

GDP and the Economy

Advance Estimates for the First Quarter of 2020

Real gross domestic product (GDP) decreased at an annual rate of 4.8 percent in the first quarter of 2020, according to the “advance” estimates of the National Income and Product Accounts (NIPAs) (chart 1 and table 1).¹ In the fourth quarter of 2019, real GDP increased 2.1 percent.

The decrease in real GDP in the first quarter reflected negative contributions from consumer spending, nonresidential fixed investment, exports, and inventory investment that were partly offset by positive contributions from residential fixed investment and government spending.² Imports, which are a subtraction in the calculation of GDP, decreased (chart 2 and table 1).

Chart 1. Real GDP: Percent Change From Preceding Quarter

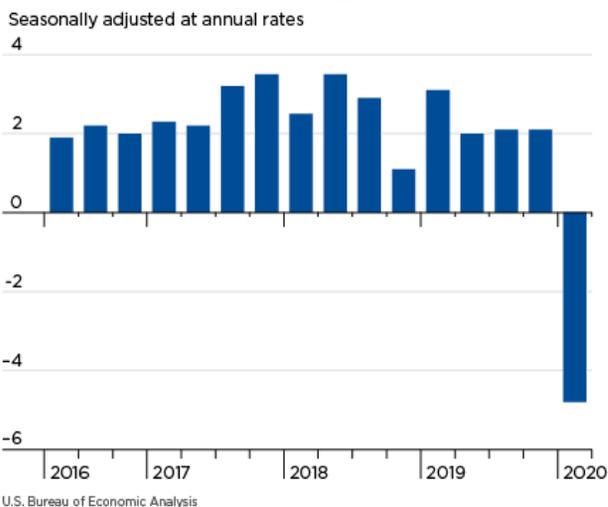
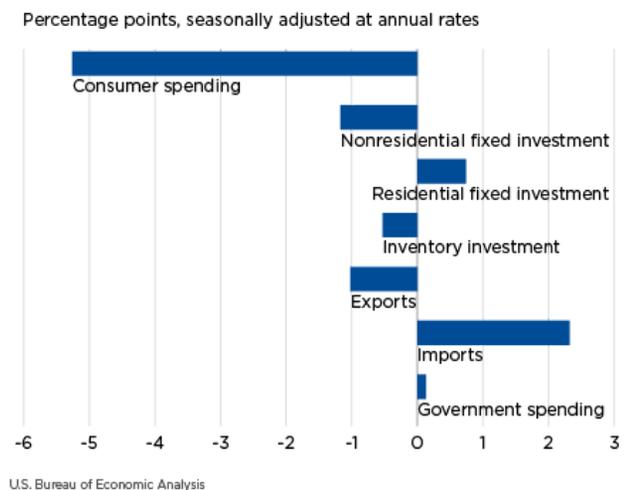


Chart 2. Real GDP: Contributions to the Percent Change in 2020:1



Coronavirus (COVID-19) Impact on the Advance First-Quarter 2020 GDP Estimate

The decline in first-quarter GDP was, in part, due to the response to the spread of COVID-19, as governments issued “stay-at-home” orders in March. This led to rapid changes in demand, as businesses and schools switched to remote work or canceled operations and consumers canceled, restricted, or redirected their spending. The full economic effects of the COVID-19 pandemic cannot be quantified in the GDP estimate for the first quarter of 2020, because the impacts are generally embedded in source data and cannot be separately identified. More information can be found in the “[Technical Note](#)” for the advance first-quarter 2020 GDP estimate.

GDP Component Detail

In the first quarter, downturns in consumer spending and exports, a larger decrease in nonresidential investment, and a smaller increase in government spending were partly offset by a larger increase in residential investment and a smaller decrease in inventory investment. Imports decreased more in the first quarter than in the fourth quarter.

