industrial production index, 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 sources. For all others, abbreviated commodity-flow method, starting with manufacturers' shipments from Census Bureau monthly survey of manufactures, adjusted for exports and imports. | Same as the annual estimates for the most recent year but with less detail. |
| New autos, new light trucks, and net purchases of used autos and used light trucks (\$171.6 billion) | See the entry "Motor vehicles and parts" under "Personal consumption expenditures." | See the entry under "Personal consumption expenditures." |

| Nonresidential intellectual property products (\$852.0 billion) | | |
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| Software (\$352.9 billion) | Benchmark years. For purchased software, commodity-flow method, starting with industry receipts from Census Bureau quinquennial census, including an adjustment for exports and imports from Census Bureau foreign trade data. For own-account software, production costs based on BLS occupational employment data and on Census Bureau quinquennial census. Other years. For purchased software, commodity-flow method, starting with industry receipts from Census Bureau service annual survey, including an adjustment for exports and imports from Census Bureau foreign trade data. For own-account software, production costs based on BLS occupational employment data. | For purchased software, advance estimate, judgmental trend; second and third estimates, receipts from Census Bureau quarterly services survey. For own-account software, BLS monthly current employment statistics for select industries. |
| Research and development (\$417.9 billion) | Benchmark years. National Science Foundation (NSF) data and BEA's benchmark I-O accounts. Other years. NSF data adjusted for imports and exports and capital consumption adjustment. | For business research and development (R&D), advance estimate, BLS monthly current employment statistics for select industries; second and third estimates, R&D expenses from publicly traded corporations' financial statements. For academic R&D, BLS monthly current employment statistics for education industry. |
| Entertainment, literary, and artistic originals (\$81.2 billion) | Benchmark years. BEA's benchmark I-O accounts. Other years. Revenues from Census Bureau service annual survey, adjusted for nonartwork costs. | For advance estimate, judgmental trend. For second estimate, revenues from Census Bureau quarterly services survey and judgmental trend. For third estimate, revenues from Census Bureau quarterly services survey. |
| Residential investment (\$754.6 billion) ² | | |
| Permanent-site new single-family structures (\$270.2 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 multifamily structures (\$59.9 billion) | Construction spending (value put in place) from Census Bureau monthly construction survey. | Same as the annual estimates. |
| Manufactured homes (\$10.3 billion) | Benchmark years. See the entry "Equipment except new autos, new light trucks, and net purchases of used autos and used light trucks" under "Nonresidential equipment." Other years. Physical quantity shipped times price: shipments from trade sources and average retail price from Census Bureau monthly survey. | Same as the annual estimates for other years. |
| Improvements (\$235.5 billion) | A weighted 3-year moving average of the improvements estimates from Census Bureau construction spending (value put in place) survey. | Retail sales of building materials and garden supply stores from Census Bureau monthly survey of retail trade and earnings data from BLS monthly current employment statistics. |
| Brokers' commissions and other ownership transfer costs (\$162.5 billion) | Benchmark years. BEA's benchmark I-O accounts. Other years. For brokers' commissions on sale of structures and of land, physical quantity of houses sold times mean sales price, number of new single-family houses sold and average sales price from Census Bureau monthly survey of construction, and number of existing houses sold and average sales price from a trade source. For stamp taxes, state and local government annual document stamp taxes from Census Bureau annual surveys of state and local governments. For title insurance, operating revenue and loss-adjusted expense data from a trade source. For all other closing costs, number of new and existing single-family houses sold and their associated average sales price from Census Bureau monthly survey of construction and from a trade source weighted by a BEA estimate of average commission rates. | Physical quantity of houses sold times mean sales price times BEA estimate of average commission rates for sale of new and existing houses; number of single-family houses sold and mean sales price from Census Bureau monthly survey of construction and from a trade source. |
| Equipment (\$12.5 billion) | See the entry "Furnishings and durable household equipment" under "Personal consumption expenditures." | Same as the annual estimates. |

| Change in private inventories (\$25.5 billion) | | |
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| Farm (-\$5.0 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. |
| Manufacturing and trade (\$28.4 billion) | Benchmark years. Inventories from Census Bureau quinquennial census and annual surveys 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 census 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. For auto retail dealers, an average of quantities times average prices from trade sources and of retail inventories from Census Bureau annual surveys minus half of manufacturing and merchant wholesale inventories from Census annual surveys; for all others, inventories from Census Bureau annual surveys, revalued as described above. Most recent year. Inventories from Census Bureau monthly surveys and trade sources, revalued as described above. | Same as the annual estimates for the most recent year. |
| Mining, utilities, construction, and other nonfarm industries (\$2.1 billion) | Benchmark years. Mining and construction inventories from Census Bureau quinquennial census, publishing inventories from the Census Bureau service annual survey, revalued to current replacement cost as described above for "Manufacturing and trade." Other years except the most recent year. For publishing inventories, same as the annual estimates for benchmark years. For all others, Internal Revenue Service (IRS) tabulations of business tax returns, revalued as described above. Most recent year. For mining and publishing inventories, Census Bureau quarterly financial report of corporations, revalued as described above. For electric utilities, monthly physical quantities from EIA combined with BLS producer price indexes. For all others, judgmental trend. | For mining and publishing inventories, advance estimates, judgmental trend; second and third estimates, same as the annual estimates for most recent year. For electric utilities, same as the annual estimate for the most recent year. For all others, judgmental trend. |

