

# GDP and the Economy

## Advance Estimates for the First Quarter of 2017

REAL GROSS domestic product (GDP) increased 0.7 percent at an annual rate in the first quarter of 2017, according to the advance estimates of the national income and product accounts (chart 1 and table 1).<sup>1</sup> In the fourth quarter of 2016, real GDP increased 2.1 percent.

The increase in real GDP in the first quarter reflected positive contributions from nonresidential fixed investment, exports, residential fixed investment, and consumer spending. These contributions were partly offset by negative contributions from inventory investment, state and local government spending, and federal government spending. Imports, which are a subtraction in the calculation of GDP, increased.<sup>2</sup>

- Prices of goods and services purchased by U.S. residents—measured by the “gross domestic purchases price index”—increased 2.6 percent in the first quarter of 2017 after increasing 2.0 percent in the fourth quarter of 2016. Excluding food and energy, gross domestic purchases prices increased 2.3 percent after increasing 1.6 percent.
- Real disposable personal income (DPI) increased 1.0 percent in the first quarter after increasing 2.0 percent in the fourth quarter. Current-dollar DPI increased 3.4 percent in the first quarter after increasing 4.1 percent in the fourth quarter.
- The personal saving rate, personal saving as a percentage of current-dollar DPI, was 5.7 percent in the first quarter; in the fourth quarter, the rate was 5.5 percent.

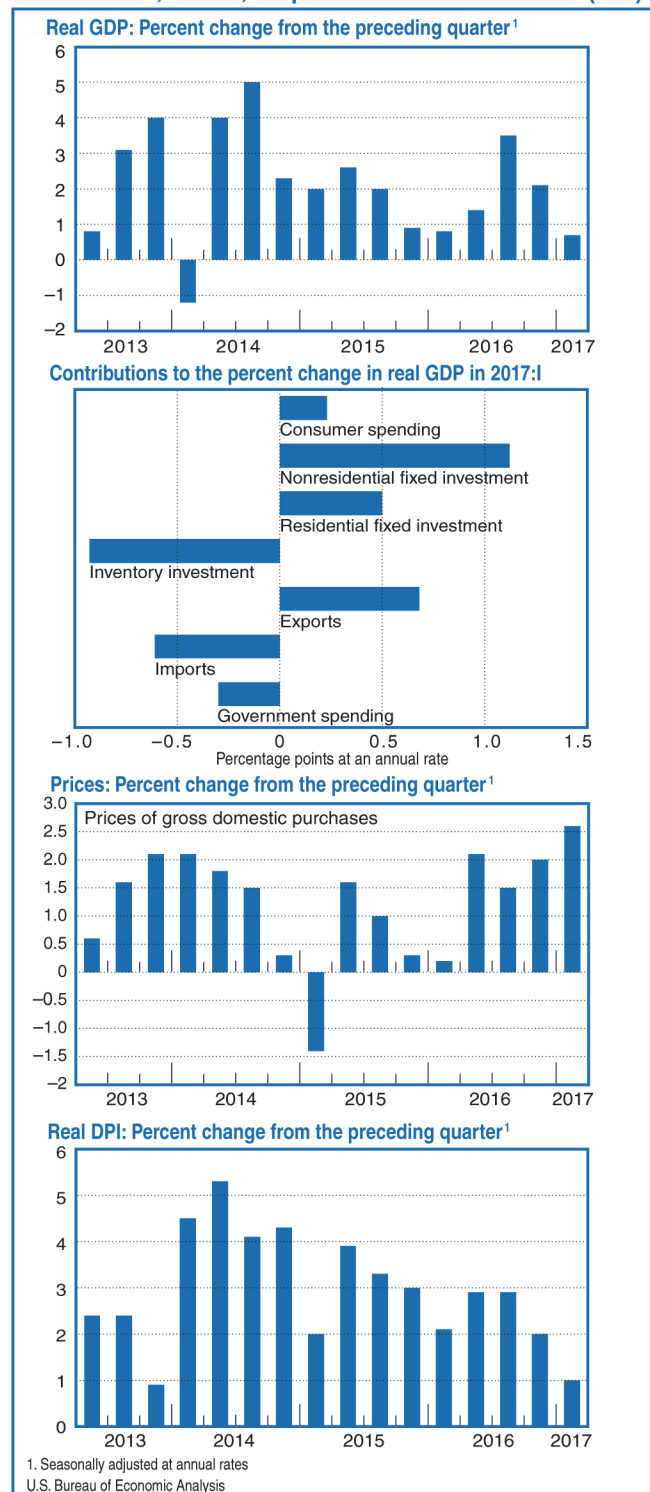
This article includes [a preview](#) of the 2017 NIPA annual update (page 6).