- The downturn in consumer spending reflected downturns in spending on both goods and services.
 - The largest contributors to the downturn in services were in health care and in food services and accommodations, as “stay-at-home” orders to protect against COVID-19 affected both the availability of and demand for services in these categories (see [“Coronavirus \(COVID-19\) Impact on the Advance First-Quarter 2020 GDP Estimate”](#)).
 - Within goods, the main contributors were downturns in motor vehicles and parts and in clothing and footwear.
- The downturn in exports reflected a downturn in exports of services, led by travel.
- The larger decrease in nonresidential investment was led by a larger decrease in equipment, reflecting a larger decrease in transportation equipment and a downturn in information processing equipment.
- The smaller increase in government spending primarily reflected downturns in state and local consumption expenditures and in federal defense gross investment. The downturn in state and local consumption expenditures was more than accounted for by a downturn in employee compensation, including compensation for education services. For details, see [“How does BEA measure public education services during the closings of schools and college campuses in response to the COVID-19 pandemic?”](#)
- The larger increase in residential fixed investment was led by an acceleration in residential structures, which includes new construction and improvements.
- The smaller decrease in inventory investment was led by a smaller decrease in nonfarm inventory investment. The main contributor was an upturn in retail trade inventory investment, mainly by motor vehicle and parts dealers.
- The larger decrease in imports reflected a downturn in services, led by a downturn in travel and a larger decrease in transport services.

Table 1. Real Gross Domestic Product (GDP) and Related Measures

[Seasonally adjusted at annual rates]

Line		Share of current-dollar GDP (percent)	Change from preceding period (percent)				Contribution to percent change in real GDP (percentage points)			
		2020	2019			2020	2019			2020
		I	II	III	IV	I	II	III	IV	I
1	Gross domestic product¹	100.0	2.0	2.1	2.1	-4.8	2.0	2.1	2.1	-4.8
2	Personal consumption expenditures	67.6	4.6	3.2	1.8	-7.6	3.03	2.12	1.24	-5.26
3	Goods	21.0	8.6	5.3	0.6	-1.3	1.74	1.09	0.12	-0.27
4	Durable goods	6.9	13.0	8.1	2.8	-16.1	0.87	0.56	0.20	-1.21
5	Nondurable goods	14.2	6.5	3.9	-0.6	6.9	0.87	0.53	-0.08	0.94
6	Services	46.5	2.8	2.2	2.4	-10.2	1.29	1.02	1.12	-4.99
7	Gross private domestic investment	17.0	-6.3	-1.0	-6.0	-5.6	-1.16	-0.17	-1.07	-0.96
8	Fixed investment	17.0	-1.4	-0.8	-0.6	-2.6	-0.25	-0.14	-0.09	-0.43
9	Nonresidential	13.0	-1.0	-2.3	-2.4	-8.6	-0.14	-0.31	-0.33	-1.17
10	Structures	2.8	-11.1	-9.9	-7.2	-9.7	-0.36	-0.30	-0.21	-0.28
11	Equipment	5.5	0.8	-3.8	-4.3	-15.2	0.05	-0.22	-0.25	-0.91
12	Intellectual property products	4.8	3.6	4.7	2.8	0.4	0.17	0.22	0.13	0.02
13	Residential	4.0	-3.0	4.6	6.5	21.0	-0.11	0.17	0.24	0.74
14	Change in private inventories	0.0	.....	.....	.....	.....	-0.91	-0.03	-0.98	-0.53
15	Net exports of goods and services	-2.5	.....	.....	.....	.....	-0.68	-0.14	1.51	1.30
16	Exports	11.2	-5.7	1.0	2.1	-8.7	-0.69	0.11	0.24	-1.02
17	Goods	7.4	-5.9	2.1	-0.6	-1.2	-0.48	0.17	-0.04	-0.08
18	Services	3.8	-5.1	-1.3	7.2	-21.5	-0.21	-0.05	0.28	-0.93
19	Imports	13.7	0.0	1.8	-8.4	-15.3	0.01	-0.26	1.27	2.32
20	Goods	11.1	0.1	1.1	-11.4	-11.4	-0.02	-0.13	1.41	1.35
21	Services	2.6	-0.7	4.8	4.9	-29.8	0.02	-0.13	-0.14	0.96
22	Government consumption expenditures and gross investment	17.9	4.8	1.7	2.5	0.7	0.82	0.30	0.44	0.13
23	Federal	6.8	8.3	3.3	3.4	1.7	0.53	0.22	0.22	0.12
24	National defense	4.0	3.3	2.2	4.4	0.8	0.13	0.09	0.17	0.03
25	Nondefense	2.8	16.1	5.0	1.9	3.1	0.40	0.13	0.05	0.08
26	State and local	11.1	2.7	0.7	2.0	0.1	0.29	0.08	0.22	0.02
Addenda:										
27	Gross domestic income (GDI) ²	.....	0.9	1.2	2.6	.....	.....	.....	.....	.....
28	Average of GDP and GDI	.....	1.4	1.7	2.4	.....	.....	.....	.....	.....
29	Final sales of domestic product	100.0	3.0	2.1	3.1	-4.3	2.92	2.13	3.10	-4.26
30	Goods	29.5	2.1	4.1	1.7	-1.9	0.62	1.20	0.51	-0.51
31	Services	62.1	2.7	1.8	2.5	-7.6	1.66	1.11	1.51	-4.85
32	Structures	8.4	-3.1	-2.5	1.2	7.2	-0.26	-0.21	0.10	0.58
33	Motor vehicle output	2.5	-7.6	34.7	-26.6	-18.7	-0.21	0.83	-0.85	-0.53
34	GDP excluding motor vehicle output	97.5	2.3	1.3	3.1	-4.4	2.23	1.28	2.97	-4.26