| Component | Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator | Current quarterly estimates: Source data and methods used to prepare an extrapolator¹ |
|---|--|--|
| Net exports of goods and services (-\$578.4 billion) | | |
| Exports and imports of goods, net (-\$842.7 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. Balance-of-payments transactions adjusted for coverage of U.S. territories and Puerto Rico using data from the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the Census Bureau, and for coverage of gold transactions using data from the U.S. Geological Survey and trade sources. | For territorial adjustment, Census Bureau foreign trade data and judgmental trend. For all others, same as the annual estimates. |
| Exports and imports of services, net (\$264.2 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, selected transport categories, and charges for the use of intellectual property not elsewhere classified), BEA quarterly or annual surveys (supplemented with data from other sources). Transactions adjusted for the balance-of-payments coverage of U.S. territories and Puerto Rico (see the above entry), and to include financial services furnished without payment (see the entry "Banks, credit agencies, and investment companies" under "Net interest and miscellaneous payments"). | For territorial adjustment, judgmental trend. For all others, same as the annual estimates. |

| Component | Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator | Current quarterly estimates: Source data and methods used to prepare an extrapolator ¹ |
|---|---|--|
| Government consumption expenditures and gross investment (\$3,374.4 billion) | | |
| Federal government (\$1,265.2 billion) | | |
| 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 U.S. Government</i> , civilian wages from BLS tabulations from the quarterly census of employment and wages (QCEW), civilian benefits from the Office of Personnel Management (OPM), and employer contributions for federal employee retirement plans from military and civilian plan actuarial reports; for other than compensation by type, based mainly on data from Department of Defense (DOD) reports; for research and development, data from NSF and from OMB's <i>Budget</i> ; for software, see the entry under "Nonresidential intellectual property products." | For components of compensation, military employment from DOD and civilian employment from BLS and projections from military and civilian pension plan actuarial reports. For other than compensation, same as the annual estimates. For software, see the entry under "Nonresidential intellectual property products." |
| National defense consumption of general government fixed capital (\$158.2 billion) | Perpetual-inventory method, based on gross investment estimates and on investment prices. | Same as the annual estimates. |
| Nondefense except consumption of general government fixed capital (\$411.8 billion) | Within a control total established by fiscal year analysis: for compensation, civilian wages from BLS tabulations from the QCEW, civilian benefits from OPM, and employer contributions for federal employee retirement plans from civilian actuarial reports; for CCC inventory change, book values of acquisitions and physical quantities of dispositions from agency reports times average market prices from USDA; for petroleum sales, distribution and price data from the Department of Energy; for research and development, data from NSF and from OMB's <i>Budget</i> ; for construction, construction spending (value put in place) from Census Bureau monthly construction survey; for software, see the entry under "Nonresidential intellectual property products." For financial services furnished without payment, see the entry "Banks, credit agencies, and investment companies" under "Net interest and miscellaneous payments." For all others, outlays from the <i>Monthly Treasury Statement</i> . | For components of compensation, employment from BLS and projections from civilian pension plan actuarial reports. For software, see the entry under "Nonresidential intellectual property products." For all others, same as the annual estimates. |
| Nondefense consumption of general government fixed capital (\$109.5 billion) | Perpetual-inventory method, based on gross investment estimates and on investment prices. | Same as the annual estimates. |