1. “Real” estimates are in chained (2009) 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 August 2014 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.”

Stephanie H. McCulla prepared this article.

Chart 1. GDP, Prices, Disposable Personal Income (DPI)



## Real GDP Overview

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

[Seasonally adjusted at annual rates]

	Share of current-dollar GDP (percent)	Change from preceding period (percent)				Contribution to percent change in real GDP (percentage points)				
		2016				2017				
		I	II	III	IV	I	II	III	IV	I
<b>Gross domestic product</b> <sup>1</sup> .....	<b>100.0</b>	<b>1.4</b>	<b>3.5</b>	<b>2.1</b>	<b>0.7</b>	<b>1.4</b>	<b>3.5</b>	<b>2.1</b>	<b>0.7</b>	<b>0.7</b>
<b>Personal consumption expenditures</b> .....	<b>68.9</b>	<b>4.3</b>	<b>3.0</b>	<b>3.5</b>	<b>0.3</b>	<b>2.88</b>	<b>2.03</b>	<b>2.40</b>	<b>0.23</b>	<b>0.23</b>
Goods .....	22.2	7.1	3.5	6.0	0.1	1.51	0.77	1.29	0.02	0.02
Durable goods .....	7.5	9.8	11.6	11.4	-2.5	0.70	0.84	0.82	-0.19	-0.19
Nondurable goods .....	14.6	5.7	-0.5	3.3	1.5	0.80	-0.07	0.47	0.22	0.22
Services .....	46.7	3.0	2.7	2.4	0.4	1.37	1.26	1.11	0.21	0.21
<b>Gross private domestic investment</b> .....	<b>16.6</b>	<b>-7.9</b>	<b>3.0</b>	<b>9.4</b>	<b>4.3</b>	<b>-1.34</b>	<b>0.50</b>	<b>1.47</b>	<b>0.69</b>	<b>0.69</b>
Fixed investment .....	16.5	-1.1	0.1	2.9	10.4	-0.18	0.02	0.46	1.62	1.62
Nonresidential .....	12.5	1.0	1.4	0.9	9.4	0.12	0.18	0.11	1.12	1.12
Structures .....	2.8	-2.1	12.0	-1.9	22.1	-0.06	0.30	-0.05	0.55	0.55
Equipment .....	5.7	-2.9	-4.5	1.9	9.1	-0.17	-0.26	0.11	0.49	0.49
Intellectual property products .....	4.1	9.0	3.2	1.3	2.0	0.35	0.13	0.05	0.08	0.08
Residential .....	4.0	-7.7	-4.1	9.6	13.7	-0.31	-0.16	0.35	0.50	0.50
Change in private inventories .....	0.0	.....	.....	.....	.....	-1.16	0.49	1.01	-0.93	-0.93
