US Chartbook

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Open source notes on US economic activity

Notes

Very early stage draft:
Contents not reliable

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Overall Economic Activity

This analysis of the United States economy begins with the most popular measure of economic activity, Gross Domestic Product (GDP). GDP estimates the production of goods and services in a given location during a given period of time. According to the Bureau of Economic Analysis, the seasonally-adjusted annualized value of goods and services produced in the US was $23,992 billion in the fourth quarter of 2021, compared to an inflation-adjusted equivalent of $23,261 billion in 2019 Q4 and $10,575 billion in the first quarter of 1989.

The US population is growing by about three-tenths of a percent per year. GDP per capita (see —), adjusted for inflation to 2021 Q4 dollars, had increased to $70,662 in 2019 Q4 from $43,307 in 1989 Q1, and is currently $72,309, as of the fourth quarter of 2021.

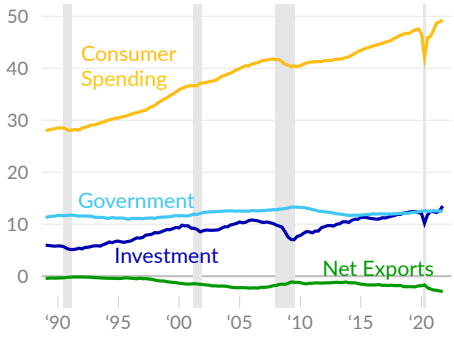
GDP per capita
in 2021 Q4 dollars

Source: Bureau of Economic Analysis

Types of Economic Activity

GDP calculated using the expenditures approach is the sum of major types of domestic spending on finished goods and services: consumer spending, private investment, and government spending and investment. To capture only domestic production, foreign spending on US produced goods and services is added, while imports (spending on non-US-produced goods and services) are subtracted.

Expenditure Types
per capita, thousands of 2021 Q4 dollars



Source: Bureau of Economic Analysis

Much of the increase in real GDP per capita over the past 30 years comes from consumer spending. Domestic consumer spending (see —) is equivalent to $49,270 per person in 2021 Q4, a price-adjusted increase of $21,240 since 1989. Gross private domestic investment (see —) is equivalent to $13,498 per person in 2021 Q4, and government spending and investment (see —) totals $12,442 per person. Net exports equivalent to $2,901 per person are subtracted to reflect only domestic production (see —).

Expenditure Types
per capita, annualized, 2021 Q4 dollars

	2021 Q4	2019 Q4	2000 Q1	1989 Q1
— Gross Domestic Product	$72,309	70,663	55,703	44,763
— Consumer Spending	49,270	47,531	35,876	28,030
— Gross Private Domestic Investment	13,498	12,228	9,288	5,978
— Government Spending and Investment	12,442	12,390	11,565	11,295
— Net Exports	-2,901	-1,852	-1,355	-449
Exports	8,026	8,603	5,258	2,746
Less: Imports	10,927	10,018	6,424	3,006

Source: Bureau of Economic Analysis

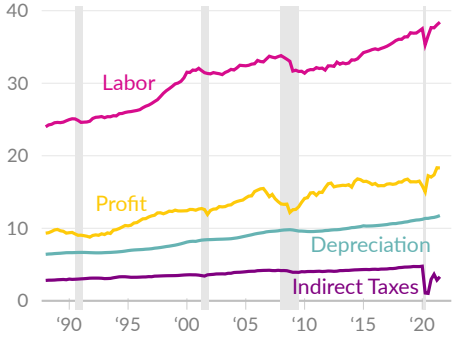
The less-discussed **income approach** calculates the level of overall economic activity from the sum of income payments from production and certain expenses incurred in production. Income from production is the payout to labor and capital. Income for labor is referred to as "compensation of employees, paid" in the national accounts and includes wages and salaries as well supplements to wages and salaries such as employer-paid health insurance premiums and retirement account contributions. Income received as profit is referred to as the "net operating surplus" in national accounts and includes interest payments, rental profits, business proprietor profits, and corporate profits.

Additionally some income does not get paid out to these groups. Taxes on imports and production, such as tariffs, sales tax, property tax, and licensing fees are tracked separately. If the government provides subsidies, which are income payments for production that did not occur, they must be subtracted from income measures of production. Lastly, a growing portion of potential income goes toward replacing and maintaining buildings and equipment used in production. This expense is recorded as "consumption of fixed capital" in the national accounts and referred to as depreciation below.

The Bureau of Economic Analysis report seasonally-adjusted and annualized Gross Domestic Income (GDI) of $23,804 billion in 2021 Q3, compared to an inflation-adjusted equivalent of $22,910 billion in 2019 Q4. Real GDI per capita was $71,804 in 2021 Q3 and $69,597 in 2019 Q4.

Income Types

per capita, thousands of 2021 Q3 dollars



Source: Bureau of Economic Analysis

Gross labor income per capita is equivalent to $38,421 in 2021 Q3 (see —) and $37,213 in 2019 Q4, on an annualized, seasonally-adjusted, and inflation-adjusted basis. Profits per person total $18,314 in 2021 Q3 (see —) and $16,501 in 2019 Q4, following the same adjustments. Indirect taxes less subsidies per capita total $3,317 in 2021 Q3 (see —) and $4,719 in 2019 Q4. Lastly, depreciation per capita is $11,752 in 2021 Q3 (see —) and $11,163 in 2019 Q4.

Income Types

per capita, annualized, 2021 Q3 dollars

	2021 Q3	2019 Q4	2000 Q1	1989 Q1
Gross Domestic Income	$71,804	69,597	55,619	43,875
— Labor	38,421	37,213	31,522	24,600
Wages and Salaries	31,581	30,355	26,059	20,301
Supplements	6,839	6,858	5,463	4,299
— Profit	18,314	16,501	12,420	9,840
— Indirect Taxes	3,317	4,719	3,579	2,900
Taxes on Production and Imports	4,991	4,984	3,825	3,123
Less: Subsidies	1,675	265	247	223
— Depreciation	11,752	11,163	8,099	6,536

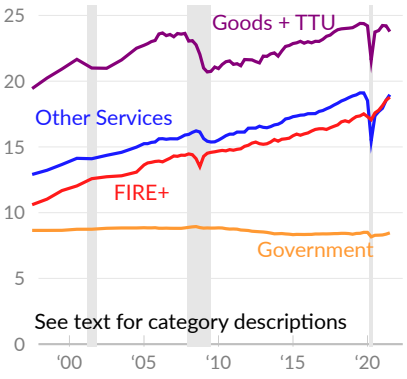
Source: Bureau of Economic Analysis

The **production approach** to GDP identifies how individual industries contribute to domestic production by calculating the value added by each industry during the production process. The value added by an industry or sector group is its sales or gross output minus any intermediate inputs used in production. The Bureau of Economic Analysis report GDP by industry, which is summarized briefly in this subsection by grouping the various private industries into broad categories.

The first category combines private goods producing industries: agriculture, forestry, fishing, and hunting (1.1 percent of GDP in 2021 Q3); mining (1.2 percent of GDP); construction (4.1 percent); and manufacturing (11.1 percent), with trade, transportation, and utilities (TTU, combined 16.4 percent of GDP). The second category is finance, insurance, and real estate (FIRE, 21.2 percent of GDP in 2021 Q3) combined with the information industry (5.6 percent of GDP), labeled as FIRE+.

The remaining private services-providing industries include: professional and business services (13.0 percent of GDP in 2021 Q3); education, health care, and social services (8.4 percent of GDP); arts, entertainment, and recreation (3.8 percent). Separately, public-sector value added in production, at the federal, state, and local levels, is captured by the government category (12.1 percent of GDP).

Production Types
per capita, thousands of 2021 Q3 dollars



Source: Bureau of Economic Analysis

In 2021 Q3, private goods producing industries and trade, transportation, and utilities combined value added per person is $23,773, on an annualized basis, compared to $24,380 in 2019 Q4 (see —). Private finance, insurance, real estate, and information industry services combined value added per person is $18,782 in 2021 Q3 and $17,516 in 2019 Q4 (see —).

All other private services-producing industries combined value added per person is $18,972 in 2021 Q3 and $19,106 in 2019 Q4 (see —). Government value added is $8,464 per person in 2021 Q3 and $8,503 in 2019 Q4 (see —).

Production Types
per capita, annualized, 2021 Q3 dollars

	2021 Q3	2021 Q2	2019 Q4	2005 Q1	1997 (A)
— Goods and TTU	$23,773	24,209	24,380	22,731	19,439
Manufacturing	7,755	7,792	7,585	7,008	5,776
Construction	2,869	2,981	2,918	3,850	3,615
Retail Trade	4,160	4,324	4,415	4,159	3,274
— FIRE+	18,782	18,552	17,516	13,627	10,605
Finance & Insurance	5,930	5,824	5,342	4,842	3,585
Information	3,938	3,866	3,426	1,775	1,118
— Other Services	18,972	18,550	19,106	15,248	12,907
Education & Healthcare	5,859	5,816	6,005	4,611	3,963
Professional & Business	9,065	8,808	8,426	6,074	4,930
— Government	8,464	8,368	8,503	8,854	8,652

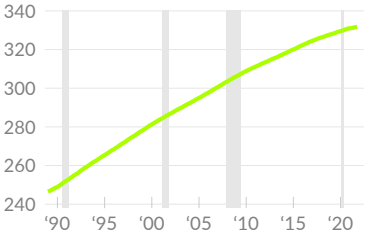
Source: Bureau of Economic Analysis

Household inputs to production

It's useful to consider household inputs when analyzing economic output. For example, is the population growing? Are more people working? Are people working more hours? Is the economy more productive in its use of labor? These questions all add important context to discussion of aggregate output.

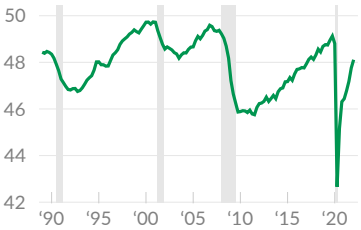
The US population is increasing (see —), though at a slower rate than in the past. Over the past 30 years, the US has added 80 million people. This means the amount of goods and services produced needed to increase by 30 percent over the period to maintain a constant standard of living. Employment of any amount (see —) comes from around half of the population during the peak of an economic expansion as a tighter labor market and higher wages pull people into employment, and falls during a recession as people lose jobs. Hours worked per worker per week (see —) are also influenced by economic conditions. During an economic expansion, more hours of work are available to those who want them. During a recession and when demand for goods and services is relatively low, hours of work are cut.