1. The GDP estimates under the contribution columns are also percent changes.

2. GDI is deflated by the implicit price deflator for GDP.

Note. Percent changes are from NIPA tables 1.1.1 and 1.2.1, contributions are from NIPA tables 1.1.2 and 1.2.2, and shares are from NIPA table 1.1.10 or are calculated from NIPA table 1.2.5.

Prices

Prices for gross domestic purchases, goods and services purchased by U.S. residents, increased 1.6 percent in the first quarter after increasing 1.4 percent in the fourth quarter (table 2 and chart 3). The larger increase reflected accelerations in the prices paid for state and local government spending and in nonresidential fixed investment.

Food prices increased 3.1 percent after increasing 0.4 percent. Prices for energy goods and services turned down, decreasing 11.0 percent in the first quarter after increasing 4.7 percent in the fourth quarter. Gross domestic purchases prices excluding food and energy increased 1.9 percent in the first quarter after increasing 1.3 percent in the fourth quarter.

Consumer prices excluding food and energy, a measure of the “core” rate of inflation, accelerated, increasing 1.8 percent in the first quarter after increasing 1.3 percent in the fourth quarter.

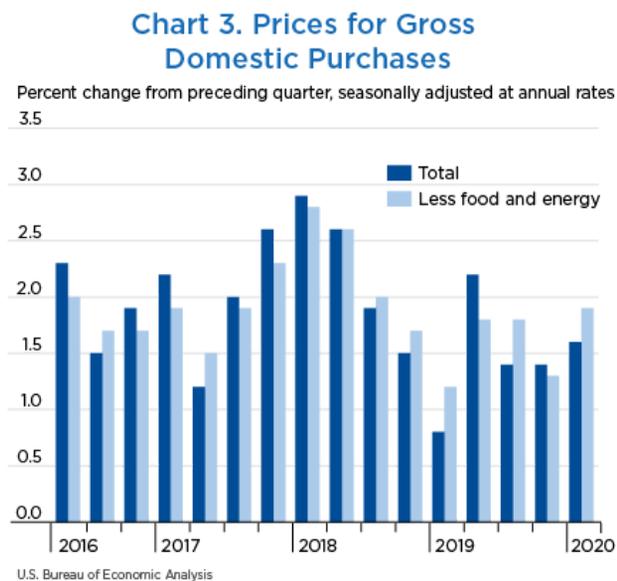


Table 2. Prices for Gross Domestic Purchases

[Percent change at annual rates; based on seasonally adjusted index numbers (2012=100)]