| State and local government (\$2,109.2 billion) | | |
|---|---|---|
| Consumption expenditures and gross investment except those items listed below (\$243.3 billion) | Total expenditures from Census Bureau quinquennial census of governments and annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis for available periods, selectively replaced with source data that are more appropriate for the national income and product accounts (NIPAs) and adjusted for coverage, for netting and grossing, 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, and judgmental trend. For financial services furnished without payment, see the entry "Financial services and insurance" under "Personal consumption expenditures." | Judgmental trend. |
| Compensation of general government employees (\$1,343.0 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 plans, actuarial reports from state pension plans. For other insurance plans, data from trade sources, Centers for Medicare and Medicaid Service, and Census Bureau quinquennial census of governments and annual survey of public employment and payroll, adjusted to a calendar year basis from a fiscal year basis, and judgmental trend. | For wages and salaries, BLS monthly employment times earnings from BLS employment cost index. For other compensation, judgmental trend. |
| Consumption of general government fixed capital (\$202.2 billion) | Perpetual-inventory method based on gross investment estimates and on investment prices. | Same as the annual estimates. |
| Structures (\$283.4 billion) | Construction spending (value put in place) from Census Bureau monthly construction survey, benchmarked to quinquennial census of governments and annual surveys of state and local governments. | Construction spending (value put in place) from Census Bureau monthly construction surveys. |
| Intellectual property products (\$37.3 billion) | See the entries for "Software" and for "Research and development" under "Nonresidential intellectual property products." | See the entries for "Software" and for "Research and development" under "Nonresidential intellectual property products." |

| Component | Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator | Current quarterly estimates: Source data and methods used to prepare an extrapolator ¹ |
|--|--|--|
| Gross domestic income of \$19,628.6 billion for 2017 | | |
| Compensation of employees, paid (\$10,420.6 billion) | | |
| Wage and salaries (\$8,467.2 billion) | | |
| Private industries (\$7,121.5 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 (\$344.1 billion) | For civilians, wages from BLS tabulations from the QCEW adjusted for coverage differences; for military personnel, wages from OMB's <i>Budget of the U.S. Government</i> . | For civilians, employment from BLS and judgmental trend. For military personnel, DOD employment and judgmental trend. |
| State and local government (\$1,001.7 billion) | BLS tabulations from the QCEW adjusted for coverage differences. | Derived from BLS employment times earnings from BLS employment cost index. |
| Employer contributions for employee pension and insurance funds (\$1,348.1 billion) ³ | | |
| Private pension plans (\$255.7 billion) | Defined contribution plans. All years except the 2 most recent years. Tabulations from Department of Labor. Two most recent years. Judgmental trend. Defined benefit plans. All years except the most recent. Tabulations from Pension Benefit Guaranty Corporation and corporate financial reports. Most recent year. Judgmental trend. | Judgmental trend. |
| Government employee pension plans (\$270.5 billion) | All years except the most recent year. For federal defined benefit plans, actuarial reports for federal retirement plans, adjusted to a calendar year basis. For federal defined contribution plans, Thrift Savings Plan annual reports. For state and local defined benefit plans, actuarial reports, adjusted to a calendar year basis. For state and local defined contribution plans, wages and salaries and BLS employer costs for employee compensation survey. Most recent year. For federal plans and for state and local defined contribution plans, same as all years except the most recent. For state and local defined benefit plans, judgmental trend. | For federal plans, judgmental trend. For state and local plans, same as most recent year. |
| Group health insurance (\$725.9 billion) | All years except the most recent year. For private and for state and local government, employer contributions from Agency for Healthcare Research and Quality (AHRQ). For federal government, premiums paid by the federal government to the Federal Employee Health Benefit Fund from OMB. Most recent year. For private, AHRQ tabulations. For state and local government, judgmental trend. For federal government, same as all years except the most recent. | For private and for state and local government, judgmental trend. For federal government, employment from BLS. |
| Group life insurance (\$12.3 billion) | All years except the most recent year. Group premiums and estimates of employer share from A.M. Best corporation. Most recent year. Judgmental trend. | Same as the most recent year. |
| Workers' compensation (\$75.6 billion) | All years except the most recent year. Employer contributions from trade sources. Most recent year. Judgmental trend. | Same as the most recent year. |
| Publicly administered government employee insurance funds (\$7.5 billion) | All years. Employer contributions to the Medicare-Eligible Retiree Health Fund from the <i>Monthly Treasury Statement</i> . | DOD employment. |
| Employer contributions for government social insurance (\$605.3 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 programs, judgmental trend. |

| Component | Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator | Current quarterly estimates: Source data and methods used to prepare an extrapolator ¹ |
|--|--|---|
| Taxes on production and imports (\$1,347.2 billion) | | |
| Federal government (\$131.5 billion) | For excise taxes, collections 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 government (\$1,215.7 billion) | Receipts from Census Bureau quinquennial census of governments and annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis, and judgmental trend. | For state general sales taxes, advance and second estimates, state tax collections data supplemented with Urban Institute sales tax data; third estimate, Census Bureau quarterly tax survey. For state excise taxes, advance and second estimates, derived from indicators of activity (such as gasoline sales for gasoline excise tax) and trend estimates; third estimate, Census Bureau quarterly tax survey. For all other state taxes, advance and second estimates, judgmental trend; third estimate, Census Bureau quarterly tax survey. For local property taxes, advance and second estimates, judgmental trend; third estimate, Census Bureau quarterly tax survey. For all other local taxes, same as annual estimates. |
| Less: Subsidies (\$61.3 billion) | | |
| Federal government (\$60.7 billion) | For agricultural subsidy payments, data from USDA reports. For all others, data from OMB's <i>Budget of the U.S. Government</i> . | USDA reports and judgmental trend. |
| State and local government (\$0.6 billion) | For railroad and electric power, Census Bureau quinquennial census of governments and annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis, and judgmental trend. | Judgmental trend. |

