

GDP and the Economy

Advance Estimates for the First Quarter of 2023

May 3, 2023

This article reflects GDP statistics published on April 27, 2023. Refer to the GDP product page for the [latest statistics](#).

Real gross domestic product (GDP) increased at an annual rate of 1.1 percent in the first quarter of 2023, according to the “advance” estimates of the National Income and Product Accounts (NIPAs) (chart 1 and table 1).¹ In the fourth quarter of 2022, real GDP increased 2.6 percent.

For further details, including source data, refer to the “[Technical Note](#).”

Chart 1. Real GDP: Percent Change from Preceding Quarter

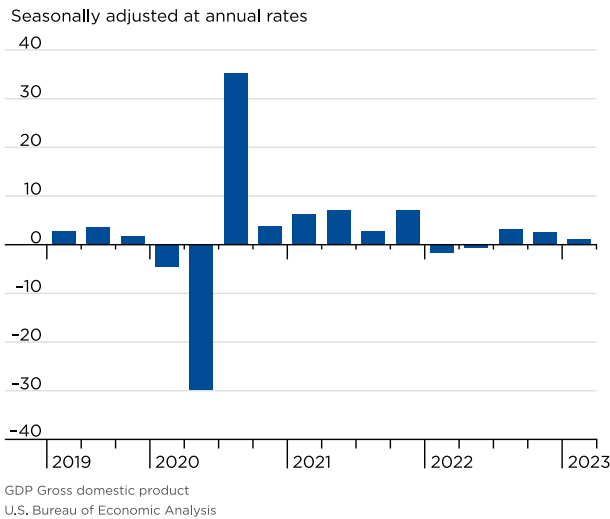
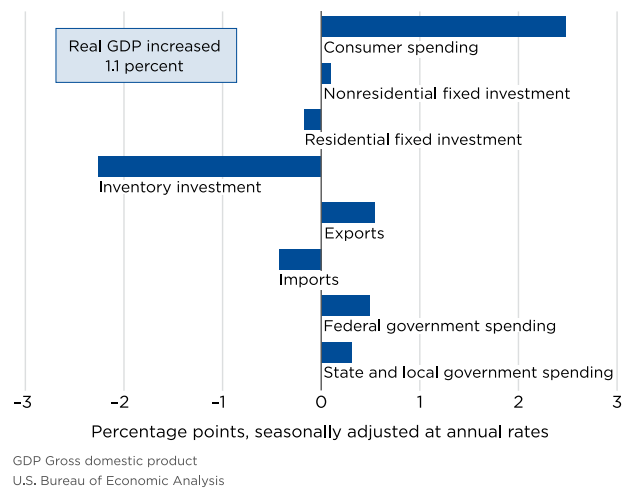


Chart 2. Real GDP: Contributions to the Percent Change in 2023:Q1



GDP by Expenditure

The increase in first-quarter real GDP reflected increases in consumer spending, exports, federal government spending, state and local government spending, and nonresidential fixed investment that were partly offset by decreases in private inventory investment and residential fixed investment. Imports, which are a subtraction in the calculation of GDP, increased (chart 2 and table 1).²

- The increase in consumer spending reflected increases in both goods (led by motor vehicles and parts) and services (led by health care as well as food services and accommodations).
- Within exports, an increase in goods (led by consumer goods, except food and automotive) was partly offset by a decrease in services (led by transport services).
- The increase in federal government spending reflected increases in both nondefense and defense spending.
 - The increase in nondefense spending primarily reflected lower sales of crude oil from the Strategic Petroleum Reserve, based on data from the U.S. Department of Energy. Within the National Economic Accounts, these sales are deducted from government consumption expenditures; therefore, a decrease in sales results in a corresponding increase in consumption expenditures. Because the oil sold by the government enters private inventories, there is no direct net effect on GDP.
 - The increase in defense spending was led by spending on intermediate goods and services, notably, services.
- The increase in state and local government spending primarily reflected an increase in compensation of state and local government employees.
- Within nonresidential fixed investment, increases in structures and intellectual property products (led by research and development) were partly offset by a decrease in equipment.
- The decrease in private inventory investment primarily reflected decreases in wholesale trade and manufacturing.
- Within residential fixed investment, the decrease primarily reflected a decline in new single-family construction that was partly offset by an increase in brokers' commissions and other ownership transfer costs.
- Within imports, the increase reflected an increase in goods (mainly durable consumer goods as well as automotive vehicles, engines, and parts).