Line		Change from preceding period (percent)				Contribution to percent change in gross domestic purchases prices (percentage points)			
		2019			2020	2019			2020
		II	III	IV	I	II	III	IV	I
1	Gross domestic purchases¹	2.2	1.4	1.4	1.6	2.2	1.4	1.4	1.6
2	Personal consumption expenditures	2.4	1.5	1.4	1.3	1.57	0.98	0.91	0.89
3	Goods	1.6	-0.8	-0.4	-1.0	0.32	-0.16	-0.08	-0.20
4	Durable goods	-1.8	-1.2	-3.2	-1.6	-0.12	-0.09	-0.23	-0.11
5	Nondurable goods	3.3	-0.5	1.1	-0.6	0.44	-0.07	0.15	-0.09
6	Services	2.8	2.5	2.2	2.4	1.25	1.14	0.98	1.09
7	Gross private domestic investment	2.0	1.1	0.8	1.2	0.35	0.18	0.13	0.20
8	Fixed investment	2.0	1.2	0.8	1.4	0.33	0.19	0.14	0.23
9	Nonresidential	2.0	0.5	0.4	1.2	0.27	0.07	0.06	0.15
10	Structures	4.0	1.6	1.1	1.6	0.11	0.04	0.03	0.04
11	Equipment	0.4	-1.1	0.2	0.7	0.02	-0.06	0.01	0.04
12	Intellectual property products	2.9	2.0	0.2	1.4	0.13	0.09	0.01	0.07
13	Residential	1.7	3.4	2.4	2.0	0.06	0.12	0.09	0.08
14	Change in private inventories	.....	.....	.....	.....	0.02	-0.01	-0.01	-0.03
15	Government consumption expenditures and gross investment	1.7	1.6	1.8	3.2	0.29	0.27	0.31	0.54
16	Federal	-2.1	1.5	1.6	1.1	-0.14	0.10	0.10	0.07
17	National defense	1.5	1.4	1.7	1.1	0.06	0.05	0.07	0.04
18	Nondefense	-7.2	1.7	1.4	1.0	-0.19	0.04	0.04	0.03
19	State and local	4.1	1.6	2.0	4.5	0.43	0.17	0.21	0.47
Addenda:									
20	Gross domestic purchases:								
	Food	0.7	-0.7	0.4	3.1	0.03	-0.03	0.02	0.15
21	Energy goods and services	18.8	-8.0	4.7	-11.0	0.47	-0.22	0.12	-0.31
22	Excluding food and energy	1.8	1.8	1.3	1.9	1.71	1.69	1.21	1.79
	Personal consumption expenditures:								
23	Food and beverages purchased for off-premises consumption	0.6	-0.5	0.5	3.1	.....	.....	.....	.....
24	Energy goods and services	18.4	-8.2	4.9	-10.4	.....	.....	.....	.....
25	Excluding food and energy	1.9	2.1	1.3	1.8	.....	.....	.....	.....
26	Gross domestic product	2.4	1.8	1.3	1.3	.....	.....	.....	.....
27	Exports of goods and services	3.3	-2.3	-1.6	-3.1	.....	.....	.....	.....
28	Imports of goods and services	1.6	-4.0	-0.5	0.1	.....	.....	.....	.....

1. The estimates under the contribution columns are also percent changes.

Note. Most percent changes are from NIPA table 1.6.7; percent changes for PCE for food and energy goods and services and for PCE excluding food and energy are from NIPA table 2.3.7. Contributions are from NIPA table 1.6.8. GDP, export, and import prices are from NIPA table 1.1.7.

Note on Prices

BEA's gross domestic purchases price index is the most comprehensive index of prices paid by U.S. residents for all goods and services, regardless of whether those goods and services were produced domestically or imported. It is derived from the prices of personal consumption expenditures (PCE), private investment, and government consumption expenditures and gross investment.

The GDP price index measures the prices of goods and services produced in the United States, including the prices of goods and services produced for export. The difference between the gross domestic purchases price index and the GDP price index reflects the differences between imports prices (included in the gross domestic purchases index) and exports prices (included in the GDP price index). For other measures that are affected by import and export prices, see the FAQ [“How do the effects of dollar depreciation show up in the GDP accounts?”](#) on BEA's website.

BEA also produces price indexes for all the components of GDP. The PCE price index is a measure of the total cost of consumer goods and services, including durable goods, nondurable goods, and services. PCE prices for food, for energy goods and services, and for all items except food and energy are also estimated and reported.

Because prices for food and for energy can be volatile, the price measure that excludes food and energy is often used as a measure of underlying, or “core,” inflation. The core PCE price index includes purchased meals and beverages, such as restaurant meals and pet food. (See [“What is the core PCE price index?”](#) on BEA's website.)

BEA also prepares a supplemental PCE price index, the “market-based” PCE price index, that is based on market transactions for which there are corresponding price measures. This index excludes many imputed expenditures, such as financial services furnished without payment, that are included in PCE and in the PCE price index. BEA also prepares a market-based measure that excludes food and energy.