| Component | Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator | Current quarterly estimates: Source data and methods used to prepare an extrapolator ¹ |
|---|---|--|
| Net operating surplus (\$4,805.9 billion) | | |
| Private enterprises (\$4,810.9 billion) | | |
| Net interest and miscellaneous payments, domestic industries (\$768.1 billion) | | |
| Domestic monetary interest, net (-\$30.7 billion) | All years except the most recent year. For farm interest paid, USDA surveys. For residential mortgage interest paid, 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 FDIC), from trade sources, or derived by applying BEA interest rates to interest-bearing assets/liabilities from FRB financial accounts of the United States. | 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), for margin interest, advance estimate: judgmental trend; second or third estimate: data from regulatory agencies. For nonmargin interest, consumer debt from FRB times BEA estimates of interest rates. |
| Domestic imputed interest, net (\$780.8 billion) | | |
| Banks, credit agencies, and investment companies (\$299.0 billion) | | |
| Depositor services (\$233.5 billion) | All years. For commercial banks and savings institutions, FRB tabulations of Federal Financial Institutions Examination Council (FFIEC) <i>Call Reports</i> used to calculate the interest rate spread between a risk-free reference rate and the average interest rate paid to depositors times the average balance of deposits. Depositor services allocated to persons, to government, and to the rest of the world on the basis of deposit liabilities from FRB. For credit agencies and investment companies, 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 FRB. Depositor services allocated to persons, to government, and to the rest of the world on the basis of deposit liabilities from FRB. For credit unions, The National Credit Union Association's (NCUA) tabulations of <i>Call Report</i> Form 5300. | For commercial banks, savings institutions, and credit unions, advance estimate, judgmental trend; for second and third estimates, same as annual estimates. For investment companies, advance estimate, judgmental trend; for second and third estimates, mutual fund data from a trade source. For all others, judgmental trend. |
| Borrower services (\$65.5 billion) | All years. For commercial banks and savings institutions, data from FRB tabulations of FFIEC <i>Call Reports</i> used to calculate the interest rate spread between the average rate paid by borrowers and the reference rate times the average balance of borrowers. For credit unions, The NCUA tabulations of <i>Call Report</i> Form 5300. | For advance estimate, judgmental trend. For second or third estimates, same as annual estimates for commercial banks, savings institutions, and credit unions. |
| Life insurance carriers (\$285.2 billion) | All years. Property income earned on investment of policyholders' reserves from trade source. | Judgmental trend. |
| Property and casualty insurance companies (\$2.5 billion) | All years. Expected investment income derived using premiums earned and investment gains from trade source. | Judgmental trend. |
| Employee pension plans (\$194.1 billion) | All years except the most recent year. For private defined benefit pension plans, tabulations from the Pension Benefit Guaranty Corporation. For federal defined benefit pension plans, actuarial reports for federal retirement plans, adjusted to a calendar year basis. For state and local government defined benefit pension plans, actuarial reports, adjusted to a calendar year basis. Most recent year. For private defined benefit pension plans, judgmental trend. For federal defined benefit pension plans, same as all years except the most recent year. For state and local government defined benefit pension plans, judgmental trend. | Same as most recent year. |

