

# Technical Note

## Gross Domestic Product, First Quarter 2022 (Advance Estimate)

April 28, 2022

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 brief summary of "highlights" is available on BEA's website at [www.bea.gov](http://www.bea.gov).

### Economic Factors and First-Quarter 2022 GDP

Real GDP decreased 1.4 percent at an annual rate (0.4 percent at a quarterly rate<sup>1</sup>) in the first quarter of 2022, following an increase of 6.9 percent at an annual rate (1.7 percent at a quarterly rate) in the fourth quarter of 2021. The decline occurred amid a resurgence of COVID-19 cases from the Omicron variant and decreases in government pandemic assistance payments. Other economic factors including supply-chain challenges, low unemployment, and widespread inflation continued. The full economic effects of the COVID-19 pandemic and other economic factors cannot be quantified in the GDP estimate for the first quarter of 2022 because the impacts are generally embedded in source data and cannot be separately identified. Real GDP for the first quarter of 2022 is 2.8 percent above the level of real GDP for the fourth quarter of 2019<sup>2</sup>.

### Key Source Data and Assumptions for the Advance Estimate

The advance estimate of GDP for the first quarter is based on source data that are incomplete and subject to updates. 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 major source data series for which only two months of data were available, or for which data for the first quarter are not yet available, BEA's assumptions were based on a variety of sources, most notably: private high-frequency payment card transactions data; industry and trade association reports that include volume data, such as health care patient visits and traveler throughput, as well as recreation services revenues and event attendance; and news reports providing information on the operating status of businesses. More information on the source data and BEA assumptions that underlie the first-quarter estimate is shown in the [Key Source Data and Assumptions](#) table.

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<sup>1</sup> 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?](#).

<sup>2</sup> The fourth quarter of 2019 was the most recent quarter prior to the onset of the COVID-19 pandemic. Calculated as the percent change from the fourth quarter of 2019 to the first quarter of 2022 in news release table 3, line 1.

## Real GDP and Related Aggregates

Real GDP decreased 1.4 percent (annual rate) in the first quarter of 2022, following an increase of 6.9 percent in the fourth quarter of 2021. The decrease in real GDP reflected decreases in private inventory investment, exports, federal government spending, and state and local government spending, while imports, which are a subtraction in the calculation of GDP, increased. Consumer spending, nonresidential fixed investment, and residential fixed investment increased.

- The decrease in private inventory investment was led by decreases in wholesale trade (mainly motor vehicles) and retail trade (notably, "other" retailers and motor vehicle dealers) based primarily on Census inventory book value data as well as motor vehicle unit inventory data from Wards Intelligence.
- Estimates of exports and imports primarily reflected Census-BEA U.S. International Trade in Goods and Services data and the Census Advance Economic Indicators Report for March as well as Bureau of Labor Statistics (BLS) international and producer price indexes.
  - Within exports, a decrease in goods was partly offset by an increase in services. Within goods, the leading contributors to the decrease were nonfood and nonautomotive consumer goods as well as industrial supplies and materials. Within services, the increase was led by "other" business services (mainly financial services).
  - Within imports, the increase was led by increases in nonfood and nonautomotive consumer goods, nonautomotive capital goods, and automotive vehicles, engines, and parts.
- The decrease in federal government spending was led by defense spending on intermediate goods and services, notably services, based primarily on Treasury Department data.
- The increase in consumer spending reflected an increase in services that was partly offset by a decrease in goods. Within services, increases were widespread, led by health care, financial services and insurance, and housing and utilities. Within goods, a decrease in nondurable goods (led by gasoline and other energy goods) was partly offset by an increase in durable goods (led by motor vehicles and parts as well as recreational goods and vehicles). Spending on food services as well as most categories of goods reflect updated Census retail sales data that were recently benchmarked to results from the most recent annual survey.
  - Within health care, both outpatient services (notably paramedical services) and hospitals and nursing homes increased (notably hospital services), based primarily on patient volume data from trade sources and BLS Current Employment Statistics (CES) employment, earnings, and hours data.
  - For financial services and insurance, the leading contributor to the increase was financial service charges, fees, and commissions (notably, portfolio management and investment advice services), based primarily on BLS CES data and market volume data.