Population
millions of people



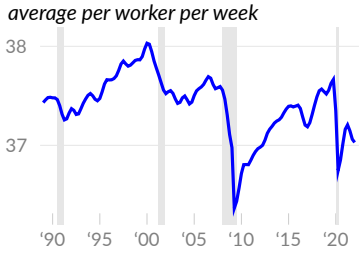
Source: BEA

Employment Rate
share of population



Source: CPS microdata

Hours Worked
average per worker per week



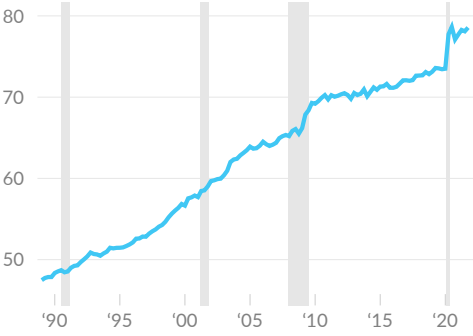
Source: CPS microdata

By multiplying the population, employment rate, and average hours worked, we approximate the aggregate hours worked in the US. We can then divide real GDP by aggregate hours worked to estimate GDP per hour of work, or productivity (see —). During a recession, economic theory suggests that productivity increases, in the short-run, as less-productive workers disproportionately lose jobs: less-productive firms close and existing firms lay off less-productive workers.

In 2021 Q4, real GDP was equivalent to roughly $78.56 per hour of work, compared to $78.10 in 2021 Q3, $73.44 in 2019 Q4, $71.16 in 2015 Q4, and $47.48 in the first quarter of 1989.

Comparing the latest data to the pre-COVID data covering 2019 Q4, annualized real GDP is $23,992 billion in the latest data and $23,261 billion in 2019 Q4. Aggregate hours worked total 305 billion in the latest quarter and 317 billion in 2019 Q4.

GDP per hour of work
2021 Q4 dollars



Source: Author's calculations

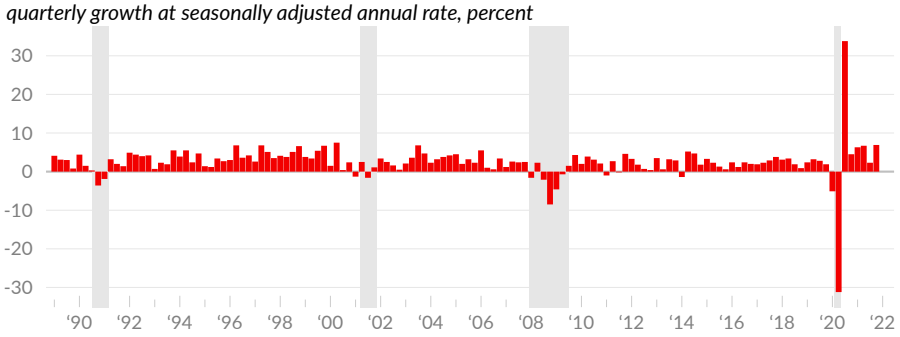
Economic Growth

Economists are concerned with changes in production. Decreased production can result in material hardship for ordinary people. This chartbook subsection covers changes in production measured as the rate of growth of overall economic activity, and also describes how the major categories of activities discussed in the previous sector contribute to overall growth.

GDP (see ■) increased at an annual rate of 6.9 percent during the fourth quarter of 2021, compared to an increase of 2.3 percent in the third quarter of 2021, and an increase of 6.7 percent in 2021 Q2. This annualized rate of quarterly growth averaged 2.5 percent over the three years from 2017–2019. Over the most recent three years, which include the COVID-19 pandemic, real GDP growth averaged 2.7 percent.

Real Gross Domestic Product Growth

quarterly growth at seasonally adjusted annual rate, percent



Source: Bureau of Economic Analysis

Notes on economic growth

GDP is not a tool for describing how goods and services are distributed in society. GDP is an aggregate measure, the sum of individual activities. As a result, the experiences of individuals can differ drastically from the overall outcome. For example, GDP can increase while the vast majority of people receive no additional goods or services.

Additionally, production (GDP) isn't a measure of inputs, its a measure of outputs. In fact, production can increase without an increase in inputs, a situation economists call productivity growth. This is an important consideration given the aging US population and serious concerns over environmental impacts of increased production.

Also note that real (price-adjusted) GDP incorporates changes in quality. This means that real GDP can increase even if the quantity produced does not change. Distribution, productivity, and prices are discussed in later sections.

A note on annualized rates

US statistical agencies traditionally report annualized data. For example, the level of GDP in a given quarter is reported as the production that would occur over an entire year at the rate of production in the quarter. When this concept is applied to quarterly growth rates, as in the previous chart, it indicates what the quarterly change in production would be if it were sustained for an entire year.

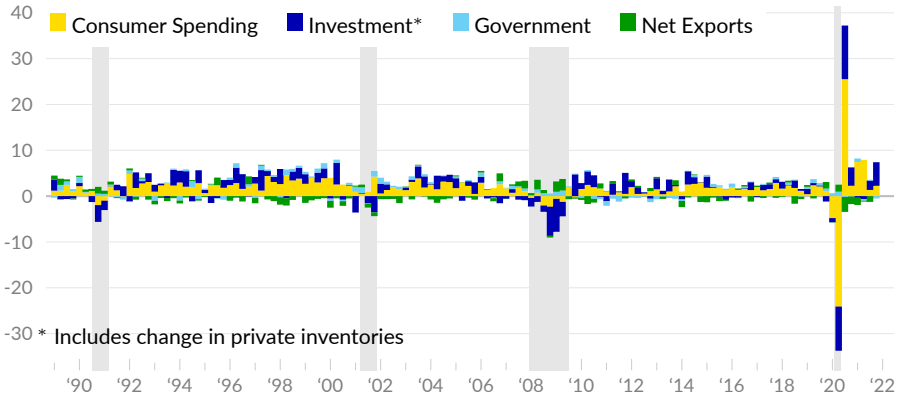
Because annual rates amplify short-term changes in production, some analysis has instead used quarterly rates when discussing changes in production during the COVID-19 pandemic. It's also worth noting that many other countries' statistical agencies report quarterly–not annualized–growth rates. However, to be consistent with reported data, the chartbook will generally use annualized rates.

Components of Growth

The **expenditure approach** also gives insight into the sources of changes in overall economic activity. In the fourth quarter of 2021, consumer spending (see) contributed 2.25 percentage points to overall real GDP growth. Private domestic investment (see) contributed 5.15 percentage points to real GDP growth, government spending and investment (see) subtracted 0.51 percentage point, and net exports (see) did not contribute.

Real GDP Growth by Expenditure Type

percentage point contribution to GDP growth



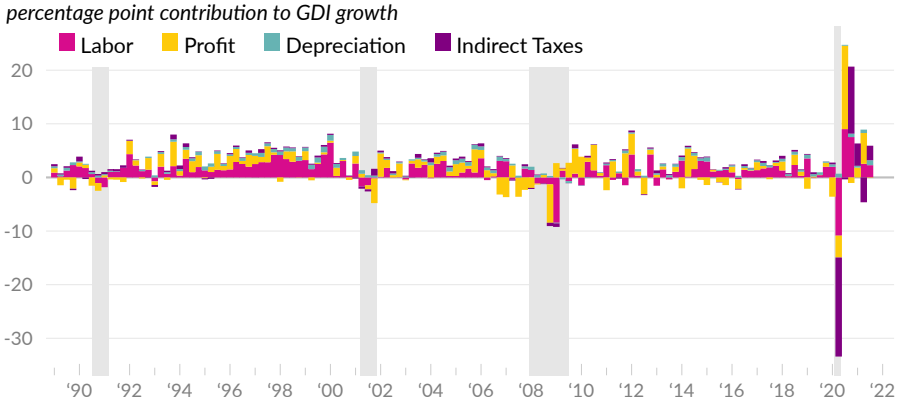
Source: Bureau of Economic Analysis

The **income approach** enables decomposing annualized production growth into gross labor income (see), profit (see), indirect taxes less subsidies (see), and depreciation (see).

In the third quarter of 2021, gross domestic income increased at an annual rate of 5.8 percent, following an increase of 4.3 percent in 2021 Q2 and an increase of 6.3 percent in 2021 Q1. In the latest quarter, labor income contributed 2.29 percentage points to overall growth, following a contribution of 2.54 percentage points in 2021 Q2. Profit income subtracted 0.07 percentage point in the third quarter of 2021 and contributed 5.74 percentage points in 2021 Q2. Changes in indirect tax revenue and surpluses contributed 2.71 percentage points to aggregate income growth in the latest quarter and subtracted 4.63 percentage points in 2021 Q2.

Real Gross Domestic Income Growth

percentage point contribution to GDI growth



Source: Bureau of Economic Analysis

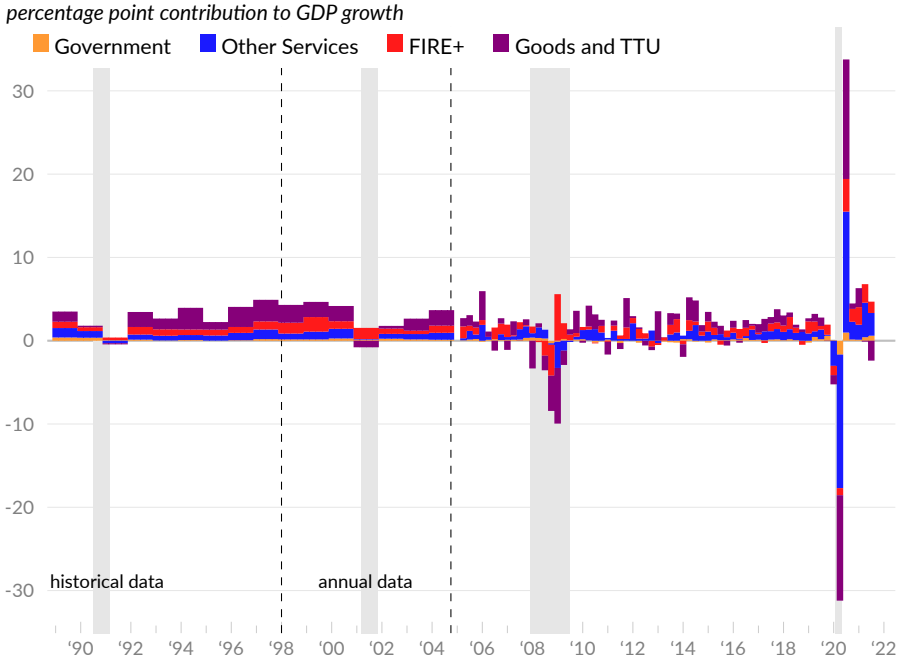
The **production approach** calculates GDP as the sum of value added–gross output minus intermediate inputs–in each sector. The broad groupings discussed above are used to identify contributions from: goods-producing sectors combined with trade, transportation, and utilities (see ■), finance, insurance, and real estate plus information (see ■), other service-providing sectors (see ■), and government (see ■).