| Miscellaneous payments (\$17.3 billion) | | |
|--|---|--|
| Federal government rents and royalties (\$6.0 billion) | All years. Receipts from land and mineral leasing, <i>Combined Statement of Receipts and Expenditures</i> , U.S. Department of the Treasury. | For offshore leases, projections of receipts from OMB <i>Budget</i> ; for land and onshore mineral leasing, data from the <i>Monthly Treasury Statement</i> . |
| State and local government rents and royalties (\$11.3 billion) | Census Bureau quinquennial census of governments and annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis, and judgmental trend. | Judgmental trend. |
| Business current transfer payments (net) (\$161.2 billion) | | |
| To persons (net) (\$55.7 billion) | All years except the most recent year. For all components, information from government agency reports and trade sources. Most recent year. Judgmental trend. | Same as the annual estimates for the most recent year. |
| To government (net) (\$96.9 billion) | For federal, receipts from OMB's <i>Budget of the U.S. Government</i> and documentation from the Department of Justice about fines recorded on an accrual basis. For state and local, receipts from Census Bureau quinquennial census of governments and annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis and net insurance settlements, as described above, and judgmental trend. | Judgmental trend. |
| To the rest of the world (net) (\$8.6 billion) | Estimated as part of the international transactions accounts. | Same as the annual estimates. |
| Proprietors' income with inventory valuation and capital consumption adjustments (\$1,500.9 billion) | | |
| Farm proprietors' income with inventory valuation adjustment (\$44.9 billion) | USDA data on net income, obtained by deriving gross income (cash receipts from marketing, inventory change, government payments, other cash income, and nonmoney income) and subtracting 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 capital consumption adjustment (-\$6.0 billion) | See the entry "Less: Capital consumption adjustment" under "Consumption of fixed capital." | See the entry under "Consumption of fixed capital." |
| Nonfarm proprietors' income (\$1,189.1 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 construction spending (value put in place). For others, judgmental trend. | Same as the annual estimates for the most recent year. |
| Nonfarm inventory valuation adjustment (-\$7.2 billion) | See the entry "Inventory valuation adjustment" under "Corporate profits." | See the entry under "Corporate profits." |
| Nonfarm capital consumption adjustment (\$280.1 billion) | See the entry "Less: Capital consumption adjustment" under "Consumption of fixed capital." | See the entry under "Consumption of fixed capital." |

| Rental income of persons with capital consumption adjustment (\$730.2 billion) | | |
|--|--|--|
| Owner-occupied nonfarm housing (\$515.4 billion) | Benchmark years. Derived as imputed rental of nonfarm housing (see the entry "Housing and utilities" under "Personal consumption expenditures") less related expenses, including property insurance from a trade source, mortgage interest (mortgage debt from FRB times a BEA interest rate), and property taxes from Census Bureau annual surveys of state and local government tax collections. Other years. Same as benchmark years. | For imputed rental of owner-occupied housing, same as the annual estimates. For depreciation, interest, financing-related closing costs, and taxes, NIPA estimates of those components. For other expenses, judgmental trend. |
| Tenant-occupied nonfarm housing (\$169.4 billion) | Benchmark years. Derived as actual value of housing less related expenses (see preceding entry). Other years. Same as benchmark years except for mortgage interest, mortgage debt from FRB times a BEA interest rate, and property taxes from Census Bureau annual surveys of state and local tax collections. | Same as owner-occupied nonfarm housing. |
| Owner-occupied farm housing (\$3.0 billion) | Benchmark years. Derived as imputed rental of farm housing (see the entry "Housing and utilities" under "Personal consumption expenditures") less related expenses, such as mortgage interest and property taxes, from USDA data. For farms owned by nonoperator landlords, derived from USDA data. Other years. Imputed rental of farm housing (see the entry "Housing and utilities" under "Personal consumption expenditures"); expenses from USDA data. | Judgmental trend. |
| Tenant-occupied farm housing (\$9.9 billion) | Benchmark years. For farm housing owned by farm operator landlords, imputed rental of farm housing (see the entry "Housing and utilities" under "Personal consumption expenditures") less related expenses, such as mortgage interest and property taxes, from USDA data. For farms owned by nonoperator landlords, from USDA data. Other years. For farm housing owned by farm operator landlords, derived as imputed rental of farm housing; expenses from USDA data. For farms owned by nonoperator landlords, from USDA data. | Judgmental trend. |
| Nonfarm nonresidential properties (\$0.4 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 (\$32.0 billion) | All years except the most recent year. IRS tabulations of royalties reported on individual income tax returns. Most recent year. Judgmental trend. | Same as the annual estimates for the most recent year. |
| Corporate profits with inventory valuation and capital consumption adjustments, domestic industries (\$1,650.4 billion) | | |
| Domestic profits before tax (\$1,733.0 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 <i>Quarterly Financial Report</i> , 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. (Preliminary profits estimate is released with the second estimate of GDP for the first, second, and third quarters and with the third estimate of GDP for the fourth quarter.) |
| Inventory valuation adjustment (IVA) (-\$45.5 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 (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. |
| Capital consumption adjustment (-\$37.1 billion) | See the entry "Less: Capital consumption adjustment" under "Consumption of fixed capital." | See the entry under "Consumption of fixed capital." |

| Current surplus of government enterprises (-\$4.9 billion) | | |
|---|--|--|
| Federal government (-\$2.0 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 estimates and on investment prices. | For CFC estimates, same as the annual estimates. For all others, judgmental trend. |
| State and local government (-\$2.9 billion) | For current operating receipts, mainly revenue data from Census Bureau quinquennial census of governments and annual surveys of state and local governments, adjusted to a calendar year basis from a fiscal year basis, and judgmental trend. 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. |