<b>Net exports of goods and services</b> .....	<b>-2.9</b>	.....	.....	.....	.....	<b>0.18</b>	<b>0.85</b>	<b>-1.82</b>	<b>0.07</b>	<b>0.07</b>
Exports .....	12.2	1.8	10.0	-4.5	5.8	0.21	1.16	-0.55	0.68	0.68
Goods .....	8.0	1.7	14.4	-6.7	8.3	0.13	1.08	-0.55	0.63	0.63
Services .....	4.2	1.9	2.0	-0.1	1.2	0.08	0.08	0.00	0.05	0.05
Imports .....	15.1	0.2	2.2	9.0	4.1	-0.03	-0.31	-1.27	-0.61	-0.61
Goods .....	12.4	0.0	0.5	10.9	4.5	0.00	-0.06	-1.25	-0.54	-0.54
Services .....	2.7	1.1	9.8	0.7	2.6	-0.03	-0.26	-0.02	-0.07	-0.07
<b>Government consumption expenditures and gross investment</b> .....	<b>17.5</b>	<b>-1.7</b>	<b>0.8</b>	<b>0.2</b>	<b>-1.7</b>	<b>-0.30</b>	<b>0.14</b>	<b>0.03</b>	<b>-0.30</b>	<b>-0.30</b>
Federal .....	6.6	-0.4	2.4	-1.2	-1.9	-0.02	0.16	-0.08	-0.13	-0.13
National defense .....	3.9	-3.2	2.0	-3.6	-4.0	-0.13	0.08	-0.14	-0.16	-0.16
Nondefense .....	2.8	3.8	3.0	2.3	0.9	0.10	0.08	0.06	0.03	0.03
State and local .....	10.9	-2.5	-0.2	1.0	-1.6	-0.28	-0.02	0.11	-0.17	-0.17
<b>Addenda:</b>										
Gross domestic income (GDI) <sup>2</sup> .....	.....	0.7	5.0	1.0	.....	.....	.....	.....	.....	.....
Average of GDP and GDI .....	.....	1.1	4.3	1.5	.....	.....	.....	.....	.....	.....
Final sales of domestic product .....	100.0	2.6	3.0	1.1	1.6	2.57	3.03	1.07	1.62	1.62
Goods .....	29.4	2.2	7.6	2.2	-0.4	0.66	2.22	0.67	-0.13	-0.13
Services .....	62.4	2.4	2.1	1.6	0.0	1.48	1.34	0.97	0.03	0.03
Structures .....	8.2	-8.7	-0.6	5.7	10.4	-0.73	-0.05	0.44	0.80	0.80
Motor vehicle output .....	2.8	7.5	3.2	7.6	-13.9	0.21	0.09	0.22	-0.44	-0.44
GDP excluding motor vehicle output .....	97.2	1.2	3.5	1.9	1.2	1.20	3.42	1.87	1.13	1.13
Final sales of computers .....	0.4	17.8	-9.0	-3.9	36.5	0.07	-0.04	-0.02	0.13	0.13
GDP excluding final sales of computers .....	99.6	1.3	3.6	2.1	0.6	1.34	3.55	2.10	0.56	0.56
Research and development (R&D) .....	2.6	11.8	-0.1	2.2	2.2	0.29	0.00	0.06	0.06	0.06
GDP excluding R&D .....	97.4	1.2	3.6	2.1	0.7	1.12	3.52	2.02	0.63	0.63