In 2021 Q3, the combined contribution to GDP growth from private goods-producing industries and trade, transportation, and utilities is -2.4 percentage points, following a subtraction of 0.1 percentage point in 2021 Q2, and compared to virtually no contribution in 2019 Q4. The group of private service-providing industries that include finance, insurance, real estate, as well as the information industry contributed 1.4 percentage points in 2021 Q3, contributed 2.2 percentage points in 2021 Q2, and contributed 1.2 percentage points in 2019 Q4.

Other private services-providing industries, which are wide-ranging and described above, contributed 2.7 percentage points to real GDP growth in 2021 Q2, following a contribution of 4.1 percentage points in 2021 Q2, and compared to a contribution of 0.1 percentage point in 2019 Q4. Combined federal, state, and local government contributed 0.6 percentage point in 2021 Q3, contributed 0.4 percentage point the prior quarter, and contributed 0.6 percentage point in 2019 Q4, prior to the pandemic.

Real GDP Growth by Industry Group

percentage point contribution to GDP growth



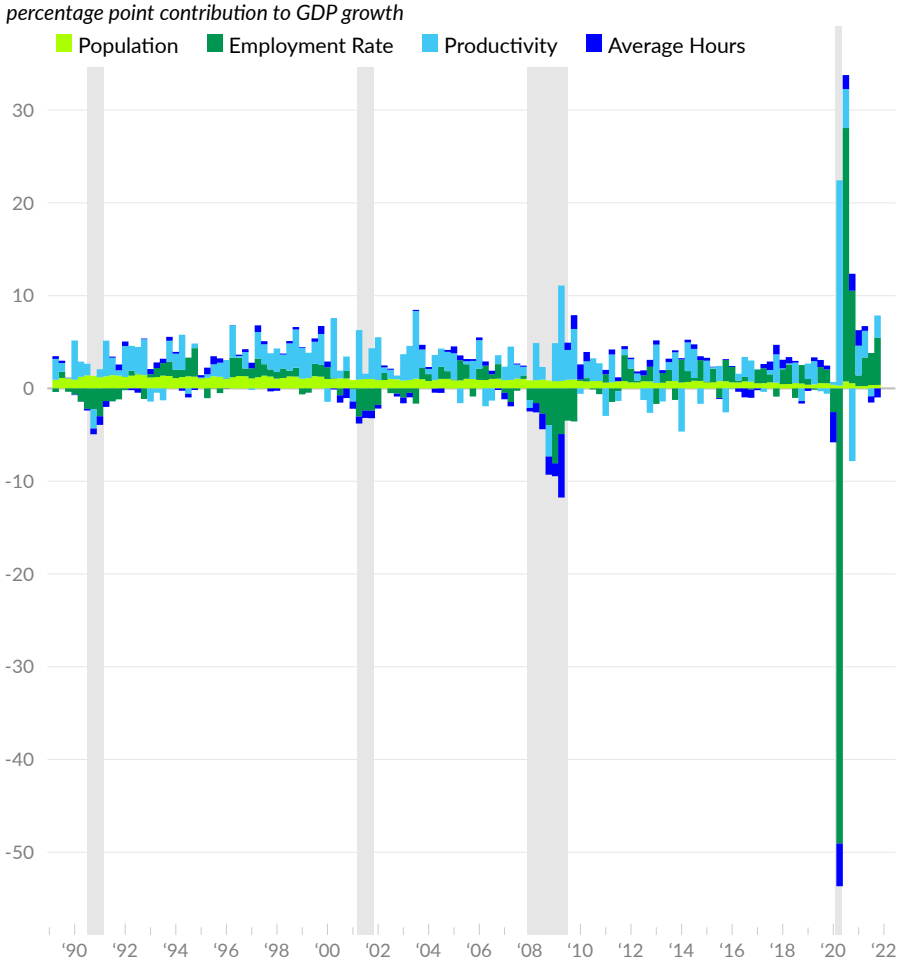
Source: Bureau of Economic Analysis

Changes to GDP can also be assigned to changes in **household inputs**: population (see), employment rates (see), average hours worked (see), and total economy productivity (see).

In 2021 Q4, population growth contributed 0.38 percentage point to annualized GDP growth, and, for comparison, gained 0.56 percentage point in 2019 Q4. Changes in the employed share of the population contributed 5.07 percentage points in the latest quarter, and gained 1.48 percentage points in the fourth quarter of 2019. Changes in average hours worked subtracted 0.97 percentage point from GDP growth in the latest quarter and gained 0.42 percentage point in 2019 Q4. Lastly, productivity contributed 2.41 percentage points to GDP growth in 2021 Q4, compared to a reduction of 0.57 percentage point in 2019 Q4.

Real GDP Growth by Household Inputs

percentage point contribution to GDP growth



Source: Author's Calculations

Components of Economic Growth

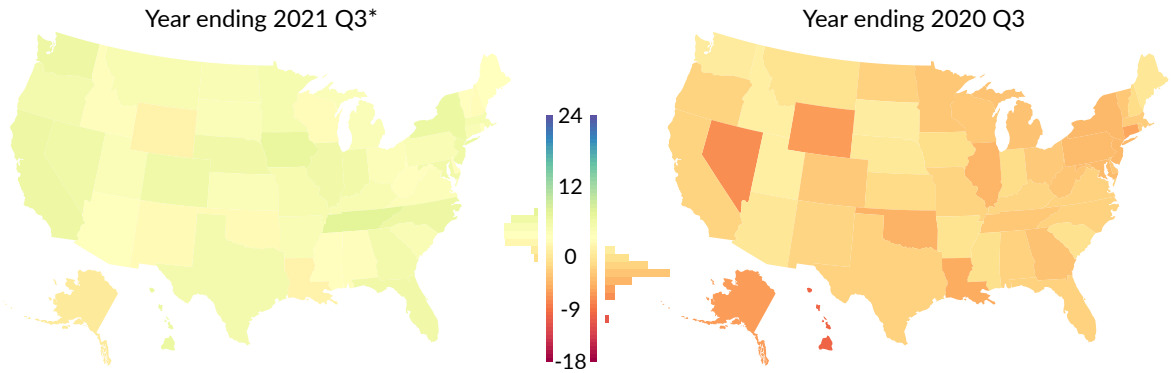
annualized percentage point contribution to real GDP/GDI growth — *moving averages*

	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	3-year	10-year	30-year
Gross Domestic Product	6.9	2.3	6.7	6.3	4.5	2.7	2.5	2.6
Consumer Spending	2.25	1.35	7.92	7.44	2.26	1.93	1.72	1.88
Durable Goods	0.14	-2.52	1.01	3.50	0.10	0.66	0.52	0.49
Non-durable Goods	-0.02	0.30	1.98	2.19	-0.17	0.74	0.47	0.39
Services	2.12	3.57	4.93	1.75	2.34	0.54	0.74	1.00
Gross Investment	5.15	2.05	-0.65	-0.37	4.01	0.95	0.93	0.75
Non-residential	0.28	0.22	1.21	1.65	1.57	0.35	0.52	0.58
Residential	-0.03	-0.38	-0.60	0.60	1.34	0.19	0.20	0.08
Change in inventories	4.90	2.20	-1.26	-2.62	1.10	0.41	0.21	0.10
Government	-0.51	0.17	-0.36	0.77	-0.09	0.27	0.10	0.21
Federal	-0.27	-0.35	-0.38	0.78	-0.22	0.16	0.01	0.07
State and Local	-0.24	0.52	0.02	-0.01	0.14	0.11	0.09	0.14
Net Exports	0.00	-1.26	-0.18	-1.56	-1.65	-0.43	-0.28	-0.23
Exports	2.43	-0.59	0.80	-0.30	2.07	-0.08	0.19	0.44
Imports	-2.43	-0.68	-0.99	-1.26	-3.73	-0.35	-0.48	-0.67
Goods and TTU	–	-2.39	-0.11	2.28	0.65	0.30	0.66	0.87
Manufacturing	–	-0.17	0.63	0.95	0.38	0.22	0.22	0.38
Construction	–	-0.62	0.28	0.25	0.46	0.03	0.08	0.01
Retail Trade	–	-0.91	-0.97	0.96	0.01	0.03	0.11	0.18
FIRE+	–	1.36	2.23	2.11	1.55	1.05	0.76	0.78
Other Services	–	2.73	4.14	1.80	2.12	0.85	0.78	0.67
Education & Healthcare	–	0.28	0.52	-0.09	0.48	0.17	0.18	0.19
Professional & Business	–	1.54	1.48	1.55	1.55	0.67	0.52	0.39
Information	–	0.44	1.30	0.79	0.12	0.43	0.35	0.27
Government	–	0.60	0.42	0.12	0.15	0.13	0.05	0.10
Population	0.38	0.37	0.25	0.25	0.56	0.44	0.60	0.90
Employment Rate	5.07	3.45	3.09	1.15	9.97	0.32	0.66	0.14
Average Hours	-0.97	-0.67	0.51	1.67	1.83	-0.23	0.10	0.01
Productivity	2.41	-0.85	2.87	3.21	-7.83	2.18	1.11	1.56
Gross Domestic Income	–	5.8	4.3	6.3	19.6	3.1	2.6	2.7
Labor	–	2.29	2.54	-0.02	7.53	1.61	1.37	1.36
Profit	–	-0.07	5.74	1.84	-1.03	1.22	0.74	0.82
Depreciation	–	0.92	0.63	0.33	0.63	0.51	0.42	0.43
Indirect Taxes	–	2.71	-4.63	4.17	12.51	-0.22	0.04	0.13

Source: Bureau of Economic Analysis and Author's Calculations

Real GDP Growth by State

percentage point change in real GDP



Source: Bureau of Economic Analysis

*For the year ending 2021 Q3, no states had real GDP growth of more than ten percent, 16 states had real GDP growth between five and ten percent, 35 states had less than five percent GDP growth, and no states had negative GDP growth.