Compared to the fourth quarter, the deceleration in real GDP in the first quarter primarily reflected a downturn in private inventory investment and a slowdown in nonresidential fixed investment. These movements were partly offset by an acceleration in consumer spending, an upturn in exports, and a smaller decrease in residential investment. Imports turned up.

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 2.9 percent in the first quarter; this measure was unchanged in the fourth quarter, compared to the third quarter.

Table 1. Real Gross Domestic Product and Related Measures

[Seasonally adjusted at annual rates]

Line	Series	Share of current-dollar GDP (percent)	Change from preceding period (percent)				Contribution to percent change in real GDP (percentage points)			
		2023	2022			2023	2022			2023
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
1	Gross domestic product (GDP)¹	100.0	-0.6	3.2	2.6	1.1	-0.6	3.2	2.6	1.1
2	Personal consumption expenditures	68.4	2.0	2.3	1.0	3.7	1.38	1.54	0.70	2.48
3	Goods	23.0	-2.6	-0.4	-0.1	6.5	-0.61	-0.08	-0.01	1.45
4	Durable goods	8.5	-2.8	-0.8	-1.3	16.9	-0.24	-0.07	-0.11	1.32
5	Nondurable goods	14.4	-2.5	-0.1	0.6	0.9	-0.37	-0.01	0.09	0.12
6	Services	45.4	4.6	3.7	1.6	2.3	1.99	1.63	0.72	1.03
7	Gross private domestic investment	17.2	-14.1	-9.6	4.5	-12.5	-2.83	-1.80	0.79	-2.34
8	Fixed investment	17.2	-5.0	-3.5	-3.8	-0.4	-0.92	-0.62	-0.68	-0.07
9	Nonresidential	13.3	0.1	6.2	4.0	0.7	0.01	0.80	0.52	0.10
10	Structures	2.7	-12.7	-3.6	15.8	11.2	-0.34	-0.09	0.38	0.29
11	Equipment	5.1	-2.0	10.6	-3.5	-7.3	-0.11	0.53	-0.18	-0.39
12	Intellectual property products	5.5	8.9	6.8	6.2	3.8	0.46	0.36	0.33	0.20
13	Residential	3.9	-17.8	-27.1	-25.1	-4.2	-0.93	-1.42	-1.20	-0.17
14	Change in private inventories	0.0	---	---	---	---	-1.91	-1.19	1.47	-2.26
15	Net exports of goods and services	-3.2	---	---	---	---	1.16	2.86	0.42	0.11
16	Exports	11.4	13.8	14.6	-3.7	4.8	1.51	1.65	-0.44	0.54
17	Goods	7.8	15.5	17.8	-7.4	10.0	1.18	1.38	-0.62	0.75
18	Services	3.6	9.9	7.5	5.0	-5.5	0.33	0.26	0.18	-0.21
19	Imports	14.6	2.2	-7.3	-5.5	2.9	-0.35	1.21	0.86	-0.43
20	Goods	12.0	-0.4	-8.6	-5.9	3.7	0.05	1.19	0.76	-0.43
21	Services	2.6	16.6	-0.8	-3.7	-0.2	-0.41	0.02	0.10	0.01
22	Government consumption expenditures and gross investment	17.6	-1.6	3.7	3.8	4.7	-0.29	0.65	0.65	0.81
23	Federal	6.6	-3.4	3.7	5.8	7.8	-0.22	0.24	0.37	0.49
24	National defense	3.7	1.4	4.7	2.3	5.9	0.05	0.17	0.08	0.21
25	Nondefense	2.9	-9.2	2.5	10.6	10.3	-0.28	0.07	0.29	0.28
26	State and local	11.0	-0.6	3.7	2.6	2.9	-0.06	0.41	0.29	0.31
Addenda:										
27	Gross domestic income (GDI) ²	---	-0.8	2.8	-1.1	---	---	---	---	---
28	Average of GDP and GDI	---	-0.7	3.0	0.7	---	---	---	---	---
29	Final sales of domestic product	---	1.3	4.5	1.1	3.4	---	---	---	---
30	Goods	31.4	-3.0	7.3	5.9	-1.9	-0.96	2.28	1.83	-0.62
31	Services	60.5	3.1	3.9	2.4	2.6	1.83	2.30	1.44	1.57
32	Structures	8.1	-15.3	-14.6	-8.1	1.4	-1.44	-1.34	-0.70	0.11

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 National Income and Product Accounts (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

The U.S. Bureau of Economic Analysis' (BEA's) featured measure of inflation in the U.S. economy, the price index for gross domestic purchases (goods and services purchased by U.S. residents), increased 3.8 percent in the first quarter after increasing 3.6 percent in the fourth quarter (table 2 and chart 3).