Personal Income

Personal income (table 3), which is measured in current dollars, increased \$95.2 billion in the first quarter after increasing \$144.1 billion in the fourth quarter. The smaller increase primarily reflected a downturn in private wages and salaries, most notably in services-producing industries, which was partly offset by an acceleration in personal current transfer receipts.

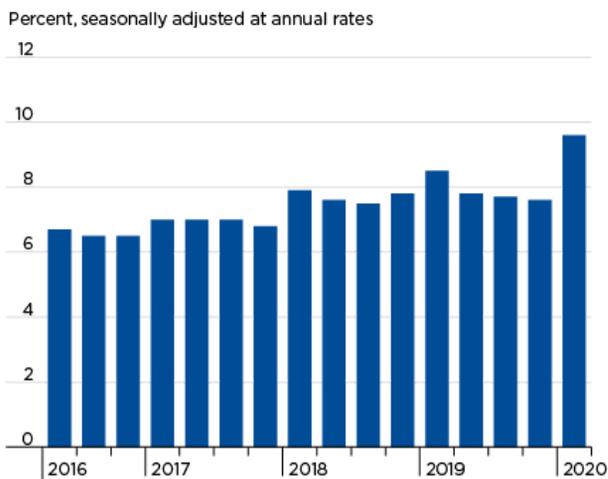
Personal current taxes increased \$18.5 billion in the first quarter after increasing \$20.4 billion in the fourth quarter.

Disposable personal income (DPI) increased \$76.7 billion in the first quarter after increasing \$123.7 billion in the fourth quarter. Personal outlays decreased \$253.5 billion in the first quarter after increasing \$118.8 billion in the fourth quarter, primarily reflecting the downturn in consumer spending.

The personal saving rate (chart 4)—personal saving as a percentage of DPI—was 9.6 percent in the first quarter; in the fourth quarter, the personal saving rate was 7.6 percent.

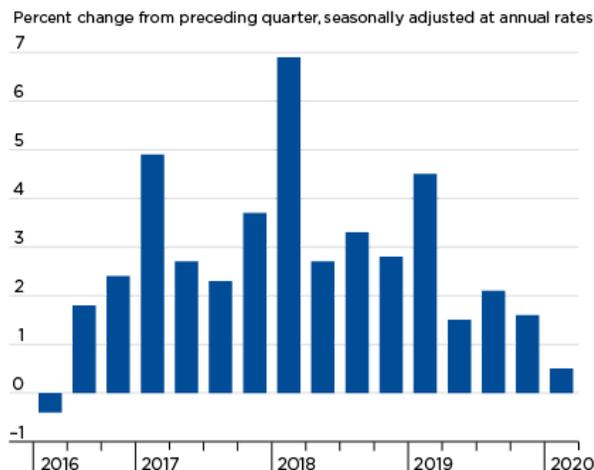
Real DPI (chart 5) increased 0.5 percent in the first quarter after increasing 1.6 percent in the fourth quarter. Current-dollar DPI increased 1.9 percent after increasing 3.0 percent.

Chart 4. Personal Saving Rate



Note. The personal saving rate is personal saving as a percentage of disposable personal income.
U.S. Bureau of Economic Analysis

Chart 5. Real Disposable Personal Income



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Table 3. Personal Income and Its Disposition
[Billions of dollars; quarterly estimates are seasonally adjusted at annual rates]