Real GDP Growth by State

quarterly growth at seasonally adjusted annualized rate | *total growth, 2021 Q3*

	2021 Q3	'21 Q2	'21 Q1	'20 Q4	'20 Q3	1-year*	3-year	10-year
United States	2.3	6.7	6.3	4.5	33.8	4.9	4.8	22.7
Pacific	2.9	7.9	10.7	1.7	33.2	5.8	7.8	37.2
Washington	2.7	8.2	8.9	3.5	30.8	5.8	10.4	47.7
California	2.9	8.1	11.7	1.2	33.6	5.9	8.2	38.1
Oregon	3.5	6.0	7.4	2.5	35.9	4.8	5.0	29.9
Hawaii	6.0	8.9	5.2	4.4	34.5	6.1	-5.8	7.0
Alaska	-0.6	1.8	-4.5	4.0	27.6	0.2	-6.0	-8.2
West South Central	2.6	5.8	3.4	5.3	36.0	4.2	4.5	28.4
Texas	3.5	6.4	3.9	5.6	35.6	4.8	6.2	36.2
Oklahoma	1.0	3.5	-0.4	5.0	38.8	2.2	-0.1	19.8
Arkansas	0.7	4.2	7.2	4.8	38.1	4.2	4.5	12.5
Louisiana	-2.7	4.0	0.7	3.1	35.7	1.2	-4.1	-3.1
Mountain	2.0	6.4	4.5	3.6	32.8	4.1	6.2	26.3
Utah	2.7	6.3	4.0	2.4	30.8	3.8	10.0	40.0
Colorado	2.3	7.2	7.3	5.3	29.0	5.5	7.2	35.3
Idaho	-1.0	4.0	7.4	1.1	38.6	2.8	7.9	31.8
Arizona	3.2	5.6	0.8	3.5	32.5	3.2	6.5	26.2
Nevada	2.6	9.7	6.2	4.0	45.3	5.6	2.2	16.8
Montana	-0.6	5.5	11.2	2.0	30.8	4.4	3.7	16.5
New Mexico	-0.5	5.3	0.8	3.3	30.8	2.2	4.9	9.3

continued on next page . . .

	2021 Q3	'21 Q2	'21 Q1	'20 Q4	'20 Q3	1-year*	3-year	10-year
continued from previous page . . .								
Wyoming	-1.5	2.3	3.7	1.2	28.9	1.4	-3.2	-7.0
South Atlantic	2.9	6.2	6.1	4.4	31.3	4.9	4.8	20.9
Florida	3.7	6.7	7.5	3.4	32.6	5.3	6.5	29.4
Georgia	3.3	6.0	6.9	4.1	30.4	5.1	5.6	29.3
South Carolina	1.6	6.1	5.1	4.4	39.1	4.3	5.9	24.6
North Carolina	2.4	6.2	9.5	5.5	34.8	5.9	5.7	19.4
District of Columbia	3.9	7.2	-1.6	5.5	18.6	3.7	2.5	13.7
Maryland	1.8	6.1	8.9	4.2	27.8	5.2	1.5	12.2
Virginia	2.8	5.8	1.4	5.2	29.2	3.8	3.6	11.6
West Virginia	-0.6	7.3	1.1	4.1	33.3	3.0	-1.0	2.9
Delaware	4.7	2.8	-3.6	8.1	27.1	2.9	4.7	2.5
West North Central	0.8	6.2	5.8	6.7	35.4	4.8	4.3	17.5
North Dakota	-3.3	5.5	10.1	4.6	26.9	4.1	2.2	39.9
Nebraska	0.8	2.9	6.4	11.8	37.1	5.4	7.5	22.4
Iowa	0.5	7.7	8.6	9.3	38.1	6.5	5.9	21.1
Kansas	-0.3	6.1	3.5	6.2	39.2	3.8	4.0	17.4
Minnesota	1.8	6.5	5.3	5.6	33.9	4.8	2.3	16.9
South Dakota	-0.8	4.2	6.3	5.9	33.1	3.9	4.9	14.4
Missouri	1.6	6.7	4.7	5.3	34.7	4.5	4.7	11.3
Middle Atlantic	2.5	7.2	6.2	6.1	31.3	5.5	3.7	16.2
New York	2.2	8.1	7.1	6.8	28.9	6.0	4.2	19.2
Pennsylvania	2.2	5.9	3.0	5.2	34.8	4.1	2.2	13.0
New Jersey	3.7	6.4	7.9	5.1	33.3	5.8	4.2	12.6
East South Central	1.8	5.3	7.3	5.6	43.8	5.0	4.3	15.4
Tennessee	3.1	5.6	13.4	7.6	51.2	7.4	6.2	24.5
Kentucky	1.1	6.5	5.5	4.7	40.8	4.4	4.3	12.4
Alabama	1.3	4.1	2.4	3.5	36.0	2.8	1.8	9.6
Mississippi	0.2	4.5	2.0	5.0	43.1	2.9	2.6	6.0
New England	2.6	7.1	3.8	3.5	35.2	4.2	3.2	13.5
Massachusetts	3.7	8.0	6.1	1.4	35.2	4.8	5.1	20.5
New Hampshire	-3.3	5.6	2.5	5.3	40.0	2.5	3.3	15.6
Maine	1.7	5.5	1.3	3.8	37.2	3.1	5.6	14.4
Rhode Island	2.2	7.5	-2.9	6.0	31.6	3.1	1.7	3.3
Vermont	0.4	6.5	0.9	3.6	43.0	2.8	0.7	3.3
Connecticut	2.7	5.9	1.8	6.8	33.0	4.3	-0.8	3.3
East North Central	0.8	6.4	5.2	5.1	36.9	4.4	2.1	13.3
Indiana	0.2	6.1	9.4	5.0	43.1	5.2	4.5	17.9
Ohio	0.9	5.2	3.5	5.5	35.7	3.8	3.4	14.9
Michigan	-0.3	8.3	2.8	5.0	39.8	3.9	0.2	14.2
Wisconsin	-0.2	5.7	1.2	3.6	38.8	2.6	1.4	11.5
Illinois	1.9	6.8	7.7	5.6	32.9	5.5	1.5	10.3

Source: Bureau of Economic Analysis

Financial Accounts

The Federal Reserve report transactions and levels of financial assets and liabilities in the US **financial accounts**. This includes balance sheets for households, businesses, and governments. Sector-specific data are covered in the section of the chartbook that corresponds to the sector and overall financial activities of the US are discussed in this section.

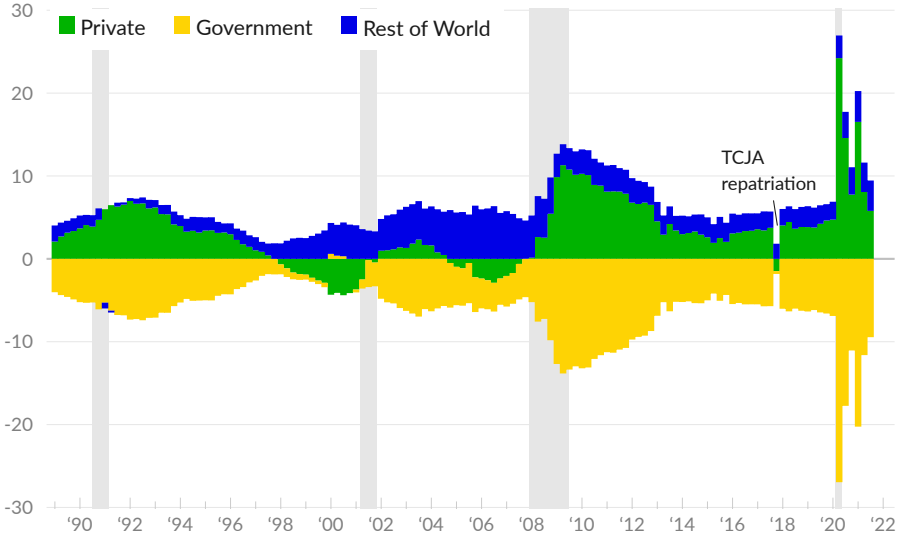
Sectoral Balances

A high-level overview of US financial activities can be provided by dividing the world into three sectors: the US private sector (see), the US government (see), and the rest of the world (see), then examining the net lending and borrowing between the groups, which must sum to zero at an aggregate level. That is, if one sector is running a deficit, another sector must be running a surplus.

A sector runs a surplus in a given accounting period when its aggregate income is higher than its outlays. When this occurs the sector becomes a lender of the savings created by having more income than expenses. Likewise, if a sector spends more than it takes in, it borrows the difference. Therefore, when the government sector runs a deficit and is a net borrower, it is creating a surplus for other sectors because it is taking in less income through taxes than it is creating through spending.

Sectoral Financial Balance

net lending (+) or borrowing (-), NIPA basis, by sector, as share of GDP



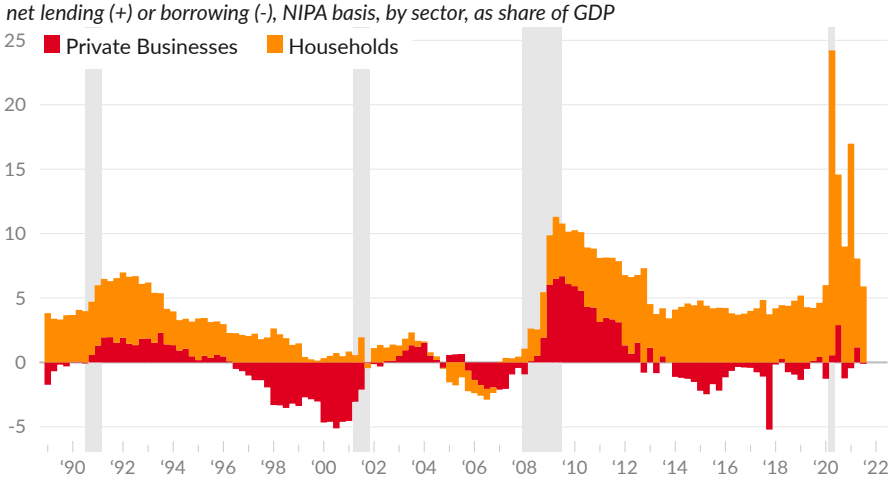
Source: Bureau of Economic Analysis

In 2021 Q3, the US private sector was a net lender (running a surplus) of the equivalent of 5.8 percent of GDP, substantially above the 4.1 percent surplus in 2019. The rest of the world was a net lender to the US to the equivalent of 3.7 percent of GDP in 2021 Q3, compared to 2.3 percent in 2019. Balancing these transactions, the government (federal, state, and local combined) was a net borrower (running a deficit) of the equivalent of 9.5 percent of GDP in 2021 Q3, compared to 6.4 percent in 2019.

Breaking out the two main categories in the private sector, households were net lenders (ran a surplus) of the equivalent of 5.9 percent of GDP in 2021 Q3 (see ■), while private businesses–corporate and noncorporate–were net borrowers of the equivalent of 0.1 percent of GDP (see ■). In 2019, households were net lenders of 4.4 percent, and private businesses were net borrowers of 0.3 percent.