| Component | Annual estimates: Source data and methods used to determine level for benchmark and other years or used to prepare an extrapolator or interpolator | Current quarterly estimates: Source data and methods used to prepare an extrapolator¹ |
|---|--|---|
| Consumption of fixed capital (\$3,116.2 billion) | | |
| Government (\$541.5 billion) | | |
| General government (\$469.9 billion) | Perpetual-inventory method, based on gross investment estimates and on investment prices. | Same as the annual estimates. |
| Government enterprises (\$71.7 billion) | Perpetual-inventory method, based on gross investment estimates and on investment prices. | Same as the annual estimates. |
| Private (\$2,574.6 billion) | | |
| Domestic business (\$2,035.5 billion) | Perpetual-inventory method, based on gross investment estimates and on investment prices. | Same as the annual estimates. |
| Capital consumption allowances (\$2,252.6 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. Most recent year: For depreciation of corporations and of nonfarm sole proprietorships and partnerships, BEA estimates of tax-return-based depreciation. For other depreciation, same as above. | Perpetual inventory calculations based on investment at acquisition cost. |
| Less: Capital consumption adjustment (\$217.1 billion) | The difference between capital consumption allowances and consumption of fixed capital. | Same as the annual estimates. |
| Households and institutions (\$539.1 billion) | Perpetual-inventory method, based on gross investment estimates and on investment prices. | Same as the annual estimates. |

| | |
|--------------|--|
| AHRQ | Agency for Healthcare Research and Quality |
| ARTS | Annual Retail Trade Survey |
| BEA | Bureau of Economic Analysis |
| BLS | Bureau of Labor Statistics |
| CCC | Commodity Credit Corporation |
| CFC | Consumption of fixed capital |
| CPI | Consumer price index |
| DOD | Department of Defense |
| EIA | Energy Information Administration |
| FDIC | Federal Deposit Insurance Corporation |
| FFIEC | Federal Financial Institutions Examination Council |
| FRB | Federal Reserve Board |
| GDP | Gross domestic product |
| I-O | Input-output |
| IRS | Internal Revenue Service |
| IVA | Inventory valuation adjustment |
| LIFO | Last-in, first-out |
| NCUA | National Credit Union Association |
| NIPAs | National income and product accounts |

| | |
|----------------|--|
| NSF | National Science Foundation |
| OMB | Office of Management and Budget |
| OPM | Office of Personnel Management |
| PPIs | Producer price indexes |
| QCEW | Quarterly census of employment and wages |
| R&D | Research and development |
| USDA | U.S. Department of Agriculture |

1. For most components, information about the advance quarterly estimates is provided. In addition, major source data that become available during the second or third quarterly estimates for particular NIPA components are also noted.
2. Residential fixed investment includes \$4.3 billion for dormitories and -\$0.6 billion for net purchases of used structures.
3. Employer contributions for employee pension and insurance funds includes \$0.6 billion for supplemental unemployment.

Table 2. Methodology Used in Preparing Estimates of Real Gross Domestic Product

| Component | Deflation, using price based on | | Using quantity for extrapolation or direct valuation |
|---|--|---|--|
| | Consumer price index (CPI) or producer price index (PPI) | Other index | |
| Personal consumption expenditures | | | |
| Goods | | | |
| Durable goods | | | |
| Motor vehicles and parts | CPI PPI, for used auto and used light truck dealers' margins. | | |
| Furnishings and durable household equipment | CPI | | |
| Recreational goods and vehicles | CPI | | |
| Other durable goods | CPI | | |
| Nondurable goods | | | |
| Food and beverages purchased for off-premises consumption | CPI | | |
| Clothing and footwear | CPI PPI, for standard clothing issued to military personnel. | | |
| Gasoline and other energy goods | CPI | | |
| Other nondurable goods | CPI | Bureau of Economic Analysis (BEA) installation support services price index, for expenditures abroad by U.S. residents. | |

| Services | | | |
|---|---|--|---|
| Household consumption expenditures (for services) | | | |
| Housing and utilities | CPI | ..... | Quantity extrapolation. Chained-dollar net stock of farm housing from BEA capital stock estimates. |
| Health care | CPI PPI, for physicians offices, hospitals, proprietary and government nursing homes, home health care services, medical care laboratories, and diagnostic imaging centers. | | |
| Transportation services | CPI PPI, for domestic scheduled air passenger revenue. | | |
| Recreation services | CPI | | |
| Food services and accommodations | CPI | | |
| Financial services and insurance | CPI PPI, for brokerage services; dealer transactions, portfolio management and investment advice services; commercial bank trust services; homeowner's insurance; direct health and medical insurance carriers; private passenger auto insurance; and workers' compensation. | BEA composite index of prices, for financial services furnished without payment by other financial institutions, ¹ and life insurance. | Quantity extrapolation. Bureau of Labor Statistics (BLS) index of total output (less BEA estimates of real bank service charges) times consumer share based on deposits and loans, for banks. BEA transactions derived from volume data from a trade source, for investment companies' charges. BLS banking output index, for trust, fiduciary, and custody activities. |
| Other services | CPI PPI, for employment agency services and international scheduled passenger revenue. | BEA composite index of prices, for social assistance services, labor organization dues, and for net foreign travel. BLS import price index for air passenger transport, for foreign travel. | |
| Final consumption expenditures of nonprofit institutions serving households | ..... | BEA composite index of input prices, for gross output of nonprofit categories. | |

