

GDP and the Economy

Second Estimates for the Fourth Quarter of 2022

March 1, 2023

This article reflects GDP statistics published on February 23, 2023. Refer to the GDP product page for the latest statistics.

Real gross domestic product (GDP) increased at an annual rate of 2.7 percent in the fourth quarter of 2022, according to the “second” estimates of the National Income and Product Accounts (chart 1 and table 1).¹ With the second estimate, real GDP growth was revised down 0.2 percentage point from the advance estimate issued in January. In the third quarter, real GDP increased 3.2 percent.

In 2022 (from the 2021 annual level to the 2022 annual level), real GDP increased 2.1 percent after increasing 5.9 percent in 2021 (refer to “Real GDP 2022”).

Chart 1. Real GDP: Percent Change from Preceding Quarter

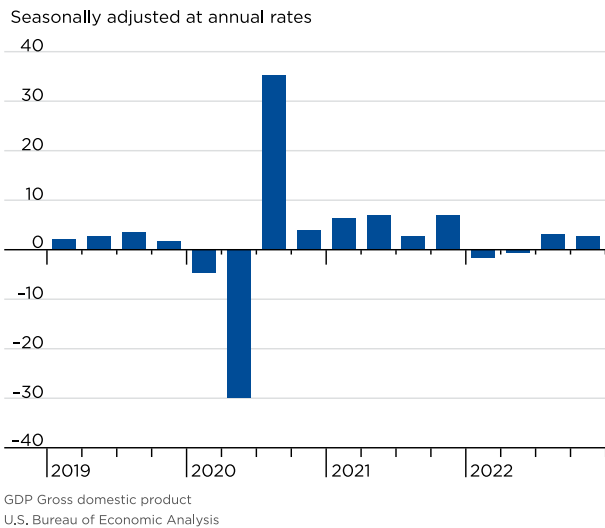
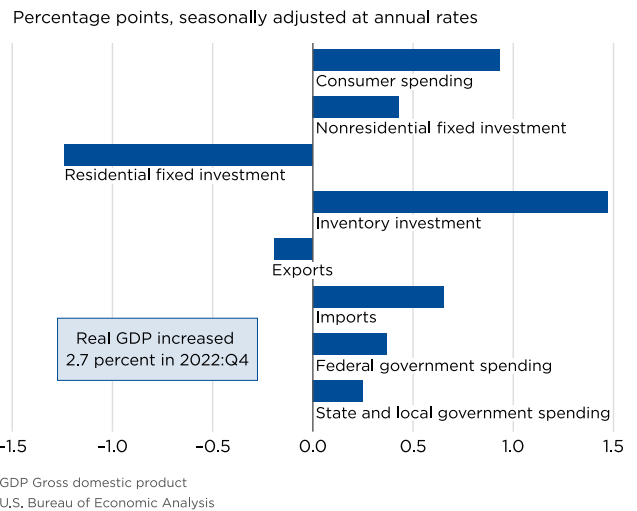


Chart 2. Real GDP: Contributions to the Percent Change in 2022:Q4



GDP by Expenditure

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

- The increase in private inventory investment was led by manufacturing (mainly petroleum and coal products) as well as mining, utilities, and construction industries (led by utilities) that were partly offset by a decrease in retail trade industries (led by “other” retailers excluding fuel dealers).
- The increase in consumer spending reflected an increase in services (led by health care as well as housing and utilities) that was partly offset by a decrease in goods (led by “other” durable goods, mainly jewelry).
- Within nonresidential fixed investment, increases in intellectual property products (mainly software) and structures were partly offset by a decrease in equipment.
- The increase in federal government spending was led by nondefense spending.
- The increase in state and local government spending was led by an increase in compensation of state and local government employees.
- Within residential fixed investment, the leading contributors to the decrease were new single-family construction and brokers' commissions.
- Within exports, the decrease primarily reflected a decrease in goods that was partly offset by an increase in services. The decrease in exports of goods primarily reflected decreases in nondurable goods excluding petroleum. Within exports of services, travel and transport services were the leading contributors to the increase.
- Within imports, the decrease primarily reflected a decrease in imports of goods (notably, durable consumer goods) that was partly offset by an increase in services (led by travel).

Real GDP decelerated in the fourth quarter compared with the third quarter. The deceleration primarily reflected a downturn in exports and decelerations in consumer spending, nonresidential fixed investment, and state and local government spending. These movements were partly offset by an upturn in private inventory investment, a smaller decrease in residential fixed investment, and an acceleration in federal government spending. Imports, which are a subtraction in the calculation of GDP, decreased less in the fourth quarter than in the third quarter.