Domestic Private Sector Financial Balance

net lending (+) or borrowing (-), NIPA basis, by sector, as share of GDP



Source: Bureau of Economic Analysis

Liabilities

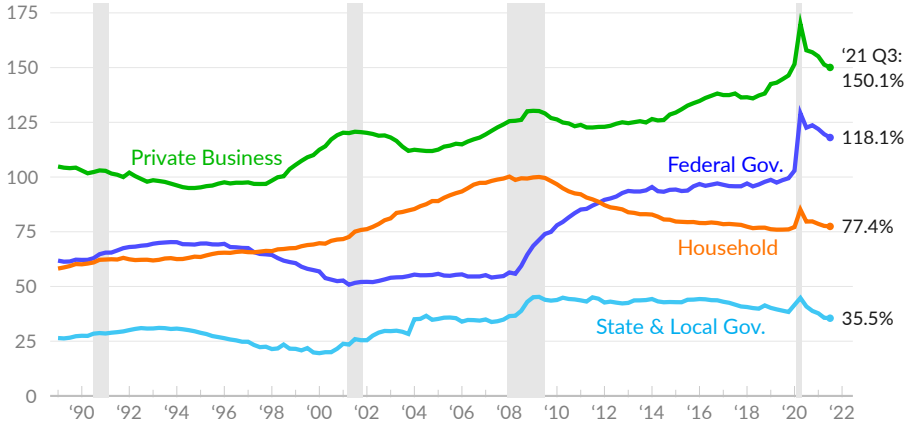
Total liabilities is the outstanding debt at a point in time. While the vast majority of US borrowing comes from US lending, that is the net result on balance sheets is zero, it is still useful to consider how total liabilities vary by major sector and over time.

Private business liabilities, corporate- and non-corporate, total $34.8 trillion in the third quarter of 2021, equivalent to 150.1 percent of GDP (see —). In 2019, business liabilities were equivalent to 144.2 percent of GDP, and during the 1990s they were 99.6 percent of GDP, on average. Private household and nonprofit liabilities are equivalent to 77.4 percent of GDP in 2021 Q3 (see —), 76.0 percent in 2019, and 64.2 percent in the 1990s.

Federal government liabilities are equivalent to 118.1 percent of GDP in 2021 Q3 (see —), compared to 98.6 percent of GDP in 2019 and 66.2 percent of GDP during the 1990s. Combined state and local government liabilities total 35.5 percent of GDP in 2021 Q3 (see —), 39.3 percent in 2019, and 26.8 percent in the 1990s.

Total Liabilities by Sector

share of GDP, percent



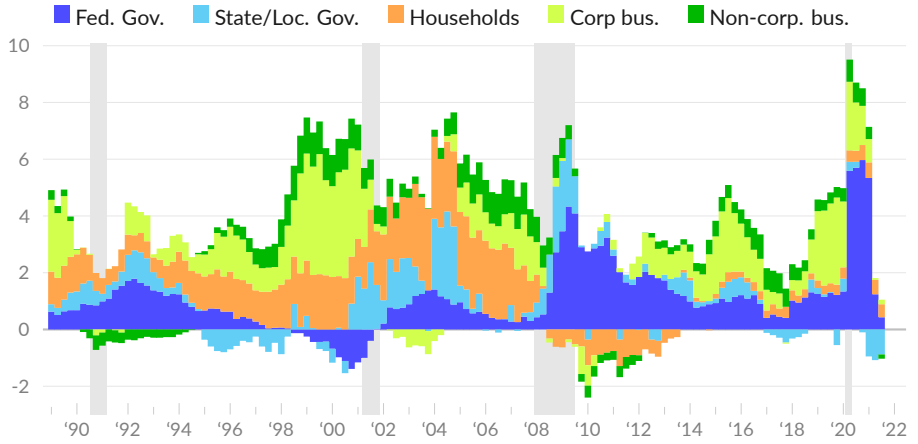
Source: Federal Reserve, Bureau of Economic Analysis

Calculating the contribution of different sectors to the **total change in borrowing** can highlight risks to economic activity. For example, the tech bubble of the late 1990s and early 2000s shows up as a large increase in corporate borrowing. The housing bubble from the 1990s to 2007 shows up as an increase in household borrowing. Government borrowing increased following the collapse of the housing bubble, in an effort to compensate for the massive fall in wage income. Keep in mind, however, that the vast majority of liabilities in the domestic economy are to other domestic parties.

Total domestic liabilities were virtually unchanged over the year ending 2021 Q3, after adjusting for inflation. Federal government borrowing contributed 0.43 percentage point to the total (see), while the state and local government subtracted 0.88 percentage point (see). Households and nonprofits contributed 0.46 percentage point to total annual growth (see), corporate businesses contributed 0.16 percentage point (see), and non-corporate businesses subtracted 0.15 percentage point (see).

Real Debt Growth

contribution to one-year percent change in liabilities, adjusted by PCE price deflator



Source: Federal Reserve, Bureau of Economic Analysis

Real Debt Growth

contribution to one-year real growth

	2021 Q3	'21 Q2	'21 Q1	'20 Q4	'20 Q3	*moving averages* 3-year	10-year	30-year
Total	0.02	0.74	6.19	8.40	8.70	4.83	3.38	3.89
Corporate Business	0.16	0.06	0.82	1.38	1.70	1.66	1.26	1.07
Debt Securities	-0.12	-0.14	0.46	0.68	0.66	0.28	0.36	0.35
Loans	-0.05	-0.29	-0.14	0.34	0.40	0.36	0.19	0.09
Non-corporate Business	-0.15	-0.00	0.43	0.62	0.70	0.40	0.38	0.45
Commercial Mortgages	-0.02	-0.03	0.03	0.07	0.08	0.05	0.05	0.07
Household & Nonprofit	0.46	0.51	0.55	0.53	0.39	0.38	0.09	0.89
Home Mortgages	0.29	0.27	0.38	0.40	0.31	0.23	-0.11	0.58
Consumer Credit	0.03	0.00	-0.07	-0.07	-0.04	0.08	0.17	0.21
State & Local Government	-0.88	-1.08	-0.95	-0.10	0.21	-0.15	0.07	0.37
Federal Government	0.43	1.24	5.34	5.97	5.70	2.54	1.59	1.11

Source: Federal Reserve, Bureau of Economic Analysis

Wealth

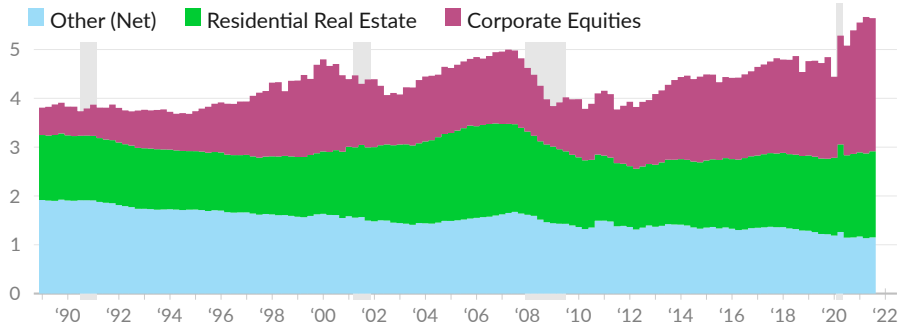
Net wealth is the sum of domestic tangible assets, such as land (excluding public land), structures, and equipment, minus foreign financial claims on these assets, plus domestic claims on foreign assets. US wealth totals $130.9 trillion in 2021 Q3, equivalent to $395,000 per capita, or a 5.64 multiple of GDP (564.3 percent of GDP.)

The ratio of US wealth to GDP has increased 178.8 percentage points since 1989, driven largely by increases in the market value of corporate equities and residential real estate. The market value of corporate equities was equivalent to a 2.73 multiple of GDP in 2021 Q3, compared to 1.70 in 1999–2000, during the tech bubble, and to 0.60 in 1989 (see ■). The market value of domestic residential real estate was equivalent to a 1.76 multiple of GDP in 2021 Q3, compared to 1.85 in 2005–2007, during the housing bubble, and 1.34 in 1989 (see ■).

On a net basis, all other US wealth is equivalent to a 1.15 multiple of GDP in 2021 Q3 and a 1.91 multiple in 1989 (see ■). The other category includes tangible assets of noncorporate businesses and governments, and domestic financial claims on foreign assets. The category also subtracts foreign financial claims on US assets, for example foreign holdings of US corporate equities and Treasury bonds.

Net Wealth to GDP Ratio

total US wealth divided by GDP



Source: Federal Reserve

The tangible assets of each major domestic sector are show below, along with the summary of financial claims between the rest of the world and the US.

Derivation of US Net Wealth

share of GDP, percentage points

	2021 Q3	'21 Q2	'21 Q1	'20 Q3	2019	2005 –'07	1989
US Net Wealth	564.3	566.7	555.3	508.0	477.5	484.2	385.5
Households & Nonprofits	209.6	206.2	204.0	200.3	184.0	217.7	169.2
Noncorporate Businesses	74.5	73.2	72.6	72.1	67.5	72.1	71.1
Domestic Corporations	270.5	278.2	266.4	222.7	202.2	136.1	76.4
Federal Government	16.9	17.0	17.2	17.5	16.7	18.3	25.7
State & Local Government	57.5	57.3	57.5	58.2	55.5	48.8	41.9
Net Claims on ROW	-64.8	-65.1	-62.2	-62.7	-48.4	-8.8	1.2
US Claims on ROW	124.8	126.3	124.0	112.1	107.8	86.9	28.8
Less: ROW Claims on US	189.6	191.4	186.2	174.8	156.3	95.7	27.6

Source: Federal Reserve, Bureau of Economic Analysis

Investment

Investment is the exchange of a liquid asset, such as cash, for a less-liquid asset, such as a building.

Economic data use varying definitions of asset, for purposes of measuring investment. **Gross private fixed investment**, as measured in the national accounts, includes residential fixed investment, such as the construction and improvement of houses, apartment buildings, and other residential property (see ■), but does not include spending on durable goods, such as automobiles, appliances, or furniture.

Non-residential private fixed investment includes the construction and improvement of offices, warehouses, factories, and other commercial and industrial property (see ■), as well as purchases of equipment, software, and intellectual property products.