Line		Level		Change from preceding period			
		2019	2020	2019		2020	
		IV	I	II	III	IV	I
1	Personal income	18,821.0	18,916.2	200.4	121.0	144.1	95.2
2	Compensation of employees	11,548.2	11,559.2	80.4	54.7	106.5	11.0
3	Wages and salaries	9,396.3	9,398.3	62.1	36.0	86.7	2.0
4	Private industries	7,924.2	7,911.9	51.5	18.5	74.7	-12.2
5	Goods-producing industries	1,542.7	1,532.2	8.3	-3.6	12.6	-10.5
6	Manufacturing	910.6	901.1	4.0	-6.5	6.0	-9.5
7	Services-producing industries	6,381.5	6,379.7	43.1	22.1	62.1	-1.8
8	Trade, transportation, and utilities	1,425.3	1,429.7	6.6	5.5	9.8	4.4
9	Other services-producing industries	4,956.2	4,950.0	36.6	16.6	52.3	-6.2
10	Government	1,472.1	1,486.4	10.7	17.5	11.9	14.3
11	Supplements to wages and salaries	2,151.9	2,160.9	18.3	18.7	19.9	8.9
12	Proprietors' income with IVA and CCAdj	1,695.6	1,698.5	11.7	50.5	12.2	3.0
13	Farm	42.1	37.3	-5.6	22.6	0.2	-4.7
14	Nonfarm	1,653.5	1,661.2	17.4	27.9	12.0	7.7
15	Rental income of persons with CCAdj	787.7	797.8	10.2	2.4	8.0	10.2
16	Personal income receipts on assets	3,002.2	3,017.5	61.4	-18.8	4.6	15.3
17	Personal interest income	1,715.6	1,711.7	51.2	-33.7	-1.2	-3.9
18	Personal dividend income	1,286.6	1,305.9	10.2	14.9	5.8	19.2
19	Personal current transfer receipts	3,220.3	3,287.9	45.4	37.2	24.5	67.6
20	Government social benefits to persons	3,165.3	3,232.1	45.4	37.0	24.2	66.8
21	Social security	1,047.5	1,070.2	7.6	7.3	9.7	22.7
22	Medicare	822.8	833.4	18.7	16.3	12.9	10.6
23	Medicaid	643.0	632.5	21.1	12.7	-1.2	-10.5
24	Unemployment insurance	26.0	39.3	-1.0	-0.1	0.3	13.2
25	Veterans' benefits	122.3	129.5	2.0	1.7	2.2	7.2
26	Other	503.7	527.2	-2.9	-0.9	0.2	23.5
27	Other current transfer receipts, from business (net)	54.9	55.8	0.0	0.2	0.3	0.8
28	Less: Contributions for government social insurance	1,432.9	1,444.8	8.7	5.0	11.7	11.8
29	Less: Personal current taxes	2,195.7	2,214.2	43.2	-24.8	20.4	18.5
30	Equals: Disposable personal income (DPI)	16,625.3	16,702.0	157.2	145.9	123.7	76.7
31	Less: Personal outlays	15,356.0	15,102.5	250.1	164.2	118.8	-253.5
32	Personal consumption expenditures	14,795.0	14,555.8	244.9	167.0	116.8	-239.2
33	Personal interest payments ¹	358.5	348.8	3.9	-3.9	-0.5	-9.7
34	Personal current transfer payments	202.4	197.9	1.2	1.1	2.5	-4.6
35	Equals: Personal saving	1,269.3	1,599.5	-92.9	-18.3	4.9	330.2
36	Personal saving as a percentage of DPI	7.6	9.6	.....	.....	.....	.....
Addenda:							
Percent change at annual rate							
37	Current-dollar DPI	.....	.....	3.9	3.6	3.0	1.9
38	Real DPI, chained (2012) dollars	.....	.....	1.5	2.1	1.6	0.5

1. Consists of nonmortgage interest paid by households. Note that mortgage interest paid by households is an expense item in the calculation of rental income of persons.

CCAdj Capital consumption adjustment

IVA Inventory valuation adjustment

Note. Dollar levels and percent changes are from NIPA tables 2.1 and 2.2B.

Information on Key Source Data, Assumptions, and Methodologies

A comprehensive table that presents the “[Key Source Data and Assumptions](#)” that are used to prepare each vintage of the estimate of GDP for the current quarter is available on BEA's website. For the advance estimates that are released near the end of the month after the close of the quarter, the table shows the months of source data for the quarter that are available; for most components of GDP, 3 months of data are available. For the components for which only 2 months of source data are available, BEA's assumptions for the third month are shown. Second estimates are released near the end of the second month after the close of the quarter, and third estimates are released near the end of the third month after the close of the quarter. With each vintage, the table is updated to add newly available and revised source data that have been incorporated into the estimates.

For additional details about the source data and the methodologies that are used to prepare the estimates, see “[Concepts and Methods of the U.S. National Income and Product Accounts](#)” on BEA's website.

Preview of the 2020 NIPA Annual Update

The Bureau of Economic Analysis plans to release the results of the annual updates of the National Income and Product Accounts (NIPAs) on July 30, 2020, and the Industry Economic Accounts (IEAs) on September 30, 2020. As BEA continues to harmonize the methodologies underlying the NIPA and the IEA estimates, many of the improvements that will be incorporated during the annual updates will impact both sets of accounts.