Table 1. Real Gross Domestic Product (GDP) 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)			
		2022	2022				2022			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	GDP¹	100.0	-1.6	-0.6	3.2	2.7	-1.6	-0.6	3.2	2.7
2	Personal consumption expenditures	67.9	1.3	2.0	2.3	1.4	0.91	1.38	1.54	0.93
3	Goods	22.8	-0.1	-2.6	-0.4	-0.5	-0.02	-0.61	-0.08	-0.13
4	Durable goods	8.3	7.6	-2.8	-0.8	-1.8	0.64	-0.24	-0.07	-0.16
5	Nondurable goods	14.5	-4.4	-2.5	-0.1	0.2	-0.66	-0.37	-0.01	0.03
6	Services	45.1	2.1	4.6	3.7	2.4	0.93	1.99	1.63	1.06
7	Gross private domestic investment	17.8	5.4	-14.1	-9.6	3.7	0.98	-2.83	-1.80	0.66
8	Fixed investment	17.2	4.8	-5.0	-3.5	-4.6	0.83	-0.92	-0.62	-0.81
9	Nonresidential	13.2	7.9	0.1	6.2	3.3	0.98	0.01	0.80	0.43
10	Structures	2.6	-4.3	-12.7	-3.6	8.5	-0.11	-0.34	-0.09	0.21
11	Equipment	5.2	11.4	-2.0	10.6	-3.2	0.55	-0.11	0.53	-0.17
12	Intellectual property products	5.4	10.8	8.9	6.8	7.4	0.54	0.46	0.36	0.39
13	Residential	4.0	-3.1	-17.8	-27.1	-25.9	-0.15	-0.93	-1.42	-1.24
14	Change in private inventories	0.6	---	---	---	---	0.15	-1.91	-1.19	1.47
15	Net exports of goods and services	-3.3	---	---	---	---	-3.13	1.16	2.86	0.46
16	Exports	11.5	-4.6	13.8	14.6	-1.6	-0.53	1.51	1.65	-0.19
17	Goods	7.8	-7.2	15.5	17.8	-7.4	-0.58	1.18	1.38	-0.62
18	Services	3.7	1.6	9.9	7.5	12.5	0.06	0.33	0.26	0.43
19	Imports	14.8	18.4	2.2	-7.3	-4.2	-2.60	-0.35	1.21	0.65
20	Goods	12.1	20.4	-0.4	-8.6	-5.5	-2.38	0.05	1.19	0.71
21	Services	2.7	9.1	16.6	-0.8	2.1	-0.22	-0.41	0.02	-0.06
22	Government consumption expenditures and gross investment	17.5	-2.3	-1.6	3.7	3.6	-0.40	-0.29	0.65	0.63
23	Federal	6.5	-5.3	-3.4	3.7	5.9	-0.36	-0.22	0.24	0.37
24	National defense	3.6	-8.5	1.4	4.7	2.2	-0.33	0.05	0.17	0.08
25	Nondefense	2.9	-1.1	-9.2	2.5	10.8	-0.03	-0.28	0.07	0.29
26	State and local	11.0	-0.4	-0.6	3.7	2.3	-0.04	-0.06	0.41	0.25
Addenda:										
27	Gross domestic income (GDI) ²	---	0.8	-0.8	2.8	---	---	---	---	---
28	Average of GDP and GDI	---	-0.4	-0.7	3.0	---	---	---	---	---
29	Final sales of domestic product	---	-1.8	1.3	4.5	1.2	---	---	---	---
30	Goods	31.7	-5.4	-3.0	7.3	5.5	-1.76	-0.96	2.28	1.74
31	Services	60.2	1.0	3.1	3.9	3.1	0.57	1.83	2.30	1.87
32	Structures	8.1	-4.9	-15.3	-14.6	-10.7	-0.44	-1.44	-1.34	-0.93

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 Account (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) 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 3.6 percent in the fourth quarter after increasing 4.8 percent in the third quarter (table 2 and chart 3). The price index for personal consumption expenditures (PCE) increased 3.7 percent in the fourth quarter after increasing 4.3 percent in the third. The increase in PCE prices reflected an increase in prices for services that was partly offset by a decrease in prices for goods.