| Component | Deflation, using price based on | | Using quantity for extrapolation or direct valuation |
|--|--|--|---|
| | Consumer price index (CPI) or producer price index (PPI) | Other index | |
| Fixed investment | | | |
| Nonresidential structures | | | |
| Commercial and health care | PPI, for office buildings, health care buildings, warehouses, and mobile structures. | BEA index based on cost index from trade sources and on Census Bureau price index for single-family houses under construction, for certain commercial structures. | |
| Manufacturing | PPI, for industrial buildings. | | |
| Power and communication | PPI, for steel pipes and tubes | Cost indexes from trade sources and government agencies, for power; cost index from trade sources, for communication. | |
| Mining exploration, shafts, and wells | PPI, for oil and gas well drilling and oil and gas field services. | BEA index based on cost index from trade sources and on Census Bureau price index for single-family houses under construction, for mines. | Quantity extrapolation. Footage by geographic area from trade sources, for drilling. |
| Other structures | PPI, for nonresidential real estate brokerage and new school construction. | BEA index, for railroads; BEA index based on cost index from trade sources and on Census Bureau price index for single-family houses under construction, for other components. | |
| Nonresidential equipment | | | |
| 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 "Motor vehicles and parts" under "Personal consumption expenditures." |
| Communication equipment | ..... | Federal Reserve Bank (FRB) price indexes for data transmission equipment, enterprise and home voice equipment, data networking equipment, wireless networking equipment, and cellular phone equipment. | |
| Photocopying equipment | ..... | BEA price index. | |
| Electro-medical equipment | ..... | BEA price index for electro-medical equipment. | |
| Nonresidential intellectual property products | | | |
| Software | PPI, for prepackaged software. | BEA cost index based primarily on BLS average wage rates for select occupations and PPI, for own-account and custom software. | |
| Research and development | ..... | BEA cost index based primarily on BLS data on average wages for selected industries. | |
| Entertainment, literary, and artistic originals | CPI and PPI | | |

| Residential investment | | | |
|---|-------|--|--|
| Permanent-site new single-family structures | ..... | Census Bureau price index for single-family houses under construction. | |
| Permanent-site new multifamily structures | ..... | Census Bureau price index for multifamily houses under construction. | |
| Manufactured homes | PPI | | |
| Improvements | ..... | BEA composite index of input prices, for major replacements; BEA index based on Census Bureau price index for single-family houses under construction and BEA index for major replacements, for additions and alterations. | |
| Brokers' commissions and other ownership transfer costs | PPI | | |
| Equipment | CPI | | |

| Component | Deflation, using price based on | | Using quantity for extrapolation or direct valuation |
|---|--|--|--|
| | Consumer price index (CPI) or producer price index (PPI) | Other index | |
| Change in private inventories | | | |
| Farm | ..... | U.S. Department of Agriculture (USDA) average market prices. | |
| 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 from EIA, for utilities. |
| Work-in-process and finished goods, manufacturing | PPI | BEA indexes of unit labor costs. | |

| Component | Deflation, using price based on | | Using quantity for extrapolation or direct valuation |
|--|--|---|--|
| | Consumer price index (CPI) or producer price index (PPI) | Other index | |
| Net exports of goods and services | | | |
| Exports and imports of goods | PPI for gold, semi-conductor exports, and selected transportation equipment. | BLS export and import price indexes; FRB price index, for various communications equipment; BEA price index for electro-medical equipment and parts exports and imports; unit-value indexes based on Census Bureau values and quantities, for electric energy exports and imports. | Direct valuation. Quantities and unit-value indexes from monthly Census Bureau compilations of import data converted to a balance-of-payments basis, for imports of petroleum. |
| Exports and imports of services | CPI, for travel receipts, medical receipts, and nonresident students' expenditures. PPI, for selected transport categories. | 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 air passenger transport; BEA composite index of foreign CPIs, ² for travel payments, for miscellaneous services, and for U.S. students' expenditures abroad; BLS export and import price indexes, for selected transport categories; BEA price indexes, CPI, PPI, and implicit price deflator for final sales to domestic purchasers, for charges for the use of intellectual property not elsewhere classified, and for other business services. | Quantity extrapolation. BLS index of total bank output (less BEA estimates of real bank service charges), for exports of financial services furnished without payment; ¹ premiums deflated by PPI, for exports and imports of insurance |

