

Technical Note

Gross Domestic Product, Second Quarter 2020 (Advance Estimate) and Annual Update

July 30, 2020

This technical note provides background information about the source data and estimating methods used to produce the estimates presented in the GDP news release. The complete set of estimates for the second quarter is available on BEA's Web site at www.bea.gov; a brief summary of "highlights" is also posted on the Web site. In a few weeks, the *Survey of Current Business*, BEA's online monthly journal, will publish a more detailed analysis of the estimates ("GDP and the Economy").

Coronavirus (COVID-19) Impact on Second-Quarter 2020 GDP

Real GDP decreased 32.9 percent (annual rate) in the second quarter of 2020, following a 5.0 percent decrease in the first quarter. The decline in second quarter GDP reflected the response to COVID-19, as "stay-at-home" orders issued in March and April were partially lifted in some areas of the country in May and June, and government pandemic assistance payments were distributed to households and businesses. This led to rapid shifts in activity, as businesses and schools continued remote work and consumers and businesses canceled, restricted, or redirected their spending. The full economic effects of the COVID-19 pandemic cannot be quantified in the GDP estimate for the second quarter of 2020 because the impacts are generally embedded in source data and cannot be separately identified.

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 subject to updates. Three months of source data were available for consumer spending on goods; shipments of capital equipment; motor vehicle sales and inventories; durable goods manufacturing inventories; 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 where data for the second quarter are not yet available, BEA's assumptions were based on a variety of sources, most notably: private high-frequency credit card transactions data to better capture shifts in consumer spending, news reports on reopenings, and industry and trade association reports, that include volume data, such as health care patient visits and traveler throughput. 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 on the BEA Web site.

Real GDP and Related Aggregates

Real GDP decreased 32.9 percent (annual rate) in the second quarter of 2020, following a 5.0 percent decrease in the first quarter. The decline in second-quarter real GDP reflected decreases in consumer spending, exports, private inventory investment, nonresidential fixed investment, residential fixed investment, and state and local government spending that were partly offset by an increase in federal government spending. Imports, which are a subtraction in the calculation of GDP, decreased.

- The decrease in consumer spending reflected declines in both goods and services. Within goods, the decline was more than accounted for by a decrease in spending on nondurable goods. Within services, household consumption of health care, food services and accommodations, recreation services, and “other” services were the leading contributors to the decrease.
 - Within nondurable goods, the leading contributors to the decline were clothing and footwear, gasoline, and food. Estimates of food as well as clothing and footwear primarily reflected Census Bureau Monthly Retail Trade Survey (MRTS) data, and the estimates of gasoline were based on data from the Energy Information Administration.
 - Within health care, both hospital and outpatient services decreased, based on volume data for hospital services and outpatient visits as well as credit card transactions data.
 - The decrease in food services and accommodations was primarily accounted for by declines in purchased meals and beverages, based on Census MRTS data, and in hotels and motels, based on Smith Travel Research data.
 - Within recreation services, the largest contributors to the decrease were membership clubs, sports centers, parks, theaters and museums, based primarily on credit card transactions data, and gambling, based on data from state gaming control commissions.
 - Within “other” services, the decline was widespread; the largest contributors were personal care and social services. The estimates were based primarily on employment, hours, and earnings data from the Bureau of Labor Statistics (BLS) Current Employment Statistics report as well as credit card transactions data.
- Within exports, both goods and services declined in the second quarter. Within goods, the decrease was widespread; the largest contributor was capital goods, based primarily on Census-BEA U.S. International Trade in Goods and Services and Census Advance Economic Indicators Report data. Within services, the largest contributor was travel, based primarily on data on international travelers from U.S. Customs and Border Protection. For more information, see [“What is the impact of COVID-19 on statistics on trade in services?”](#)
- The decrease in private inventory investment reflected a decline in retail trade, notably motor vehicles, based on Census inventory book value data and Ward’s Automotive Report sales data. The decrease was partly offset by increases in manufacturing and wholesale trade, based primarily on Census inventory book value data.

- The decrease in nonresidential fixed investment primarily reflected decreases in equipment and structures.
 - Within equipment, the leading contributor to the decline was transportation equipment, notably trucks, based primarily on Ward’s Automotive Report sales data and IHS Automotive/Polk motor vehicle registrations data.
 - Within structures, the leading contributor to the decrease was mining exploration, shafts, and wells, based primarily on data from the American Petroleum Institute and Baker-Hughes rotary rig counts. Other categories of structures were based primarily on two months of Census Value of Construction Put in Place (VPIP) data and a BEA assumption for construction activity for June.
- Within imports, the decline was widespread; the largest contributors were automotive vehicles, engines, and parts as well as travel services, based on the Census-BEA U.S. International Trade in Goods and Services Report, Census Advance Economic Indicators Report, and data on U.S. travelers overseas from the Department of Homeland Security, respectively. For more information, see [“What is the impact of COVID-19 on statistics on trade in services?”](#)
- Within residential fixed investment, the largest contributors to the decrease were single family structures, reflecting April and May Census VPIP data and a BEA assumption for June based on housing starts, as well as brokers’ commissions, based primarily on existing home sales data from the National Association of Realtors.
- Within state and local government spending, the decrease in the second quarter was primarily accounted for by a decline in consumption expenditures. Within consumption expenditures, compensation of employees decreased, based primarily on BLS employment, hours, and earnings data, and purchases of intermediate goods and services declined. The contributions of these components were partly offset by a decrease in government sales to other sectors, notably health care sales, reflecting a drop in demand for non-essential health services.
- Within federal government spending, the increase in the second quarter primarily reflected an increase in the intermediate services purchased by government. In the second quarter, the processing and administration of Paycheck Protection Program loan applications by banks on behalf of the federal government added approximately \$15 billion (about \$60 billion at an annual rate) to nondefense services.