- Within services, price increases were widespread across most categories. The leading contributors were housing and utilities (mainly prices for the imputed rental of owner-occupied nonfarm housing), food services and accommodations (led by food services), health care (mainly physician services and hospitals), transportation services (led by motor vehicle maintenance and repair), and “other” services (led by personal care and clothing services).
- Within goods, the leading contributor was a decrease in gasoline and other energy goods.

Within gross domestic purchases, food prices increased 7.1 percent in the fourth quarter after increasing 13.4 percent in the third quarter. Prices for energy goods and services decreased 13.9 percent after decreasing 13.1 percent. Gross domestic purchases prices excluding food and energy increased 4.1 percent after increasing 5.0 percent.

Consumer prices excluding food and energy, a measure of the “core” rate of inflation, increased 4.3 percent in the fourth quarter after increasing 4.7 percent in the third quarter.

Chart 3. Prices for Gross Domestic Purchases

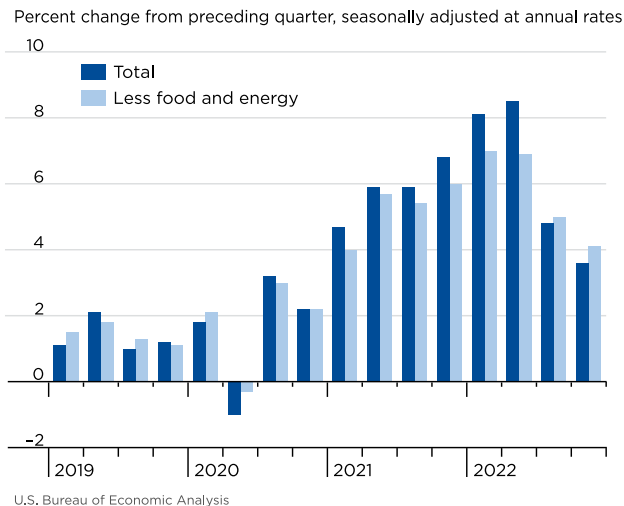


Table 2. Prices for Gross Domestic Purchases

[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				2022			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Gross domestic purchases¹	8.1	8.5	4.8	3.6	8.1	8.5	4.8	3.6
2	Personal consumption expenditures	7.5	7.3	4.3	3.7	4.90	4.81	2.85	2.43
3	Goods	12.6	10.6	2.7	-0.5	2.76	2.37	0.64	-0.10
4	Durable goods	8.3	2.4	3.5	-1.5	0.70	0.22	0.29	-0.12
5	Nondurable goods	15.2	15.7	2.3	0.1	2.07	2.15	0.35	0.02
6	Services	4.9	5.6	5.2	5.9	2.13	2.44	2.22	2.53
7	Gross private domestic investment	9.9	9.9	7.6	3.5	1.77	1.76	1.30	0.61
8	Fixed investment	10.0	10.3	7.7	4.2	1.68	1.72	1.28	0.70
9	Nonresidential	6.9	8.5	7.6	3.4	0.87	1.06	0.94	0.44
10	Structures	16.7	17.5	20.1	6.9	0.39	0.40	0.45	0.17
11	Equipment	7.6	9.2	5.9	6.0	0.38	0.45	0.29	0.30
12	Intellectual property products	1.9	3.9	3.7	-0.6	0.10	0.20	0.19	-0.03
13	Residential	18.9	15.2	8.1	6.7	0.82	0.66	0.34	0.26
14	Change in private inventories	---	---	---	---	0.09	0.03	0.02	-0.09
15	Government consumption expenditures and gross investment	8.7	11.6	3.6	3.5	1.45	1.90	0.62	0.59
16	Federal	5.7	6.0	4.8	3.1	0.36	0.38	0.30	0.19
17	National defense	6.6	7.5	2.7	3.0	0.23	0.26	0.10	0.11
18	Nondefense	4.5	4.1	7.6	3.2	0.13	0.12	0.20	0.09
19	State and local	10.6	15.0	2.9	3.8	1.09	1.52	0.32	0.40
Addenda:									
20	Gross domestic purchases:								
	Food	11.2	14.7	13.4	7.1	0.54	0.68	0.60	0.33
21	Energy goods and services	43.6	53.6	-13.1	-13.9	1.07	1.37	-0.43	-0.45
22	Excluding food and energy	7.0	6.9	5.0	4.1	6.51	6.41	4.59	3.76
23	Personal consumption expenditures:								
	Food and beverages purchased for off-premises consumption	11.4	15.3	13.0	6.9	---	---	---	---
24	Energy goods and services	43.4	52.7	-13.3	-12.9	---	---	---	---
25	Excluding food and energy	5.6	4.7	4.7	4.3	---	---	---	---
26	Gross domestic product	8.3	9.0	4.4	3.9	---	---	---	---
27	Exports of goods and services	17.3	20.0	-9.7	-6.3	---	---	---	---
28	Imports of goods and services	13.5	13.2	-4.1	-5.6	---	---	---	---