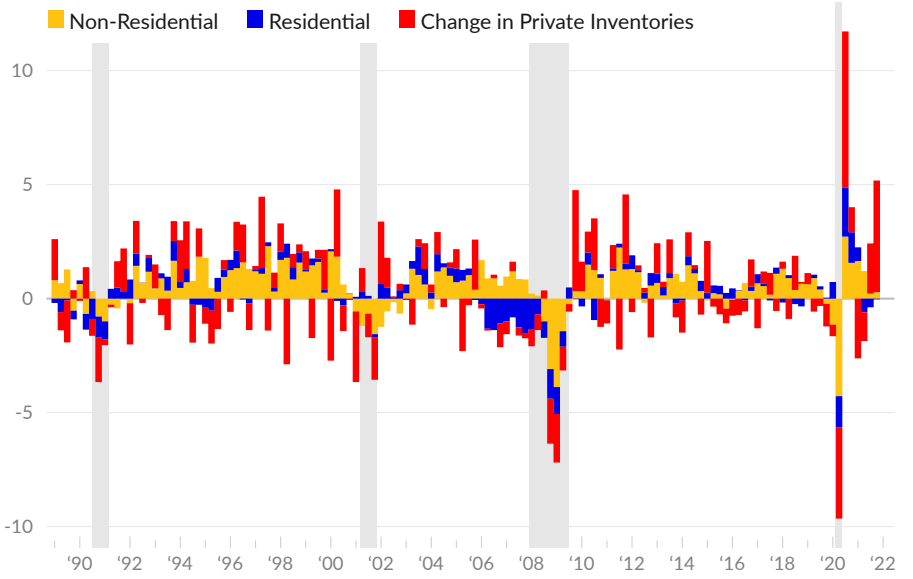
Additionally, the change in private inventories (see ■) at the end of the accounting period, whether intentional or unintentional, affects GDP growth in the period. Inventory investment is grouped in the national accounts with gross private investment, but is not fixed investment.

In the fourth quarter of 2021, private fixed investment, which does not include inventory investment, totals $4.3 trillion, equivalent to 17.7 percent of GDP. Non-residential (business) fixed investment totals $3.1 trillion, or 13.1 percent of DP, while residential fixed investment totals $1.1 trillion (4.6 percent of GDP).

During the quarter, private fixed investment contributed 0.25 percentage point to real GDP growth. Non-residential fixed investment contributed 0.28 percentage point, while residential fixed investment subtracted 0.03 percentage point. The change in private inventories contributed 4.90 percentage points.

Private Gross Investment

percentage point contribution to real GDP growth



Source: Bureau of Economic Analysis

Households

This section covers the household sector of the economy, including demographics, personal income and outlays, residential investment, household balance sheets, home ownership, housing, and poverty.

Demographics and Household Formation

The **total US population** is 329 million. The Census divides the population into those living in households (about 97 percent of the total) and those living in **group quarters**, such as prisons (1.5 million people), jails (750,000 people, of which 480,000 are pre-trial), nursing homes (1.3 million people), barracks (around 300,000), dormitories (around 2.6 million), group homes (300,000), and shelters (200,000). The numbers for group quarters populations are likely low estimates, as they are derived from older sources than the population estimate. The 2020 Census will provide detailed information on the exact share of each population in each category of living arrangement.

Among those living in **households**, roughly 74 million are children under the age of 18, 198 million are age 18 to 64, and 53 million are age 65 or older. These numbers and the group quarters populations do not sum to the total population because of differences in sources as well as some overlap between the two categories, particularly for those in school dormitories.

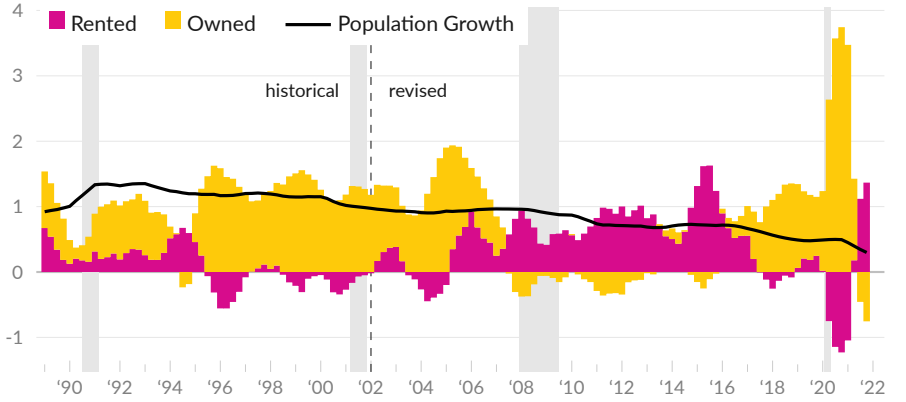
Household Formation

Household formation measures the change in occupied housing units, and should keep pace with population growth, all else equal. During the housing bubble, the home-ownership rate increased and household formation exceeded population growth. Following the collapse of the housing bubble, household formation was often below population growth and home ownership decreased as foreclosures converted homeowners into renters.

As of 2021 Q4, there are 127.4 million total occupied housing units in the US, of which 44.0 million (34.5 percent) are rented, and 83.5 million (65.5 percent) are owner-occupied. There was an average annual net total increase of 765 thousand housing units over the year ending 2021 Q4, the result of 1.7 million net new renter households and 963,000 net fewer owner-occupied households. Over the year ending 2021 Q4, the total number of occupied housing units increased by 0.6 percent, compared to an increase of 0.7 percent in 2021 Q3. Owner-occupied units subtracted 0.8 percent from total household formation on average over the year (see ■), compared to a contribution of 1.4 percent from rented units (see ■).

Household Formation by Type

one-year moving average of annual growth rates, percent



Source: Census Bureau, Housing Vacancies and Homeownership

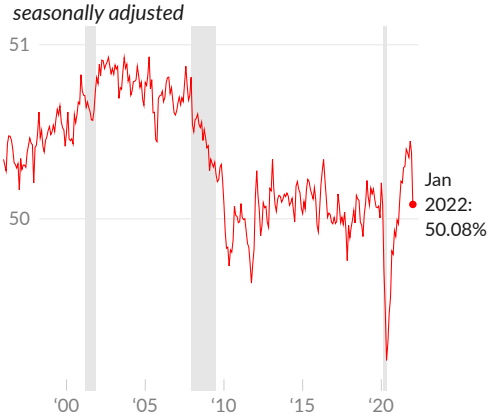
Headship Rate

Individual decisions about starting a household or living with family are influenced by economic conditions. The ratio of households to people age 16 or older is referred to as the aggregate headship rate.

Headship fell substantially following the collapse of the housing bubble and dropped rapidly during the COVID-19 pandemic as people moved in with family. The headship rate reached a low of 49.19 percent during May 2020, and is currently 50.08 percent, as of January 2022 (see —). In February 2020, the headship rate was 50.08 percent.

Aggregate Headship Rate

people age 16 or older, percent
seasonally adjusted



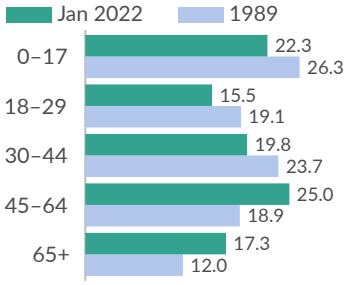
Source: Author's Calculations from CPS

Age

In discussions on demographics, **aging** is often described as a serious headwind to economic growth in major advanced economies. The increased share of many countries' population that is of retirement age means a smaller share are working and borrowing and a larger share are receiving pension benefits and lending to the financial system. These trends can be overcome by a workforce that is more efficiently able to provide goods and services. In part due to a shorter life-expectancy in the US, this problem is more pronounced in Japan and western Europe, but is still an important issue for the US.

Age

share of population, percent



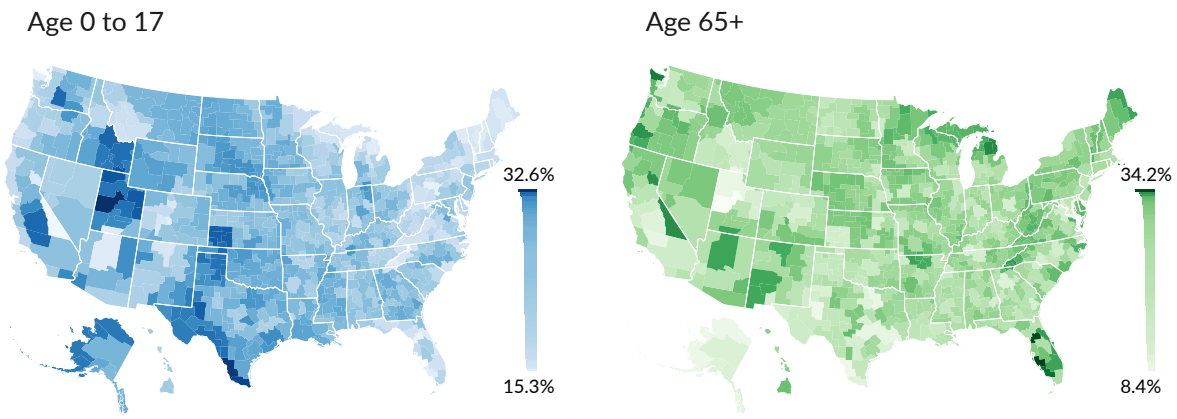
Source: Author's Calculations from CPS

The CPS civilian non-institutionalized population is 326 million in the year ending January 2022, with growth of 0.2 percent over the past year, though other Census population growth estimates are around 0.6 percent. By age, 22.3 percent are under the age of 18 and 17.3 percent are age 65 or older. In 1989, the US population was 244 million, with 26.3 percent under 18 and 12.0 percent 65 or older. The pre-retirement age (45–64) share of the population has increased to 25.0 percent in the year ending January 2022 from 18.9 percent in 1989.

Mapping American Community Survey data to commuter zones gives insight on the age of the population in local labor markets. In 2019, among commuter zones with a population of at least 100,000, the commuter zone (listed by largest city) with the highest share of its population under 18 is Provo, UT (32.6 percent), followed by Laredo, TX (31.9 percent), and Brownsville, TX (31.1 percent). The commuter zones with lowest share of the local population under 18 were Sarasota, FL (15.3 percent), Ocala, FL (16.4 percent), and State College, PA (16.7 percent).

The age 65 or older population is disproportionately concentrated in Florida. The commuter zone with the highest share of its population over 64 is Sarasota, FL (34.2 percent), followed by Ocala, FL (33.6 percent), and Cape Coral, FL (30.4 percent). The commuter zones with lowest local over-64 population share were Provo, UT (8.4 percent), Laredo, TX (10.1 percent), and Odessa, TX (10.3 percent).