1. The estimates of GDP 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 they are calculated from NIPA table 1.2.5.

The deceleration in real GDP in the first quarter mainly reflected a deceleration in consumer spending and downturns in inventory investment and in state and local government spending. These movements were partly offset by an upturn in exports and by accelerations in nonresidential and residential fixed investment.

The deceleration in consumer spending reflected a downturn in spending for durable goods and decelerations in spending for nondurable goods and for services.

The downturn in durable goods primarily reflected downturns in motor vehicles and parts and in "other" durable goods (mainly jewelry).

The deceleration in nondurable goods primarily reflected a deceleration in foods and beverages purchased for off-premises consumption, a downturn in clothing and footwear, and a larger decrease in gasoline and other energy goods.

The main contributors to the deceleration in services spending were a larger decrease in spending by non-profit institutions serving households and a deceleration in health care spending.

The acceleration in nonresidential fixed investment primarily reflected an upturn in structures and an acceleration in equipment.

The upturn in structures primarily reflected an acceleration in mining exploration, shafts, and wells (mainly petroleum and natural gas drilling).

All the subcomponents of investment in equipment contributed to its acceleration; the leading contributor was information processing equipment.

The leading contributors to the downturn in inventory investment were downturns in wholesale trade industries (mainly motor vehicles wholesalers) and in manufacturing and a slowdown in mining, utilities, and construction. These movements were partly offset by an upturn in retail trade industries (which was more than accounted for by an upturn in motor vehicle and parts dealers).

The upturn in exports primarily reflected an upturn in goods exports. The largest contributors were a smaller decrease in foods, feeds, and beverages and upturns in industrial supplies and materials (mainly petroleum and products) and in automotive vehicles, engines, and parts.

The downturn in state and local government spending reflected a downturn in gross investment in structures that was partly offset by an acceleration in consumption expenditures.

Prices

**Table 2. Prices for Gross Domestic Purchases**

[Percent change at annual rates; based on seasonally adjusted index numbers (2009=100)]

	Change from preceding period (percent)				Contribution to percent change in gross domestic purchases prices (percentage points)			
	2016			2017	2016			2017
	II	III	IV	I	II	III	IV	I
<b>Gross domestic purchases<sup>1</sup></b> .....	<b>2.1</b>	<b>1.5</b>	<b>2.0</b>	<b>2.6</b>	<b>2.1</b>	<b>1.5</b>	<b>2.0</b>	<b>2.6</b>
<b>Personal consumption expenditures</b> .....	<b>2.0</b>	<b>1.5</b>	<b>2.0</b>	<b>2.4</b>	<b>1.35</b>	<b>0.98</b>	<b>1.36</b>	<b>1.60</b>
Goods .....	0.8	-0.9	1.5	2.7	0.17	-0.18	0.32	0.57
Durable goods .....	-2.5	-4.1	-3.2	0.9	-0.19	-0.30	-0.24	0.07
Nondurable goods .....	2.5	0.8	4.0	3.6	0.36	0.12	0.56	0.50
Services .....	2.6	2.6	2.3	2.2	1.18	1.16	1.03	1.02
<b>Gross private domestic investment</b> .....	<b>1.8</b>	<b>1.1</b>	<b>2.0</b>	<b>1.7</b>	<b>0.29</b>	<b>0.17</b>	<b>0.31</b>	<b>0.28</b>
Fixed investment .....	2.2	1.4	1.9	1.6	0.35	0.21	0.31	0.26
Nonresidential .....	1.2	0.2	0.9	1.4	0.14	0.03	0.11	0.17
Structures .....	3.2	-0.6	2.6	2.9	0.08	-0.01	0.07	0.08
Equipment .....	0.1	1.0	-0.3	0.9	0.01	0.06	-0.02	0.05
Intellectual property products .....	1.4	-0.4	1.6	1.0	0.05	-0.02	0.06	0.04
Residential .....	5.6	5.2	5.3	2.4	0.20	0.19	0.19	0.09
Change in private inventories .....	.....	.....	.....	.....	-0.06	-0.05	0.00	0.02
<b>Government consumption expenditures and gross investment</b> .....	<b>2.7</b>	<b>2.1</b>	<b>2.1</b>	<b>4.0</b>	<b>0.47</b>	<b>0.37</b>	<b>0.35</b>	<b>0.68</b>
Federal .....	2.1	1.7	1.7	4.3	0.14	0.11	0.11	0.28
National defense .....	2.1	1.6	1.5	4.2	0.08	0.06	0.06	0.16
Nondefense .....	2.2	1.7	1.9	4.5	0.06	0.05	0.05	0.12
State and local .....	3.1	2.4	2.3	3.8	0.33	0.26	0.25	0.40
<b>Addenda:</b>								
Gross domestic purchases:								
Food .....	-1.8	-2.3	-1.3	0.4	-0.09	-0.11	-0.06	0.02
Energy goods and services .....	15.0	1.2	26.5	15.9	0.35	0.03	0.64	0.41
Excluding food and energy .....	2.0	1.7	1.6	2.3	1.84	1.60	1.45	2.12
Personal consumption expenditures (PCE):								
Food and beverages purchased for off-premises consumption .....	-1.8	-2.1	-1.2	0.4	.....	.....	.....	.....
Energy goods and services .....	15.5	2.1	26.3	15.6	.....	.....	.....	.....
Excluding food and energy .....	1.8	1.7	1.3	2.0	.....	.....	.....	.....
Gross domestic product (GDP) .....	2.3	1.4	2.1	2.3	.....	.....	.....	.....
Exports of goods and services .....	3.9	2.4	2.6	3.4	.....	.....	.....	.....
Imports of goods and services .....	2.1	2.9	2.1	5.2	.....	.....	.....	.....