Within gross domestic purchases, food prices increased 3.7 percent in the first quarter after increasing 7.1 percent in the fourth quarter. Prices for energy goods and services decreased 10.7 percent after decreasing 13.9 percent. Excluding food and energy, gross domestic purchases prices increased 4.3 percent after increasing 4.1 percent.

The price index for personal consumption expenditures (PCE) increased 4.2 percent in the first quarter after increasing 3.7 percent in the fourth quarter. The increase in PCE prices reflected increases in prices for both goods and services.

- Within goods, the leading contributors to the increase were other nondurable goods (led by pharmaceuticals), food and beverages (led by groceries), and clothing and footwear. These increases were partly offset by decreases in gasoline and other energy goods (led by gasoline) as well as motor vehicles and parts (led by used light trucks).
- Within services, price increases were widespread. The leading contributors were housing and utilities (led by housing), food services and accommodations (led by food services), and financial services and insurance (led by banking and other financial services). Other services (led by professional services), health care (led by hospitals), and transportation services (led by motor vehicle services) also increased.

Excluding food and energy, the “core” PCE price index increased 4.9 percent in the first quarter after increasing 4.4 percent in the fourth quarter.

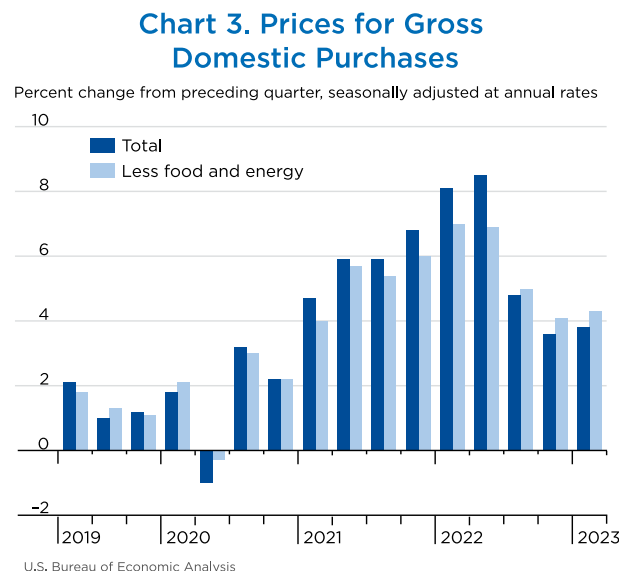


Table 2. Prices for Gross Domestic Purchases

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

Line	Series	Change from preceding period (percent)				Contribution to percent change in gross domestic purchases prices (percentage points)			
		2022			2023	2022			2023
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
1	Gross domestic purchases¹	8.5	4.8	3.6	3.8	8.5	4.8	3.6	3.8
2	Personal consumption expenditures	7.3	4.3	3.7	4.2	4.81	2.85	2.46	2.74
3	Goods	10.6	2.7	-0.5	0.7	2.37	0.64	-0.10	0.17
4	Durable goods	2.4	3.5	-1.5	-0.9	0.22	0.29	-0.12	-0.07
5	Nondurable goods	15.7	2.3	0.1	1.7	2.15	0.35	0.02	0.25
6	Services	5.6	5.2	6.0	5.9	2.44	2.22	2.56	2.57
7	Gross private domestic investment	9.9	7.6	3.3	4.4	1.76	1.30	0.57	0.75
8	Fixed investment	10.3	7.7	4.0	4.9	1.72	1.28	0.67	0.81
9	Nonresidential	8.5	7.6	3.6	7.0	1.06	0.94	0.46	0.88
10	Structures	17.5	20.1	7.7	7.3	0.40	0.45	0.19	0.19
11	Equipment	9.2	5.9	6.1	7.7	0.45	0.29	0.31	0.37
12	Intellectual property products	3.9	3.7	-0.6	6.1	0.20	0.19	-0.03	0.32
13	Residential	15.2	8.1	5.1	-1.9	0.66	0.34	0.20	-0.07
14	Change in private inventories	---	---	---	---	0.03	0.02	-0.10	-0.06
15	Government consumption expenditures and gross investment	11.6	3.6	3.6	1.6	1.90	0.62	0.61	0.27
16	Federal	6.0	4.8	3.2	3.2	0.38	0.30	0.20	0.21
17	National defense	7.5	2.7	3.0	2.4	0.26	0.10	0.10	0.09
18	Nondefense	4.1	7.6	3.4	4.3	0.12	0.20	0.09	0.12
19	State and local	15.0	2.9	3.9	0.6	1.52	0.32	0.41	0.07
Addenda:									
Gross domestic purchases:									
20	Food	14.7	13.4	7.1	3.7	0.68	0.60	0.33	0.18
21	Energy goods and services	53.6	-13.1	-13.9	-10.7	1.37	-0.43	-0.46	-0.33
22	Excluding food and energy	6.9	5.0	4.1	4.3	6.41	4.59	3.77	3.91
Personal consumption expenditures:									
23	Food and beverages purchased for off-premises consumption	15.3	13.0	6.9	3.7	---	---	---	---
24	Energy goods and services	52.7	-13.3	-12.8	-9.9	---	---	---	---
25	Excluding food and energy	4.7	4.7	4.4	4.9	---	---	---	---
26	Gross domestic product	9.0	4.4	3.9	4.0	---	---	---	---
27	Exports of goods and services	20.0	-9.7	-6.1	-0.2	---	---	---	---
28	Imports of goods and services	13.2	-4.1	-5.5	-1.2	---	---	---	---