Age Group Share of Commuter Zone Population, 2019



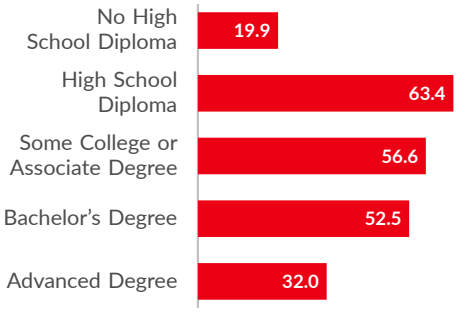
Source: American Community Survey, Dorn

Education

Education is central in many discussions of the future of the US economy. Though very expensive in forgone years of earnings and often also expensive in tuition and other costs, education typically provides individuals with higher earnings. In response to changing job opportunities from globalization and other policy decisions, household spending on education has increased considerably, resulting in a much **more educated population**.

Over the year ending January 2022, 84.4 million people over the age of 25, or 37.6 percent of the total, have at least a bachelor's degree, with 32.0 million of those, or 14.3 percent of the total, holding an advanced degree such as a master's degree, medical or law degree, or PhD. An additional 56.6 million people have some college coursework but no degree or have an associate degree. A total of 63.4 million have a high school diploma but no college, while 19.9 million have no high school diploma.

Highest Level of Education
age 25+ population, in millions, January 2022

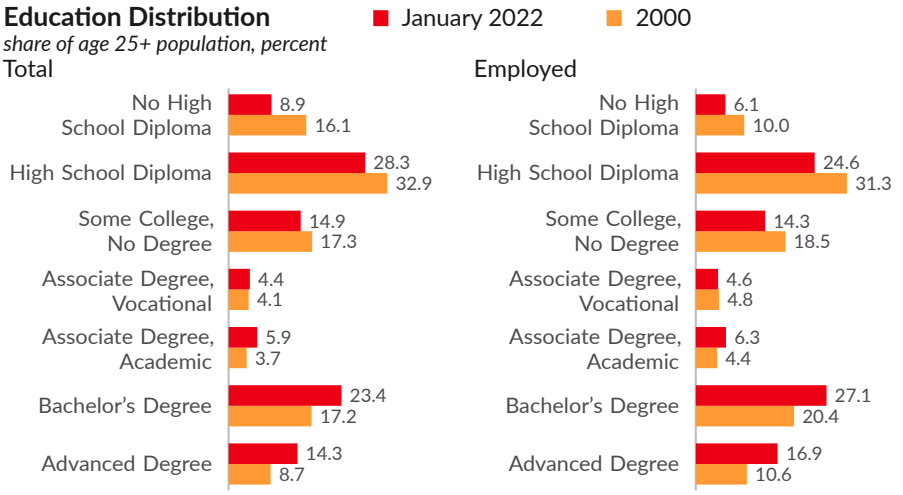


Source: Author's Calculations from CPS

The share of the population with a bachelor's degree or advanced degree increased by 11.8 percentage points since 2000. The increase is even more pronounced among those who are employed; 44.0 percent have a college degree or advanced degree in January 2022, an increase of 13.1 percentage points since 2000.

Increased household spending on education may be a response to a weak labor market and lack of worker bargaining power. Behind the increase in education is a large increase in student debt. The burden of this debt is severe for many, as the more-educated workforce is not necessarily receiving the historical wage premium from education.

Education Distribution
share of age 25+ population, percent



Source: Author's Calculations from CPS

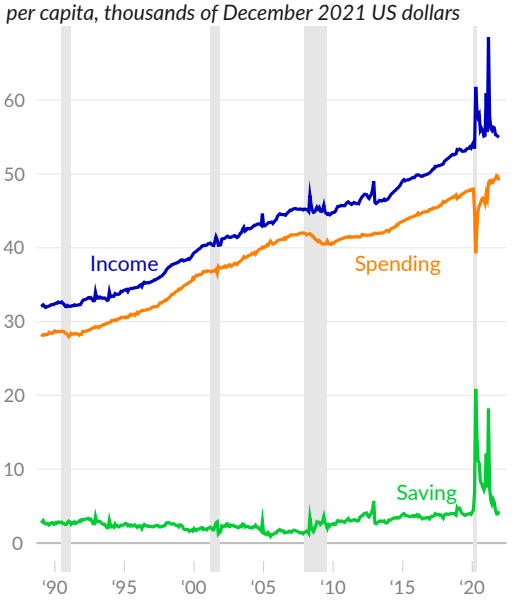
Income, Spending, and Saving

The next subsections cover household and personal income, spending, and saving. This subsection offers an overview, with mean and median per capita measures.

Disposable personal income, or after-tax income to persons, totals $18.2 trillion, on an annualized basis, in December 2021, equivalent to $54,960 per person (see —). Personal consumption expenditures, or consumer spending, totals $16.3 trillion in December 2021, or $49,131 per person (see —). Saving, calculated as after-tax income minus consumer spending, totals $1.4 trillion, or $4,324 per person (see —).

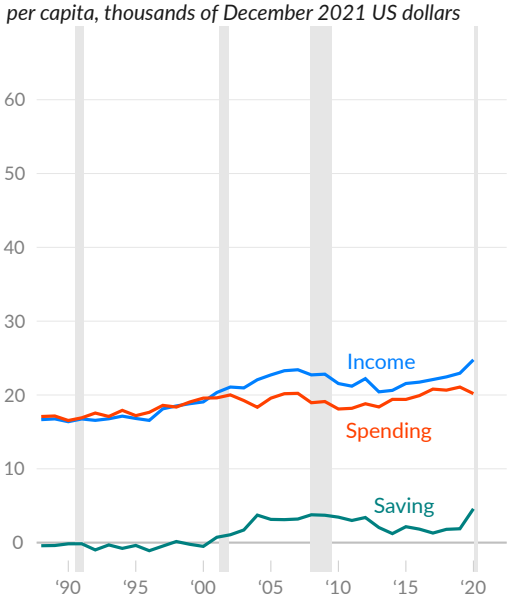
The Consumer Expenditure Survey provides data on typical income, spending, and saving, measured as the median rather than the average. Median income, spending, and saving are not affected by the activities of the highest income families, which skew mean or average data. Saving is calculated as after-tax income minus spending, excluding spending on pensions (which count as saving). The middle quintile, or 20 percent, of households, by total money income, have average per person after-tax income of $24,763 in 2020 (see —). Spending for these households is $20,185 per person (see —), and saving is $4,578 per person (see —).

Average Income, Spending, and Saving
per capita, thousands of December 2021 US dollars



Source: Bureau of Economic Analysis

Median (Middle Quintile Average)
per capita, thousands of December 2021 US dollars



Source: Consumer Expenditure Survey

Average Income, Spending, and Saving
per capita, annualized, December 2021 US dollars

	Dec '21	Nov '21	Oct '21	Sep '21	Dec '20	Dec '18
Personal income	63,234	63,322	63,407	63,456	62,535	60,281
Personal current taxes	8,274	8,221	8,185	8,128	7,321	6,963
— After-tax income	54,960	55,101	55,222	55,327	55,215	53,318
— Consumer spending	49,131	49,653	49,776	49,357	45,999	46,699
— Personal saving	4,324	3,941	3,934	4,461	7,756	4,821

Source: Bureau of Economic Analysis

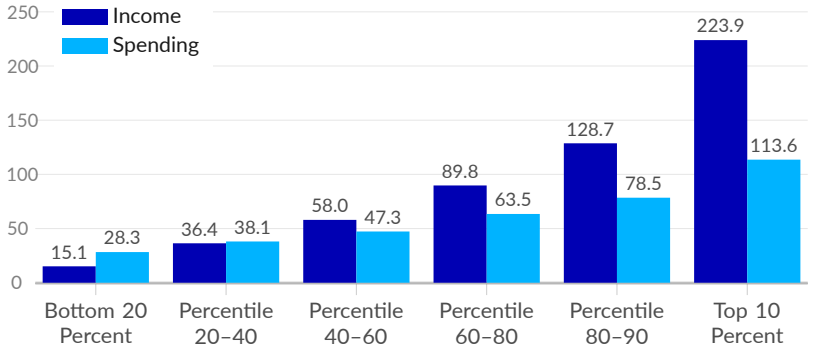
Distribution by Income

Income varies massively by household. While some spending is non-discretionary, spending increases with income. The bottom 40 percent of households, by total money income, have expenses exceeding after-tax income. This includes retirees who are dissaving and low-income families taking on debt to cover expenses. Meanwhile, the top ten percent of households save nearly half of their income.

In 2020, after-tax household income (see ■) ranges from $15,100 for the bottom 20 percent to $223,900 for the top 10 percent. Spending, excluding pensions, (see ■) ranges from $28,300 for the bottom 20 percent by income, to $113,600 for the top 10 percent income group.

Household Income and Spending, by Income Percentile

thousands of 2020 dollars



Income is after taxes; spending does not include spending on pensions
Source: Consumer Expenditure Survey

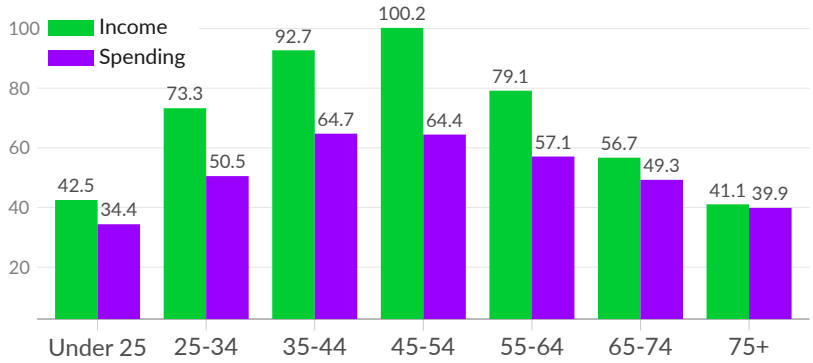
Distribution by Age

Income and consumer spending both vary by age and peak around age 45 to 54. The oldest age group, households where the reference person is 75 or older, have income below their expenses. Likewise, the youngest group, with the reference person younger than 25, have income around or below expenses.

In 2020, after-tax household income (see ■) ranges from $41,100 for the oldest age group to $100,200 for the 45–54 age group. Spending, excluding pensions, (see ■) ranges from $34,400 for the youngest age group to $64,700 for the 35–44 age group.

