

Technical Note

Gross Domestic Product, Second Quarter 2023 (Advance Estimate)

July 27, 2023

This technical note provides background information about the source data and estimating methods used to produce the estimates presented in the GDP news release; a summary of "highlights" is available on BEA's website at www.bea.gov.

Real GDP and Related Aggregates

Real GDP increased at an annual rate of 2.4 percent (0.6 percent at a quarterly rate¹) in the second quarter of 2023, compared with an increase of 2.0 percent (0.5 percent at a quarterly rate) in the first quarter. The increase in real GDP primarily reflected increases in consumer spending, nonresidential fixed investment, state and local government spending, and private inventory investment that were partly offset by decreases in exports and residential fixed investment. Imports, which are a subtraction in the calculation of GDP, decreased.

- The increase in consumer spending reflected increases in both services and goods. Within services, the leading contributors to the increase were housing and utilities, health care, financial services and insurance, and transportation services. Within goods, the increase was led by recreational goods and vehicles as well as gasoline and other energy goods.
 - The increase in housing and utilities was led by electricity and gas, based primarily on Energy Information Administration (EIA) usage data for April and EIA Short Term Energy Outlook (STEO) projections for May and June.
 - Within health care, the increase reflected increases in both outpatient services and hospital and nursing home services (notably hospital services), based primarily on Bureau of Labor Statistics (BLS) Current Employment Statistics (CES) employment, earnings, and hours data, as well as private trade data.
 - Within financial services and insurance, the increase was led by imputed financial services as well as portfolio and investment advice services, based primarily on market indicators and judgmental trends.

¹ Percent changes in quarterly seasonally adjusted series are displayed at annual rates, unless otherwise specified. For more information, refer to the FAQ [Why does BEA publish percent changes in quarterly series at annual rates?](#).

- The increase in transportation services was led by increases in air transportation, based primarily on publicly traded airline company revenue reports, as well as motor vehicle maintenance and repair services, based primarily on payment card transactions data.
- The increase in recreational goods and vehicles primarily reflected an increase in information processing equipment, based primarily on Census Bureau Monthly Retail Trade Survey data.
- The increase in gasoline and other energy goods was driven by EIA gasoline supply data for April and STEO projections for May and June.
- The increase in nonresidential fixed investment reflected increases in equipment, structures, and intellectual property products.
 - The increase in equipment was led by transportation equipment, primarily reflecting an increase in trucks, buses, and truck trailers, based on unit vehicle sales data from Wards Intelligence and vehicle registrations data from IHS-Polk, as well as aircraft, based on Census manufacturers' shipments and trade in goods data.
 - The increase in structures was led by manufacturing structures, based primarily on Census Value-Put-In-Place (VPIP) construction spending data for April and May.
 - The increase in intellectual property products was led by software, based primarily on trends in revenue data as well as BLS CES data.
- The increase in state and local government spending primarily reflected increases in state and local government employee compensation, based primarily on BLS CES data, and in gross investment in structures, based on Census VPIP data for April and May.
- Within private inventory investment, both farm and nonfarm inventories increased. For farm, the increase primarily reflected data from the U.S. Department of Agriculture. Within nonfarm, increases in durable wholesale trade, durable goods manufacturing, and retail trade industries were partly offset by decreases in nondurable goods for wholesale and manufacturing industries, based primarily on Census inventory book value data through June.
- Estimates of exports and imports primarily reflected Census-BEA U.S. International Trade in Goods and Services data as well as the Census Advance Economic Indicators Report for June.
 - Within exports, a decrease in goods was partly offset by an increase in services. Within goods, the decrease was led by nondurable industrial supplies and materials; consumer goods, except food and automotive; and foods, feeds, and beverages. Within exports of services, the increase was led by travel.
 - Within imports, both goods and services decreased. Within goods, the leading contributors to the decrease were nondurable industrial supplies and materials as well

as nondurable consumer goods. Within services imports, the leading contributor to the decrease was transport.

- The decrease in residential fixed investment was led by a decline in improvements, based primarily on BLS CES data.