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 Account (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 U.S. Bureau of Economic Analysis (BEA) 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 \$388.1 billion in the fourth quarter, compared with an increase of \$391.2 billion (revised) in the third quarter (table 3). The increase in personal income primarily reflected increases in compensation (led by private wages and salaries) and government social benefits (led by “other” benefits, primarily reflecting an increase in [one-time state refundable tax credits](#)).

Personal current taxes decreased \$4.0 billion in the fourth quarter after increasing \$48.0 billion (revised) in the third quarter.

Disposable personal income (DPI) increased \$392.1 billion, or 8.6 percent, in the fourth quarter after increasing \$343.2 billion (revised), or 7.7 percent (revised), in the third quarter. Personal outlays increased \$245.6 billion after increasing \$325.9 billion (revised) in the third quarter.

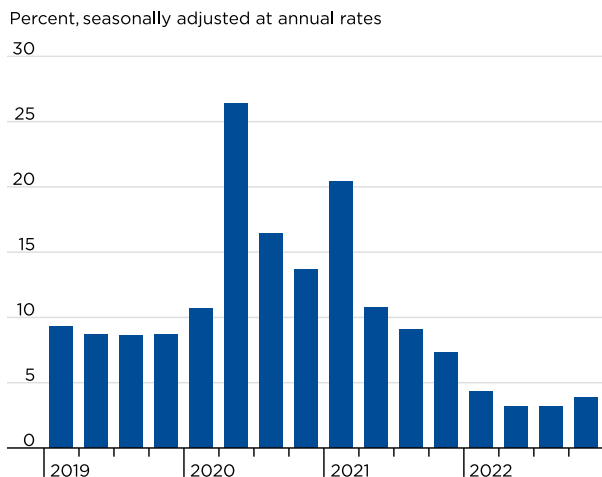
The personal saving rate (chart 4)—personal saving as a percentage of DPI—was 3.9 percent in the fourth quarter, compared with 3.2 percent (revised) in the third quarter.

Real DPI (chart 5) increased 4.8 percent in the fourth quarter after increasing 3.2 percent (revised) in the third quarter.

With the release of the second estimate of GDP, BEA also released revised estimates of third-quarter wages and salaries, personal taxes, contributions for government social insurance, and gross domestic income (GDI). These estimates reflect new data for third-quarter private wages and salaries from the U.S. Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages. As a result:

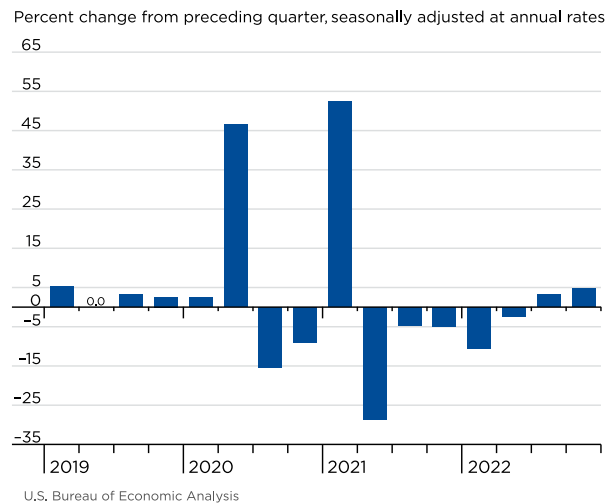
- Wages and salaries are now estimated to have increased \$303.0 billion in the third quarter, an upward revision of \$115.2 billion.
- Personal current taxes are now estimated to have increased \$48.0 billion, an upward revision of \$7.3 billion.
- Contributions for government social insurance are now estimated to have increased \$41.2 billion, an upward revision of \$14.8 billion.
- Real GDI (table 1) is now estimated to have increased 2.8 percent in the third quarter, an upward revision of 2.0 percentage points from the previously published estimate.
- The average of real GDP and real GDI increased 3.0 percent, an upward revision of 1.0 percentage point.
- The personal saving rate—personal saving as a percentage of DPI—was 3.2 percent in the third quarter, an upward revision of 0.5 percentage point.