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, decreased 33.7 percent in the second quarter after declining 5.8 percent in the first quarter.

Prices

The price index for gross domestic purchases decreased 1.5 percent in the second quarter, compared with a 1.4 percent increase in the first. Excluding food and energy, gross domestic purchases prices decreased 1.0 percent, after increasing 1.6 percent.

The price index for personal consumption expenditures (PCE) decreased 1.9 percent in the second quarter, after increasing 1.3 percent in the first. Excluding food and energy, the PCE price index decreased 1.1 percent, after increasing 1.6 percent. The decrease in the PCE price index excluding food and energy primarily reflected declines in prices for clothing and footwear as well as financial services.

Disposable Personal Income

Real disposable personal income (DPI) increased 44.9 percent in the second quarter, following a 2.6 percent increase in the first. The increase in DPI was more than accounted for by an increase in personal current transfer receipts (notably, government social benefits) and a decrease in personal current taxes that were partly offset by declines in compensation and proprietors' income.

- Within government social benefits, several programs increased as provisions from federal recovery legislation, including the CARES Act, took effect in the second quarter. Most notably, unemployment insurance and "other" social benefits increased to historic levels. For unemployment benefits, the increase was primarily attributable to the new and expanded [Unemployment Insurance Program benefits](#). Within "other" social benefits, the increase primarily reflected one-time [Economic Impact Payments](#) to individuals.
- For personal current taxes, the decline was led by federal income taxes.
- Within compensation, the leading contributor to the decrease was wages and salaries. Both private and government wages decreased based primarily on data from the BLS monthly Current Employment Statistics report and information on unemployment insurance claims from the Department of Labor's Employment and Training Administration. For more information, see "[How does BEA adjust wages and salaries to account for the effects of COVID-19?](#)".
- Within proprietors' income, the decline was largely accounted for by a decline in nonfarm proprietors' income. The decrease in second quarter income was partly offset by provisions of the [Paycheck Protection Program](#), which provided small businesses with forgivable loans that took effect in the second quarter.

The personal saving rate was 25.7 percent in the second quarter, compared with 9.5 percent in the first. Additional information on several factors impacting quarterly personal income and saving can be found in "[Effects of Selected Federal Pandemic Response Programs on Personal Income](#)".

Pacific Gas and Electric settlements

In June 2020, two settlements were finalized for widespread wildfires caused by sparks from equipment owned by California utility company Pacific Gas and Electric (PG&E). One settlement in the amount of \$1.0 billion (\$4.0 billion at an annual rate) was designed to compensate California cities, counties, and agencies for disaster-recovery costs for fires in 2017 and 2018. The second settlement for \$13.5 billion (\$54.0 billion at an annual rate) was awarded to households for loss of life and property for fires in 2015, 2017, and 2018. Half of the \$13.5 billion settlement was payable in PG&E stock and half in cash.

International guidelines for national economic accounting recommend that major settlements paid as compensation for extensive damages not covered by insurance be treated as a capital transfer. In accordance with these guidelines, the PG&E settlements in the second quarter were recorded as a capital transfer in the national income and product accounts (NIPAs). The settlement with California agencies was recorded as a capital transfer from business to state and local government, and the settlement with households was recorded as a capital transfer from business to persons. Estimates of these transfers are presented in [NIPA table 5.11U](#), “Capital Transfers by Sector and Type.”

Federal Government Economic Response to the COVID-19 Pandemic

Since the onset of the COVID-19 pandemic, several legislative acts, including the CARES 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 quarterly or annual effect of the acts on changes in GDP.

During the second quarter, several provisions from the acts took effect. Most significantly, provisions from the one-time [Economic Impact Payments](#) to individuals and expanded [Unemployment Insurance Program](#) benefits boosted government social benefits, while the portion of forgivable loans to businesses and nonprofits through the [Paycheck Protection Program](#) raised government subsidies and social benefit payments, respectively. 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](#)” on BEA’s Web site.

Summary Results from the Annual Update

Today’s release presents results from the annual update of the NIPAs. This year’s update includes revised estimates for the first quarter of 2015 through the fourth quarter of 2019. The update incorporates more complete and reliable source data than previously available.

The updated estimates show that real GDP increased 2.5 percent at an average annual rate from 2014-2019; in the previously published estimates, real GDP had increased 2.4 percent. Over the same period, real GDI increased 2.1 percent, compared with the previously published 2.0 percent.

For the period of expansion from the second quarter of 2009 through the fourth quarter of 2019, real GDP increased at an annual rate of 2.3 percent, the same as previously published.

Shortly after the release, BEA will post materials on the BEA Web site that discuss the results in more detail and will include a table showing the major source data incorporated as part of the update. The upcoming August *Survey* will feature an article describing the results of the annual update.

Updates for the First Quarter of 2020

For the first quarter of 2020, real GDP is estimated to have decreased 5.0 percent; the same decrease as in the previously published estimates. The updated first quarter estimates primarily reflect upward revisions to private inventory investment and state and local government spending that were offset by a downward revision to exports and an upward revision to imports.

For the first quarter of 2020, real GDI is now estimated to have decreased 2.5 percent, an upward revision of 1.9 percentage points. The leading contributor to the upward revision was compensation, based primarily on new first-quarter wage and salary estimates from the BLS Quarterly Census of Employment and Wages.

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