1. The estimates of gross domestic purchases 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.

Prices paid by U.S. residents, as measured by the gross domestic purchases price index, increased 2.6 percent in the first quarter after increasing 2.0 percent in the fourth quarter. The acceleration primarily reflected larger increases in the prices paid by government and in consumer prices in the first quarter.

The acceleration in consumer prices primarily reflected an upturn in the prices paid for durable goods that was partly offset by a deceleration in the prices paid for nondurable goods.

The upturn in the prices paid for durable goods was led by a smaller decrease in the prices for recreational goods and vehicles in the first quarter than in the fourth quarter. The prices for most of the other components turned up.

The deceleration in the prices paid for nondurable goods was more than accounted for by a deceleration in the prices for gasoline and other energy goods.

The larger increase in the prices paid by government reflected accelerations in the prices paid for consumption expenditures by the federal government (mainly employee compensation) and by state and local governments.

Consumer prices excluding food and energy, a measure of the “core” rate of inflation, increased 2.0 percent after increasing 1.3 percent.

**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. It is derived from the prices of personal consumption expenditures (PCE), private investment, and government consumption expenditures and gross investment.

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 Web site.)

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.



## Source Data for the Advance Estimates for the First Quarter of 2017

**Table 4A. Source Data and Key Assumptions for the Advance Estimates of GDP and Its Components**

[Billions of dollars, seasonally adjusted at annual rates]

	2016			2017		
	Oct.	Nov.	Dec.	Jan.	Feb.	March <sup>1</sup>
<b>Private fixed investment:</b>						
Nonresidential structures:						
Value of new nonresidential construction put in place .....	426.6	433.9	434.5	433.8	432.7	433.2
Residential structures:						
Value of new residential construction put in place:						
Single family .....	243.8	249.2	251.5	254.5	257.5	258.2
Multifamily .....	62.5	61.6	60.8	63.2	64.5	64.7
<b>Change in private inventories:</b>						
Change in inventories for nondurable manufacturing .....	11.5	20.1	21.7	17.7	4.1	18.2

1. Assumption.

**Table 4B. Census Bureau Data From the Advance Economic Indicators Report**

[Billions of dollars, seasonally adjusted at annual rates]

	2017		
	Jan.	Feb.	March <sup>1</sup>
<b>Change in private inventories:</b>			
Merchant wholesale trade inventories .....	591.8	593.2	592.8
Retail trade inventories .....	613.7	614.0	616.6
<b>Net exports of goods:</b>			
U.S. exports of goods, Census basis .....	127.2	127.7	125.5
U.S. imports of goods, Census basis .....	195.8	191.7	190.3

1. The data for the third month of the quarter are preliminary and are subject to further revision.

### Source Data and Key Assumptions for the Advance Estimates of GDP

The advance estimates of many components of GDP are based on 3 months of source data, but the estimates of some components are based on only 2 months of data. For the following items, the number of months for which data are available is shown in parentheses.