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



U.S. Bureau of Economic Analysis

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		2022			
		Q3	Q4	Q1	Q2	Q3	Q4
1	Personal income	21,969.5	22,357.6	157.7	258.4	391.2	388.1
2	Compensation of employees	13,755.0	13,975.9	215.4	155.5	339.8	220.9
3	Wages and salaries	11,361.0	11,552.5	177.1	132.5	303.0	191.5
4	Private industries	9,737.3	9,909.4	162.1	119.9	279.6	172.2
5	Goods-producing industries	1,781.7	1,812.9	39.9	27.4	48.9	31.2
6	Manufacturing	1,055.2	1,069.2	19.9	14.7	27.2	14.1
7	Services-producing industries	7,955.6	8,096.5	122.2	92.5	230.7	141.0
8	Trade, transportation, and utilities	1,748.2	1,778.3	29.0	3.9	47.3	30.1
9	Other services-producing industries	6,207.3	6,318.2	93.2	88.6	183.4	110.9
10	Government	1,623.8	1,643.1	15.0	12.6	23.4	19.3
11	Supplements to wages and salaries	2,394.0	2,423.4	38.3	22.9	36.8	29.4
12	Proprietors' income with IVA and CCAdj	1,863.5	1,883.5	21.7	23.9	28.2	20.0
13	Farm	95.9	100.6	30.5	21.3	0.3	4.7
14	Nonfarm	1,767.6	1,782.9	-8.9	2.7	27.9	15.3
15	Rental income of persons with CCAdj	794.9	809.4	5.3	31.0	19.0	14.5
16	Personal income receipts on assets	3,358.8	3,414.8	11.4	53.2	35.8	56.0
17	Personal interest income	1,738.1	1,781.7	13.3	37.8	29.5	43.6
18	Personal dividend income	1,620.7	1,633.1	-1.9	15.4	6.3	12.4
19	Personal current transfer receipts	3,892.8	3,995.4	-57.0	14.5	9.6	102.6
20	Government social benefits to persons	3,823.0	3,925.9	-54.9	11.5	13.9	102.9
21	Social security	1,214.6	1,226.0	72.2	8.2	7.7	11.4
22	Medicare	920.3	941.6	8.0	3.8	8.5	21.4
23	Medicaid	786.1	793.3	18.1	26.4	-3.3	7.2
24	Unemployment insurance	18.5	20.4	-10.2	-5.0	-0.1	1.9
25	Veterans' benefits	161.7	164.0	1.3	2.1	2.0	2.3
26	Other	721.7	780.5	-144.3	-23.9	-1.0	58.8
27	Other current transfer receipts, from business (net)	69.8	69.5	-2.1	3.0	-4.2	-0.3
28	Less: Contributions for government social insurance	1,695.6	1,721.6	38.9	19.7	41.2	25.9
29	Less: Personal current taxes	3,236.5	3,232.5	339.4	43.0	48.0	-4.0
30	Equals: DPI	18,733.0	19,125.1	-181.7	215.4	343.2	392.1
31	Less: Personal outlays	18,124.5	18,370.1	370.5	409.2	325.9	245.6
32	Personal consumption expenditures	17,542.7	17,762.7	356.8	386.6	281.3	220.1
33	Personal interest payments ¹	357.1	382.7	10.7	19.6	44.1	25.5
34	Personal current transfer payments	224.7	224.7	3.0	3.0	0.5	0.0
35	Equals: Personal saving	608.5	755.0	-552.2	-193.8	17.3	146.5
36	Personal saving as a percentage of DPI	3.2	3.9	---	---	---	---
Addenda:							
Percent change at annual rate							
37	Current-dollar DPI	---	---	-3.9	4.8	7.7	8.6
38	Real DPI, chained (2012) dollars	---	---	-10.6	-2.3	3.2	4.8
The effects of selected federal pandemic response programs on personal income (billions of dollars)							
In farm proprietors' income with IVA and CCAdj:							
39	Coronavirus Food Assistance Program ²	0.0	0.0	-0.6	-0.6	0.0	0.0
40	Paycheck Protecton Program loans to businesses ³	0.0	0.0	-0.7	0.0	0.0	0.0
In nonfarm proprietors' income with IVA and CCAdj:							
41	Paycheck Protecton Program loans to businesses ³	0.0	0.0	-22.8	0.0	0.0	0.0
In government social benefits to persons, Medicare:							
42	Increase in Medicare reimbursement rates ⁴	0.0	0.0	0.1	-7.9	-7.9	0.0
In government social benefits to persons, unemployment insurance: ⁵							
43	Extended unemployment benefits	0.0	0.0	-0.4	-0.1	0.0	0.0
44	Pandemic emergency unemployment compensation	0.3	0.2	-2.0	-0.3	-0.2	-0.1
45	Pandemic unemployment assistance	0.2	0.1	-1.3	-0.4	-0.2	-0.1
46	Pandemic unemployment compensation payments	0.0	0.0	0.0	0.0	0.0	0.0
In government social benefits to persons, other:							
47	Child tax credit ⁶	94.3	94.3	-129.7	0.0	0.0	0.0
48	Economic impact payments ⁷	0.0	0.0	-14.2	0.0	0.0	0.0
49	Lost wages supplemental payments ⁸	0.0	0.0	0.0	0.0	0.0	0.0
50	Paycheck Protecton Program loans to NPISH ³	0.0	0.0	-1.6	0.0	0.0	0.0
51	Provider Relief Fund to NPISH ⁹	8.1	4.9	-5.4	-6.9	-11.9	-3.2
In personal outlays, personal interest payments:							
52	Student loan forbearance ¹⁰	-37.8	-37.8	0.0	0.0	0.0	0.0