Compared to the first quarter, the acceleration in GDP in the second quarter primarily reflected an upturn in private inventory investment and an acceleration in nonresidential fixed investment. These movements were partly offset by a downturn in exports, and decelerations in consumer spending, federal government spending, and state and local government spending. Imports turned down.

Real final sales to private domestic purchasers, which measures private demand in the domestic economy and is derived as the sum of consumer spending and private fixed investment, increased 2.3 percent in the second quarter after increasing 3.2 percent in the first quarter.

Key Source Data and Assumptions for the Advance Estimate

The advance estimate of GDP for the second quarter is based on source data that are incomplete and subject to further revision by the source agency. Three months of source data were available for consumer spending on goods; shipments of capital equipment; motor vehicle sales and inventories; manufacturing, wholesale, and retail trade inventories; exports and imports of goods; federal government outlays; and consumer, producer, and international prices. For series for which monthly and quarterly data were incomplete or unavailable, BEA's assumptions are informed by a variety of sources, most notably private high-frequency payment card transactions data as well as volume data, such as health care patient visits and traveler throughput from industry and trade associations. More information on the source data and BEA assumptions that underlie the second-quarter estimate is shown in the [Key Source Data and Assumptions](#) table.

Prices

BEA's featured measure of inflation in the U.S. economy, the price index for gross domestic purchases, increased 1.9 percent in the second quarter, following an increase of 3.8 percent in the first quarter. Excluding food and energy, gross domestic purchases prices increased 2.6 percent, after increasing 4.2 percent.

The price index for personal consumption expenditures (PCE) increased 2.6 percent in the second quarter, after increasing 4.1 percent in the first quarter. Excluding food and energy, the "core" PCE price index increased 3.8 percent, after increasing 4.9 percent. The leading contributors to the second-quarter increase in core PCE prices were housing, health care, "other" services (mainly professional and other business services), and food services and accommodations. Prices also increased within goods, primarily reflecting price increases for motor vehicles and parts (mainly used light trucks) and "other" nondurable goods (notably, pharmaceutical products). Prices were based primarily on BLS consumer and producer price indexes. For a comparison of PCE prices to BLS consumer price indexes, refer to NIPA [Table 9.1U. Reconciliation of Percent Change in the CPI with Percent Change in the PCE Price Index](#).

Disposable Personal Income

Real disposable personal income (DPI) increased 2.5 percent in the second quarter, compared with an increase of 8.5 percent in the first quarter. Current-dollar DPI increased 5.2 percent, after increasing 12.9 percent.

The increase in second-quarter current-dollar DPI primarily reflected increases in compensation, personal income receipts on assets, rental income of persons, and personal current transfer receipts.

- Within compensation, the leading contributor to the increase was private wages and salaries, based primarily on BLS CES data.
- Within personal income receipts on assets, the increase reflected increases in both interest and dividend income.
- Within personal current transfer receipts, the increase was led by government social benefits (notably, Medicaid and Social Security).

The personal saving rate was 4.4 percent in the second quarter, compared with 4.3 percent in the first quarter.

Looking Ahead: 2023 Comprehensive Update of the National Economic Accounts

BEA will release initial results from the comprehensive (or benchmark) update of the National Economic Accounts (NEA), which include the National Income and Product Accounts as well as the Industry Economic Accounts, on September 28, 2023. Current-dollar measures of GDP and related components will be revised from the first quarter of 2013 through the first quarter of 2023. Current-dollar GDP by industry statistics will be revised from the first quarter of 2005 through the first quarter of 2023, although revisions prior to the first quarter of 2013 will be offsetting across industries within each period. Gross domestic income (GDI) and select income components will be revised from the first quarter of 1979 through the first quarter of 2023.

Quantity and price measures will use 2017 as the reference year; currently, the reference year is 2012. Updating the reference year will not affect the percent changes in the price or quantity indexes (or in the chained-dollar estimates), because these changes are measured from chain-type indexes. Revisions to the percent changes in NEA estimates will reflect the incorporation of new and revised source data as well as changes in methodologies. For details, refer to [Information on Updates to the National Economic Accounts](#).

More Information

The complete set of statistics for the second quarter is available on [BEA's website](#). In a few weeks, the *Survey of Current Business*, BEA's online journal, will present a more detailed analysis of the estimates ("GDP and the Economy").

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