For most estimates of real GDP and its major components, the updates will cover the most recent 5 years (2015 through 2019) and the first quarter of 2020; for selected estimates of income and saving, the updates will extend to previous years. The reference year for index numbers and chained-dollar estimates will remain 2012.

Source data updates. The annual updates will incorporate annual source data that are more complete and more detailed than those previously available, including the following:

- Census Bureau data from the annual surveys of manufacturers, merchant wholesale trade, retail trade, services, and state and local governments
- Federal government budget data
- Internal Revenue Service tabulations of tax returns for corporations, for sole proprietorships, and for partnerships
- Department of Agriculture farm income statistics

Incorporation of international transactions accounts. In addition to the source data listed above, the annual updates of the NIPAs and the IEAs will incorporate estimates, starting with 2015 for most series, from the annual update of BEA's international transactions accounts (ITAs), which will be released on June 19, 2020. For more information, see "[Preview of the 2020 Annual Update of the International Economic Accounts](#)" in the April issue of the *Survey of Current Business*.

Updates to seasonal factors. As with every annual update of the NIPAs, the update will include the incorporation of updated quarterly and monthly seasonal factors that capture changes in seasonal patterns that emerge over time. The updated seasonal factors reflect a mix of data that are seasonally adjusted by source agencies as well as data directly adjusted by BEA.

Increased benefits from the integration of the NIPAs and the IEAs. The NIPAs and the IEAs have been conceptually integrated, and their estimates have been consistent, since 2013. With this year's updates, additional benefits will be realized by harmonizing the methodologies used to derive certain estimates. For instance, better alignment between the methodologies underlying the NIPA measures of investment in structures and the GDP by industry measures of gross output and value added for the construction industry will improve the accuracy of both measures.

Methodology improvements and presentational changes. Additionally, the annual updates will incorporate the following improvements in methodology and presentation:

- **Services furnished without payment by financial intermediaries.** Estimates in the NIPAs and the IEAs will be improved by (1) recognizing imports of these services, (2) using ITA estimates of imports and exports of these services for the NIPA and industry estimates, (3) aligning the methodology used to allocate imputed estimates of commercial bank services to sectors with the methodology used to allocate imputed estimates of savings institution services, and (4) updating the reference rate used for repurchase and resale agreements.
- **Treasury inflation-protected securities.** The allocation of annual measures of the interest paid on Treasury inflation-protected securities to businesses, persons, and the rest of the world will consistently include an adjustment for inflation; currently, the measure of interest paid to the rest of the world does not include this adjustment. In addition, the quarterly estimates will be derived by interpolating annual estimates of accrued interest. The current methodology aggregates monthly administrative data, thereby introducing into the quarterly estimates the volatility that is associated with monthly inflation adjustments.
- **Personal consumption expenditures.** Estimates of spending on video rentals will be improved by using more direct data on DVD rentals.
- **Industry estimates.** Estimates of gross output for the retail trade industry will use the most appropriate producer price indexes (PPIs) available, given the discontinuation of some detailed Bureau of Labor Statistics PPIs. Estimates of gross output for the educational services industry will be derived by using indicators that are more directly aligned with those services.
- **Expanded publication detail for research and development (R&D) investment.** The presentation of estimates for private fixed investment in intellectual property products will be expanded. Specifically, R&D expenditures for the category "All other nonmanufacturing" will be expanded to provide detail on R&D expenditures related to software publishers, to financial and real estate services, to computer systems design and related services, and to other nonmanufacturing not elsewhere classified.

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1. “Real” estimates are in chained (2012) dollars, and price indexes are chain-type measures. Each GDP estimate for a quarter (advance, second, and third) incorporates increasingly comprehensive and improved source data; for more information, see “[The Revisions to GDP, GDI, and Their Major Components](#)” in the January 2018 *Survey of Current Business*. Quarterly estimates are expressed at seasonally adjusted annual rates, which reflect a rate of activity for a quarter as if it were maintained for a year.
 2. In this article, “consumer spending” refers to “personal consumption expenditures,” “inventory investment” refers to “change in private inventories,” and “government spending” refers to “government consumption expenditures and gross investment.”



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