CCAdj	Capital consumption adjustment
DPI	Disposable personal income
IVA	Inventory valuation adjustment
NPISH	Nonprofit institutions serving households

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.
2. The Coronavirus Food Assistance Program, initially established by the Coronavirus Aid, Relief, and Economic Security (CARES) Act, provides direct support to farmers and ranchers where prices and market supply chains have been impacted by the COVID-19 pandemic.
3. The Paycheck Protection Program, initially established by the CARES Act, provides forgivable loans to help small businesses and nonprofit institutions make payroll and cover other expenses. It also provides funding to reimburse private lending institutions for the costs of administering these loans. For more information, see [“How does the Paycheck Protection Program impact the national income and product accounts \(NIPAs\)?”](#).
4. A 2 percent reduction in reimbursements paid to Medicare service providers that went into effect in 2013 was initially suspended by the CARES Act. The resulting increased reimbursement rates went into effect beginning on May 1, 2020.
5. Unemployment insurance benefits were expanded through several programs that were initially established through the CARES Act. For more information, see [“How will the expansion of unemployment benefits in response to the COVID-19 pandemic be recorded in the NIPAs?”](#).
6. The American Rescue Plan increased the child tax credit to \$3,000 per child over the age of 6 and \$3,600 for children under the age of 6 and raised the age limit from 16 to 17. It also authorized that up to half of these credits could be distributed through advance payments during the tax year, while the rest would be claimed when parents file tax returns the following year.
7. Economic impact payments, initially established by the CARES Act, provide direct payments to individuals. For more information, see [“How are the federal economic impact payments to support individuals during the COVID-19 pandemic recorded in the NIPAs?”](#)
8. The Federal Emergency Mangement Agency was authorized to make payments from the Disaster Relief Fund to supplement wages lost as a result of the COVID-19 pandemic.
9. The U.S. Department of Health and Human Services distributes money from the Provider Relief Fund to hospitals and health care providers on the front lines of the coronavirus response. This funding supports health-care-related expenses or lost revenue attributable to COVID-19 and ensures uninsured Americans can get treatment for COVID-19. In the NIPAs, funds provided to nonprofit hospitals are recorded as social benefits.
10. Interest payments due on certain categories of federally held student loans were initially suspended by the CARES Act. For more information, see [“How does the federal response to the COVID-19 affect BEA’s estimate of personal interest payments”](#).

Note. Dollar levels and percent changes are from National Income and Product Account tables [2.1](#) and [2.2B](#).

Updates

In the second estimate of the fourth quarter, the growth rate in real GDP was revised down 0.2 percentage point from the advance estimate (table 4). The updated estimates reflected downward revisions to consumer spending and exports that were partly offset by upward revisions to nonresidential fixed investment and residential fixed investment. Imports were revised up.