| Component | Deflation, using price based on | | Using quantity for extrapolation or direct valuation |
|---|--|---|---|
| | Consumer price index (CPI) or producer price index (PPI) | Other index | |
| 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 Department of Defense (DOD) prices paid, for some goods and services; BLS employment cost indexes, for some services; cost indexes from trade sources and government agencies, for military and nonmilitary structures; BEA index derived from nondefense compensation, for own-account software; BEA index derived from nondefense indexes and input-cost indexes, for research and development; BEA index derived from nondefense compensation price index and PPI, for custom software. | Quantity extrapolation. Full-time equivalent employment by rank and length of service, for military compensation; full-time equivalent employment by grade, adjusted for change from base year in hours worked, for civilian compensation. Direct valuation. Quantities and prices from DOD reports, for some goods and services; quantities from Department of Energy (DOE), for electricity and natural gas. |
| 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. | Cost indexes from trade sources and government agencies, for structures; BLS employment cost indexes, for some services; BEA index derived from nondefense compensation, for own-account software; BEA index derived from nondefense indexes and input-cost indexes, for research and development; BEA index derived from nondefense compensation price index and PPI, for custom software. | Quantity extrapolation. Full-time equivalent employment by grade, adjusted for change from base year in hours worked, for compensation; BLS index of total bank output (less BEA estimates of real bank service charges), for financial services furnished without payment. ¹ Direct valuation. Quantities by crop from agency reports and USDA prices, for net purchases of agricultural commodities by the Commodity Credit Corporation; DOE quantities and prices, for selected petroleum transactions. |
| | CPI, for rent, utilities, and communications. | | |
| 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 listed below | CPI, for services. | BEA indexes based on federal nondefense prices paid, for transportation, books, and postal services; BEA composite indexes of input prices, for elementary and secondary education, welfare, and libraries; BEA composite price index for state and local construction, for maintenance and repair services. | Quantity extrapolation. See the entry "Financial services and insurance" under "Personal consumption expenditures." |
| Compensation of general government employees | ..... | ..... | Quantity extrapolation. Full-time equivalent employment by education and experience, adjusted for change from base year in hours worked, for employees in education; full-time equivalent employment, adjusted for change from base year in hours worked, for other employees. |
| Consumption of general government fixed capital | ..... | ..... | Direct valuation. Perpetual inventory calculations based on gross investment. |
| Structures | PPI, for office buildings, highways, educational buildings, and manufacturing buildings. | Cost indexes from trade sources and government agencies, BLS employment cost index for construction. | |
| Intellectual property products | ..... | See the entries "Software" and "Research and development" under "Nonresidential intellectual property products." | |

| | |
|-------------|-----------------------------------|
| BEA | Bureau of Economic Analysis |
| BLS | Bureau of Labor Statistics |
| CPI | Consumer price index |
| DOD | Department of Defense |
| DOE | Department of Energy |
| EIA | Energy Information Administration |
| FRB | Federal Reserve Bank |
| PPI | Producer price index |
| USDA | U.S. Department of Agriculture |

1. Also referred to as (services furnished without payment by financial intermediaries, except life insurance carriers.)
2. The foreign CPIs are adjusted for differences in exchange rates.

1. The concepts and methodologies that underlie the NIPAs are subject to periodic improvements as part of the comprehensive and annual NIPA updates, and information about these improvements is available on BEA's website. See also Pamela A. Kelly, Stephanie H. McCulla, and David B. Wasshausen, "[Improved Estimates of the National Income and Product Accounts: Results of the 2018 Comprehensive Update](#)," *Survey of Current Business* 98 (September 2018).
2. For detailed 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 *NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts* on BEA's website.
3. For specific information on key monthly source data incorporated in the current quarterly estimates, see "GDP and the Economy" in the *Survey*.
4. See *U.S. International Economic Accounts: Concepts and Methods* on BEA's website. Improvements in methodology are usually introduced as part of annual ITA revisions; see Barbara Berman, Erin (Yiran) Xin, and Douglas B. Weinberg, "[Annual Update of the U.S. International Transactions Accounts](#)," *Survey* 98 (July 2018).
5. Quarterly estimates are presented in the NIPA underlying detail table 4.3BU.
6. For additional information on the commodity-flow method, see "[Chapter 4: Estimating Methods](#)" in *NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts*, 4–9.
7. For additional information, see "[Estimating Methods](#)," 4–9 and "[What is the retail-control method?](#)"
8. For additional information, see "[Estimating Methods](#)," 4–12.
9. For details, see "[Chapter 9: Government Consumption Expenditures and Gross Investment](#)."
10. For the 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.



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