*Consumer spending:* sales of retail stores (3), unit auto and truck sales (3), consumers' shares of auto and truck sales (2), motor vehicle fuels data (3), and electricity and gas usage and unit-value data (3);

*Nonresidential fixed investment:* unit auto and truck sales (3), construction spending (value put in place) (2), manufacturers' shipments of machinery and equipment (3), and exports and imports of machinery and equipment (3);

*Residential fixed investment:* construction spending (value put in place) (2), single-family housing starts (3), sales of new homes (3), and sales of existing houses (3);

*Inventory investment:* nondurable-goods manufacturing inventories (2), trade inventories (3) durable-goods manufacturing inventories (3), and unit auto and truck inventories (3);

*Net exports of goods and services:* exports and imports of goods (3) and services (2) and values and quantities of petroleum imports (3);

*Government spending:* federal government outlays (3),

state and local government construction spending (value put in place) (2), and state and local government employment (3);

*Compensation:* employment, average hourly earnings, and average weekly hours (3); and

*Prices:* consumer price indexes (3), producer price indexes (3), and values and quantities of petroleum imports (3).

#### Key assumptions

When source data were unavailable, BEA made various assumptions for March, including the following (table 4A):

- An increase in nonresidential structures,
- An increase in single-family structures,
- An increase in multifamily structures, and
- An increase in nondurable-goods manufacturing inventories.

A more comprehensive list is available on BEA's Web site.

#### Advance indicators data

Table 4b shows the data for wholesale and retail trade inventories and for exports and imports of goods from the Census Bureau's Advance Economic Indicators Report.



## Preview of the 2017 NIPA Annual Update

On July 28, 2017, the Bureau of Economic Analysis (BEA) will release the results of the annual update of the national income and product accounts (NIPAs) together with the advance estimates of gross domestic product (GDP) for the second quarter of 2017. The update will cover the most recent 3 years (2014 through 2016) and the first quarter of 2017. The reference year for index numbers and chained-dollar estimates will remain 2009.

**Regular source data updates.** The annual update will incorporate the usual annual source data for 2014 through 2016 that are more complete and more detailed than those previously available, including the following:

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

**Methodology improvements and other changes.** Additionally, the update will incorporate the following improvements in methodology and changes in presentation:

- Estimates for consumer spending will incorporate improved allocations of industry-based retail sales to consumer goods, reflecting increased use of retail scanner data and the Census Bureau's E-Commerce Report.
- The price index used to deflate fixed investment in prepackaged software will be based on a more representa-

tive Bureau of Labor Statistics Producer Price Index (PPI). Currently, the BEA price for prepackaged software is based on the PPI for "Application software publishing." Beginning with this annual update, BEA will use the PPI for "Software publishing, except games" that includes both applications and systems software publishing.

- BEA will update and accelerate the publication of key source data and assumptions that are used to estimate GDP. Currently, for the advance GDP estimates, BEA provides users with a key source data table showing the estimates of GDP and its major expenditure components along with the key source data and assumptions used to prepare the corresponding estimates. BEA publishes this table after the monthly personal income and outlays release (usually the business day following the GDP release) because it contains monthly estimates that are embargoed before the release. Select quarterly source data and assumptions are included in table A in the "Technical Note" that accompanies the GDP release.

With the release of the 2017 NIPA annual update in July, BEA will begin posting quarterly key source data and assumptions with each GDP release to provide users with earlier access to this information for all the vintages of GDP estimates. Monthly data will continue to be released with the monthly personal income and outlays release. Because quarterly key source data and assumptions will be available on the day of the GDP release, BEA will no longer publish table A.

### Update on BEA's Ongoing Three-Phased Strategy To Improve Its Seasonal Adjustment Methods

As part of its regular review and update of seasonal adjustment factors, BEA will continue to refine and to improve its seasonal adjustments for GDP and underlying components. Residual seasonality in historical series will be removed in the 2018 comprehensive update. Not seasonally adjusted statistics will also be published for GDP, and gross domestic income (GDI), and selected components, starting with the 2018 comprehensive update. These newly available estimates will be released with each vintage of the current quarterly estimates and will include price, current-dollar, and inflation-adjusted measures.

For more information, see ["How does BEA account for seasonality in GDP?"](#)