- The revision to consumer spending reflected downward revisions to spending on both goods and services.
 - Within goods, the leading contributors to the downward revision were motor vehicles and parts (mainly used light trucks), based primarily on updated used motor vehicle prices from BLS; food and beverages, based primarily on revised U.S. Census Bureau (Census) Monthly Retail Trade Survey (MRTS) data; and “other” nondurable goods (mainly tobacco and household supplies), reflecting new Nielsen Company tobacco data and revised MRTS.
 - Within services, the leading contributors to the downward revision were outpatient health care (notably, physician services), communication services (notably, cellular telephone services), and transportation services (notably, motor vehicle rental). The updated estimates primarily reflected new fourth-quarter Census Quarterly Services Survey data as well as updated company revenue data for motor vehicle rental companies.
- Within exports, the downward revision was to goods (mainly “other” goods) that was partly offset by an upward revision to consumer goods.
- The upward revision to nonresidential fixed investment reflected upward revisions to structures and intellectual property products (IPP). For structures, the leading contributor to the upward revision was commercial and health care structures. For IPP, the leading contributor to the upward revision was research and development.
- The upward revision to residential fixed investment was led by multifamily structures.
- Within imports, the upward revision reflected a revision to services (specifically, transport services).

Table 4. Advance and Second Estimates for the Fourth Quarter of 2022

[Seasonally adjusted at annual rates]

Line	Series	Change from preceding period (percent)			Contribution to percent change in real GDP (percentage points)		
		Advance estimate	Second estimate	Second estimate minus advance estimate	Advance estimate	Second estimate	Second estimate minus advance estimate
1	Gross domestic product (GDP)¹	2.9	2.7	-0.2	2.9	2.7	-0.2
2	Personal consumption expenditures	2.1	1.4	-0.7	1.42	0.93	-0.49
3	Goods	1.1	-0.5	-1.6	0.26	-0.13	-0.39
4	Durable goods	0.5	-1.8	-2.3	0.04	-0.16	-0.20
5	Nondurable goods	1.5	0.2	-1.3	0.22	0.03	-0.19
6	Services	2.6	2.4	-0.2	1.16	1.06	-0.10
7	Gross private domestic investment	1.4	3.7	2.3	0.27	0.66	0.39
8	Fixed investment	-6.7	-4.6	2.1	-1.20	-0.81	0.39
9	Nonresidential	0.7	3.3	2.6	0.09	0.43	0.34
10	Structures	0.4	8.5	8.1	0.01	0.21	0.20
11	Equipment	-3.7	-3.2	0.5	-0.20	-0.17	0.03
12	Intellectual property products	5.3	7.4	2.1	0.28	0.39	0.11
13	Residential	-26.7	-25.9	0.8	-1.29	-1.24	0.05
14	Change in private inventories	---	---	---	1.46	1.47	0.01
15	Net exports of goods and services	---	---	---	0.56	0.46	-0.10
16	Exports	-1.3	-1.6	-0.3	-0.15	-0.19	-0.04
17	Goods	-7.0	-7.4	-0.4	-0.58	-0.62	-0.04
18	Services	12.4	12.5	0.1	0.43	0.43	0.00
19	Imports	-4.6	-4.2	0.4	0.71	0.65	-0.06
20	Goods	-5.6	-5.5	0.1	0.72	0.71	-0.01
21	Services	0.4	2.1	1.7	-0.01	-0.06	-0.05
22	Government consumption expenditures and gross investment	3.7	3.6	-0.1	0.64	0.63	-0.01
23	Federal	6.2	5.9	-0.3	0.39	0.37	-0.02
24	National defense	2.4	2.2	-0.2	0.09	0.08	-0.01
25	Nondefense	11.2	10.8	-0.4	0.30	0.29	-0.01
26	State and local	2.3	2.3	0.0	0.25	0.25	0.00
Addenda:							
27	Final sales of domestic product	1.4	1.2	-0.2	---	---	---
28	Gross domestic purchases price index	3.2	3.6	0.4	---	---	---
29	GDP price index	3.5	3.9	0.4	---	---	---

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

Real GDP 2022

Real GDP increased 2.1 percent in 2022 (from the 2021 annual level to the 2022 annual level), compared with an increase of 5.9 percent in 2021. The increase in real GDP in 2022 primarily reflected increases in consumer spending, exports, private inventory investment, and nonresidential fixed investment that were partly offset by decreases in residential fixed investment and federal government spending. Imports increased (table 5 and chart 6).