1. The estimated prices for gross domestic purchases under the contribution columns are also percent changes.

Note. Most percent changes are from National Income and Product Accounts (NIPA) table 1.6.7; percent changes for personal consumption expenditures (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. Gross domestic product, export, and import prices are from NIPA table 1.1.7.

Note on Prices

The Bureau of Economic Analysis' (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 gross domestic product (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

Measured in current dollars, personal income increased \$278.9 billion in the first quarter, compared to an increase of \$398.8 billion in the fourth quarter (table 3). The increase in the first quarter reflected increases in compensation (led by private wages and salaries) and government social benefits.

Personal current taxes decreased \$292.3 billion in the first quarter after decreasing \$4.2 billion in the fourth quarter.

Current-dollar disposable personal income (DPI) increased \$571.2 billion, or 12.5 percent, in the first quarter after increasing \$403.0 billion, or 8.9 percent, in the fourth quarter. Personal outlays increased \$383.9 billion after increasing \$252.7 billion in the fourth quarter.

Real DPI (chart 4) increased 8.0 percent in the first quarter after increasing 5.0 percent in the fourth quarter. Current-dollar DPI is deflated by the implicit price deflator for consumer spending, which increased 4.2 percent in the fourth quarter after increasing 3.7 percent in the first quarter.

The personal saving rate (chart 5)—personal saving as a percentage of DPI—was 4.8 percent in the first quarter, compared with 4.0 percent in the fourth quarter.

Chart 4. Real Disposable Personal Income

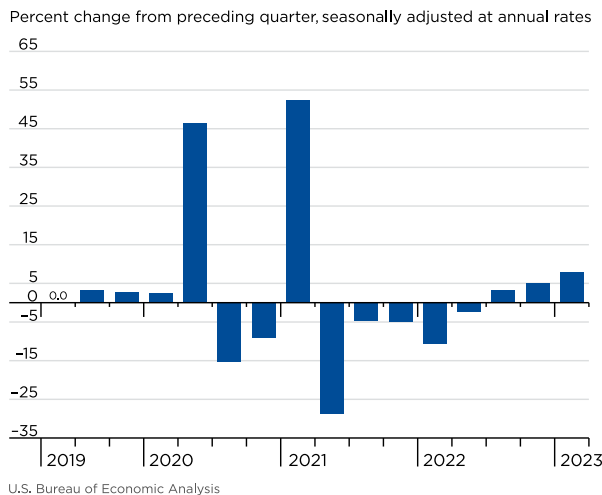


Chart 5. Personal Saving Rate

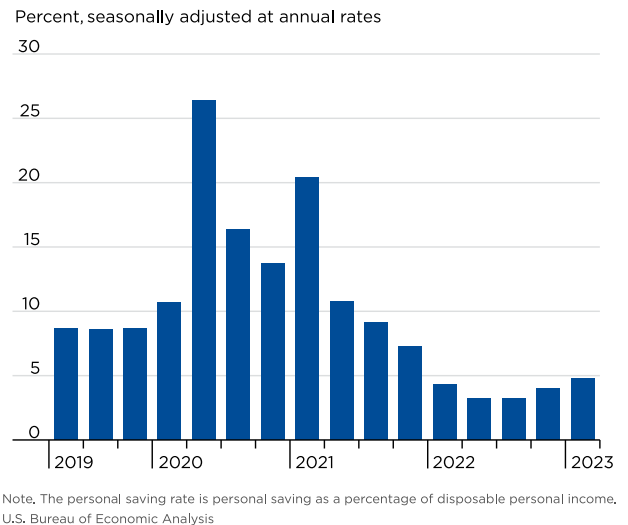


Table 3. Personal Income and Its Disposition

[Billions of dollars; quarterly estimates are seasonally adjusted at annual rates]