- Within housing and utilities, the increase was led by spending on electricity and gas based on Energy Information Administration (EIA) usage data for January and EIA Short-Term Energy Outlook projections for February and March.
- Within nondurable goods, the decrease in gasoline and other energy goods was primarily based on EIA data.
- Within durable goods, the increase in motor vehicles and parts was led by new light trucks, reflecting unit sales data from Wards Intelligence for all three months of the quarter as well as vehicle registrations data from IHS Markit Polk for January and February and a projection for March. The increase in recreational goods and vehicles was led by spending on sports and recreational vehicles, based primarily on Census Bureau monthly retail sales data.
- The increase in nonresidential fixed investment reflected increases in equipment and intellectual property products.
  - Within equipment the leading contributors to the increase were information processing equipment (mainly computers and peripheral equipment) and industrial equipment (notably special industry machinery). The estimates were based primarily on data from the Census-BEA U.S. International Trade in Goods and Services Report and the Census Advance Economic Indicators Report for March, as well as shipments data from the Census Manufacturers' Shipments, Inventories, and Orders survey.
  - The increase in intellectual property products reflected increases in software (notably, prepackaged software), based on trends in Census Quarterly Services Survey revenue data, and in research and development, based primarily on BLS CES data.

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 3.7 percent in the first quarter after increasing 2.6 percent in the fourth quarter.

### Prices

BEA's featured measure of inflation in the U.S. economy, the price index for gross domestic purchases, increased 7.8 percent in the first quarter, following an increase of 7.0 percent in the fourth quarter. Excluding food and energy, gross domestic purchases prices increased 6.7 percent, after increasing 6.2 percent.

The price index for personal consumption expenditures (PCE) increased 7.0 percent in the first quarter, after increasing 6.4 percent in the fourth quarter. Excluding food and energy, the "core" PCE price index increased 5.2 percent, after increasing 5.0 percent. The first-quarter increase in core PCE prices reflected widespread increases in both goods and services, led by increases in the prices for housing, hospital services, and other nondurable goods (notably prescription drugs). 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) decreased 2.0 percent (at an annual rate) in the first quarter, compared with a decrease of 5.6 percent in the fourth quarter. Current-dollar DPI increased 4.8 percent (annual rate) in the first quarter, after increasing 0.4 percent in the fourth quarter.

The increase in first-quarter current-dollar DPI primarily reflected an increase in compensation that was partly offset by a decrease in government social benefits and an increase in personal current taxes.

- Within compensation, both private and government wages and salaries increased, based primarily on BLS CES data.
- Within government social benefits, a decrease in “other” benefits was partly offset by an increase in social security.
  - Within “other” benefits, the decrease primarily reflected the pattern of payments for the expanded [child tax credit](#) authorized by the American Rescue Plan Act of 2021.
  - The increase in social security primarily reflected a 5.9 percent cost-of-living adjustment that took effect in January.
- Within personal current taxes, both state and local taxes and federal taxes increased, primarily reflecting state revenue and Treasury Department collections data.

The personal saving rate was 6.6 percent in the first quarter, compared with 7.7 percent in the fourth quarter. Additional information on factors impacting quarterly personal income and saving can be found in [Effects of Selected Federal Pandemic Response Programs on Personal Income](#).

### **Federal Government Economic Response to the COVID-19 Pandemic**

Since the onset of the COVID-19 pandemic, several [legislative acts](#), including the Coronavirus Aid, Relief, and Economic Security (CARES) Act; the Coronavirus Response and Relief Supplemental Appropriations (CRRSA) Act; and the American Rescue Plan (ARP) Act, were signed into law. The Acts established several temporary programs and provided additional funding for existing federal programs to support individuals, communities, and businesses impacted by the pandemic. Because the effects of the Acts were in the form of transfers to individuals, subsidies to businesses, and grants to state and local governments, their effects on GDP show up indirectly through the components of GDP, such as consumer spending, business investment, and government spending. Thus, BEA cannot separately identify the total effect of the Acts on changes in GDP.

It is possible, however, to identify the impacts of select recovery programs on aggregate federal government spending. Further information on these and other pandemic response programs, including estimates of the effects of these programs on federal government spending is available in [Effects of](#)

[Selected Federal Pandemic Response Programs on Federal Government Receipts, Expenditures, and Saving.](#)

### **Looking Ahead: 2022 Annual Update of the National Economic Accounts**

BEA will release results from the 2022 annual update of the National Economic Accounts, which includes the National Income and Product Accounts as well as the Industry Economic Accounts, on September 29, 2022. The update will present revised statistics for GDP, GDP by Industry, and gross domestic income that cover the first quarter of 2017 through the first quarter of 2022. Refer to BEA's recent blog post, "[National, Industry, and State Annual Updates Will Be United in 2022](#)," for more information.

### **More Information**

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

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