- The increase in consumer spending reflected an increase in services that was partly offset by a decrease in goods.
 - Within services, the increase was led by “other” services (mainly international travel), food services and accommodations (led by purchased meals and beverages), and health care (led by outpatient services).
 - The decrease in goods primarily reflected decreases in food and beverages (groceries) as well as motor vehicles and parts (mainly used light trucks) that were partly offset by increases in recreational goods and vehicles and “other” nondurable goods (mainly pharmaceuticals).
- The increase in exports reflected increases in both goods (mainly nondurable industrial supplies and materials) and services (notably, travel).
- The increase in private inventory investment primarily reflected increases in manufacturing, wholesale trade, and retail trade (notably, motor vehicle dealers).
- The increase in nonresidential fixed investment reflected increases in IPP (led by software) and in equipment (led by information processing equipment) that were partly offset by a decrease in structures (led by commercial and health care as well as power and communication structures).
- The decrease in residential fixed investment mainly reflected a decrease in new single-family construction as well as brokers' commissions.
- The decrease in federal government spending reflected decreases in both defense and nondefense spending.
- Within imports, both goods (led by nonautomotive capital goods) and services (led by travel) increased.

Chart 6. Real GDP: Contributions to the Percent Change in 2022

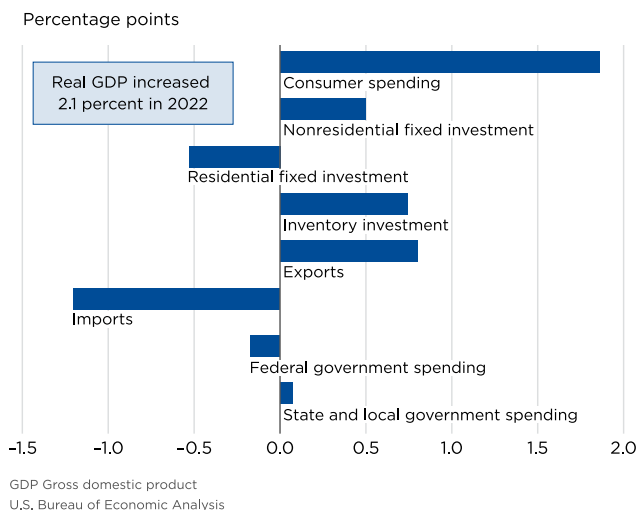


Table 5. Real Gross Domestic Product (GDP) and Components, Annual
[Seasonally adjusted at annual rates]

Line	Series	Share of current-dollar GDP (percent)	Change from preceding period (percent)		Contribution to percent change in real GDP (percentage points)	
		2022	2021	2022	2021	2022
1	GDP¹	100.0	5.9	2.1	6.0	2.1
2	Personal consumption expenditures	68.2	8.3	2.8	5.54	1.86
3	Goods	23.3	12.2	-0.5	2.72	-0.12
4	Durable goods	8.6	18.5	-0.5	1.46	-0.04
5	Nondurable goods	14.7	8.8	-0.5	1.26	-0.08
6	Services	44.9	6.3	4.5	2.83	1.99
7	Gross private domestic investment	18.2	9.0	3.9	1.55	0.71
8	Fixed investment	17.6	7.4	-0.2	1.30	-0.04
9	Nonresidential	13.1	6.4	3.8	0.83	0.50
10	Structures	2.5	-6.4	-6.9	-0.19	-0.19
11	Equipment	5.2	10.3	4.3	0.52	0.22
12	Intellectual property products	5.4	9.7	8.9	0.50	0.46
13	Residential	4.4	10.7	-10.7	0.47	-0.53
14	Change in private inventories	0.6	---	---	0.24	0.74
15	Net exports of goods and services	-3.8	---	---	-1.25	-0.40
16	Exports	11.7	6.1	7.2	0.64	0.80
17	Goods	8.1	7.4	6.3	0.52	0.49
18	Services	3.6	3.3	9.2	0.12	0.31
19	Imports	15.5	14.1	8.2	-1.89	-1.20
20	Goods	12.9	14.5	6.9	-1.61	-0.86
21	Services	2.7	12.3	14.6	-0.28	-0.35
22	Government consumption expenditures and gross investment	17.5	0.6	-0.6	0.11	-0.10
23	Federal	6.5	2.3	-2.5	0.17	-0.17
24	National defense	3.6	-1.2	-2.8	-0.05	-0.11
25	Nondefense	2.8	7.3	-2.2	0.22	-0.07
26	State and local	11.0	-0.5	0.6	-0.06	0.07
Addenda:						
27	Gross domestic income (GDI) ²	---	5.5	---	---	---
28	Average of GDP and GDI	---	5.7	---	---	---

1. The GDP estimates under the contribution columns are also percent changes.
2. GDI is deflated by the implicit price deflator for GDP. Not estimated with the Q4 advance or second estimates.

Note. Percent changes are from National Income and Product Account (NIPA) tables 1.1.1, contributions to percent change are from NIPA tables 1.1.2, and shares are from NIPA table 1.1.10.

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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