Line	Series	Level		Change from preceding period			
		2022	2023	2022			2023
		Q4	Q1	Q2	Q3	Q4	Q1
1	Personal income	22,368.3	22,647.2	258.4	391.2	398.8	278.9
2	Compensation of employees	13,972.6	14,180.8	155.5	339.8	217.6	208.2
3	Wages and salaries	11,549.3	11,728.7	132.5	303.0	188.3	179.4
4	Private industries	9,906.1	10,061.7	119.9	279.6	168.8	155.6
5	Goods-producing industries	1,812.0	1,840.4	27.4	48.9	30.3	28.3
6	Manufacturing	1,068.9	1,080.8	14.7	27.2	13.7	12.0
7	Services-producing industries	8,094.1	8,221.4	92.5	230.7	138.5	127.3
8	Trade, transportation, and utilities	1,778.0	1,812.0	3.9	47.3	29.8	34.0
9	Other services-producing industries	6,316.0	6,409.3	88.6	183.4	108.7	93.3
10	Government	1,643.3	1,667.0	12.6	23.4	19.5	23.7
11	Supplements to wages and salaries	2,423.2	2,452.1	22.9	36.8	29.3	28.8
12	Proprietors' income with IVA and CCAdj	1,882.9	1,887.4	23.9	28.2	19.3	4.6
13	Farm	100.9	95.3	21.3	0.3	4.9	-5.6
14	Nonfarm	1,782.0	1,792.2	2.7	27.9	14.4	10.2
15	Rental income of persons with CCAdj	811.8	841.7	31.0	19.0	16.8	29.9
16	Personal income receipts on assets	3,424.0	3,454.1	53.2	35.8	65.2	30.0
17	Personal interest income	1,789.0	1,808.2	37.8	29.5	50.9	19.2
18	Personal dividend income	1,635.0	1,645.9	15.4	6.3	14.3	10.8
19	Personal current transfer receipts	3,998.2	4,037.7	14.5	9.6	105.4	39.4
20	Government social benefits to persons	3,928.7	3,966.4	11.5	13.9	105.7	37.7
21	Social security	1,225.6	1,338.7	8.2	7.7	11.0	113.0
22	Medicare	941.6	966.5	3.8	8.5	21.4	24.8
23	Medicaid	796.2	813.1	26.4	-3.3	10.1	16.9
24	Unemployment insurance	20.4	22.8	-5.0	-0.1	1.8	2.4
25	Veterans' benefits	164.0	166.3	2.1	2.0	2.3	2.3
26	Other	780.8	659.0	-23.9	-1.0	59.1	-121.8
27	Other current transfer receipts, from business (net)	69.5	71.3	3.0	-4.2	-0.3	1.8
28	Less: Contributions for government social insurance	1,721.1	1,754.4	19.7	41.2	25.5	33.3
29	Less: Personal current taxes	3,232.3	2,940.0	43.0	48.0	-4.2	-292.3
30	<i>Equals:</i> Disposable personal income	19,136.0	19,707.2	215.4	343.2	403.0	571.2
31	Less: Personal outlays	18,377.2	18,761.0	409.2	325.9	252.7	383.9
32	Personal consumption expenditures	17,749.9	18,095.3	386.6	281.3	207.2	345.4
33	Personal interest payments ¹	402.6	442.1	19.6	44.1	45.5	39.5
34	Personal current transfer payments	224.7	223.6	3.0	0.5	-0.1	-1.1
35	<i>Equals:</i> Personal saving	758.8	946.2	-193.8	17.3	150.4	187.4
36	Personal saving as a percentage of DPI	4.0	4.8	-1.1	0.0	0.8	0.8

CCAdj Capital consumption adjustment

DPI Disposable personal income

IVA Inventory valuation adjustment

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.

Note. Dollar levels and percent changes are from National Income and Product Account 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](#) (under “Current Release”) that are used to prepare each vintage of the estimate of gross domestic product (GDP) for the current quarter is available on the U.S. Bureau of Economic Analysis (BEA) 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 [NIPA Handbook: Concepts and Methods of the U.S. National Income and Product Accounts](#) on BEA's website.

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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