Household Income and Spending, by Age of Reference Person

thousands of 2020 dollars



Income is after taxes; spending does not include spending on pensions
Source: Consumer Expenditure Survey

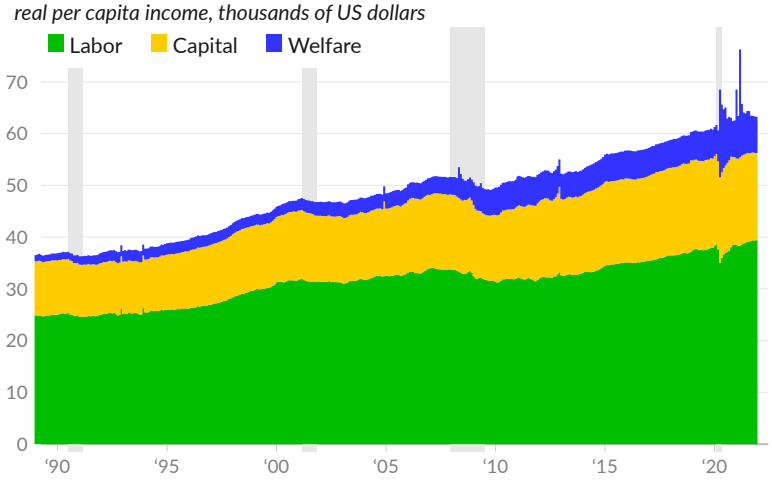
Income to Persons

Personal income includes labor income (see ■), measured as compensation of employees, capital income (see ■), measured as the sum of proprietor income, rental income, and dividend and interest income, and welfare income (see ■), measured primarily as government social benefits less contributions to social insurance.

In December 2021, annualized personal income is $63,234 per capita. Labor income totals $39,415 per person; capital and proprietor income is $16,850 per person; and welfare or transfer income is $6,969 per person.

Personal Income

real per capita income, thousands of US dollars



Source: Bureau of Economic Analysis; Author

Personal Income by Source

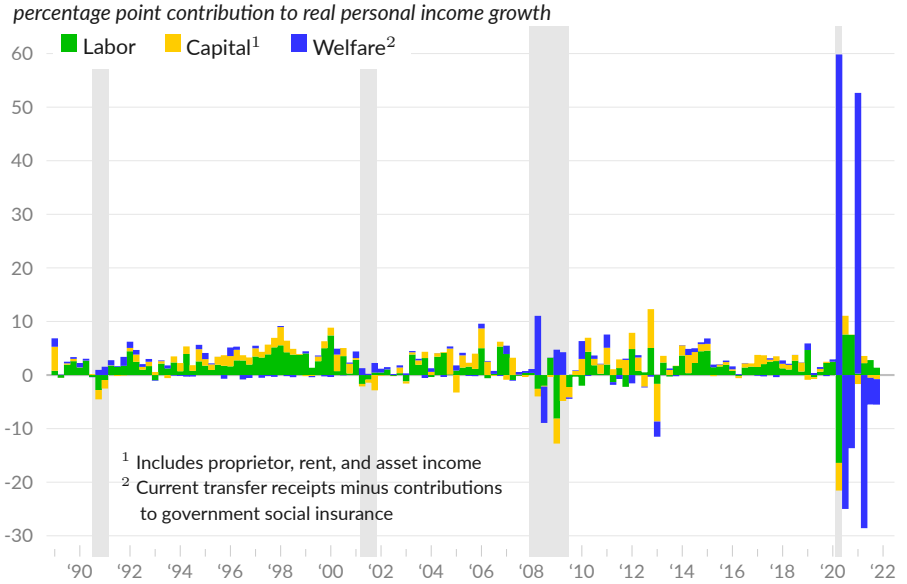
per capita, annualized, December 2021 US dollars

	Dec '21	Nov '21	Oct '21	Sep '21	Dec '20	Dec '18
Personal income	63,234	63,322	63,407	63,456	62,535	60,281
■ Labor	39,415	39,351	39,384	39,285	38,586	37,141
Wages and salaries	32,472	32,405	32,418	32,305	31,560	30,169
Supplements	6,943	6,946	6,965	6,981	7,026	6,972
■ Capital	16,850	16,936	16,990	17,009	16,894	17,726
Proprietors' income	5,523	5,630	5,666	5,706	5,165	5,408
Rental income	2,279	2,271	2,266	2,264	2,249	2,278
Personal interest income	5,008	5,009	5,018	5,016	5,158	5,504
Personal dividend income	4,040	4,026	4,041	4,023	4,322	4,536
■ Welfare	6,969	7,035	7,033	7,161	7,055	5,414
Social security	3,389	3,410	3,443	3,432	3,481	3,270
Medicare	2,582	2,566	2,557	2,553	2,617	2,522
Medicaid	2,394	2,400	2,405	2,406	2,171	1,961
Unemployment insurance	92	113	138	297	1,019	92
Veterans' benefits	518	512	508	504	480	411
Other	2,762	2,797	2,751	2,728	1,932	1,579
Less welfare contributions	-4,970	-4,964	-4,970	-4,960	-4,835	-4,598

Source: Bureau of Economic Analysis

Personal Income

percentage point contribution to real personal income growth



Source: Bureau of Economic Analysis

Aggregate real personal income decreased at an annualized rate of 4.15 percent in 2021 Q4. Labor income contributed 1.37 percentage points overall growth, capital income subtracted 0.77 percentage point, and welfare income subtracted 4.75 percentage points.

Personal Income by Source

percentage point contribution to real personal income growth

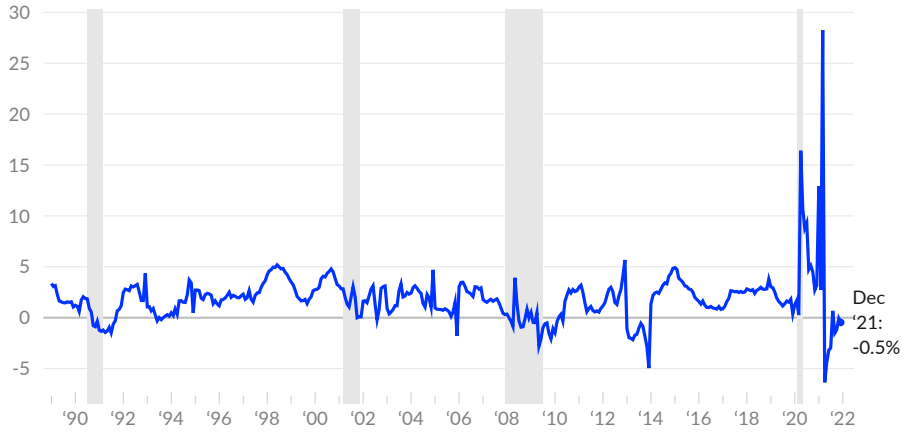
	2021 Q4	'21 Q3	'21 Q2	'21 Q1	'20 Q4	*moving averages* 3-year	10-year	30-year
Personal income	-4.15	-2.71	-25.02	50.98	-6.10	3.93	3.15	2.97
Labor	1.37	2.79	2.22	0.27	7.50	1.20	1.56	1.59
Wages and salaries	1.53	2.75	2.36	0.08	6.64	1.17	1.37	1.31
Supplements	-0.16	0.03	-0.14	0.19	0.86	0.03	0.19	0.28
Capital	-0.77	-0.52	1.34	-1.68	0.05	-0.15	0.65	0.75
Proprietors' income	-0.85	-0.10	1.74	-0.77	-0.74	0.07	0.15	0.29
Rental income	0.18	0.06	-0.19	0.00	-0.14	0.00	0.08	0.17
Personal interest income	-0.14	-0.46	-0.27	0.11	0.13	-0.15	0.11	0.04
Personal dividend income	0.05	-0.02	0.07	-1.02	0.79	-0.08	0.30	0.25
Welfare	-4.75	-4.97	-28.58	52.39	-13.65	2.89	0.94	0.63
Social security	-0.15	-0.13	-0.23	0.17	0.09	0.11	0.15	0.15
Medicare	0.15	0.01	-0.19	-0.35	-0.16	0.07	0.11	0.15
Medicaid	0.09	0.66	0.38	0.27	-0.29	0.22	0.17	0.14
Unemployment insurance	-4.45	-4.05	-1.53	6.27	-9.27	0.48	0.10	0.05
Veterans' benefits	0.08	0.07	0.03	0.03	0.03	0.06	0.05	0.03
Less welfare contributions	-0.13	-0.28	-0.23	-0.44	-0.73	-0.21	-0.28	-0.20

Source: Bureau of Economic Analysis

The Bureau of Economic Analysis report an inflation-adjusted one-year change in after-tax income per person (see —) of -0.5 percent in December 2021, -0.1 percent in November 2021, and 3.2 percent in December 2020. Over the past year, the measure has averaged 2.1 percent. During the three years before the COVID-19 pandemic, per capita after-tax income grew at an average annual rate of 2.3 percent.

After-Tax Income Growth

annual growth, per capita real disposable personal income, percent



Source: Bureau of Economic Analysis

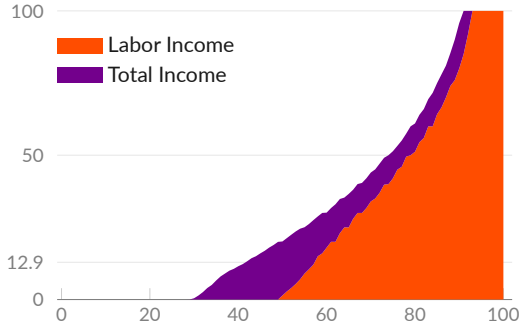
Distribution of Personal Income

Labor income, which includes wages and salaries as well as self-employment income, is the vast majority of personal income. Over calendar year 2020, 51 percent of people have any labor income (see ■). Only 43 percent of people have labor income above the single-person poverty threshold of $12,880.

Total income (see ■) reaches 73 percent of people in 2019. Total income includes after-tax labor income plus welfare and capital income. People who did not receive any income by the total income measure typically live with people who receive income.

Distribution of Personal Income, 2020

thousands of US dollars, by percentile



Source: CPS ASEC

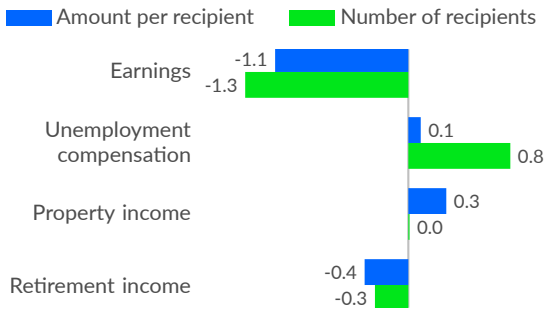
Contributions to Personal Income Growth

Annual data on personal income detail the number of people receiving various categories of income and the average payment. As a result, it is possible to match changes in aggregate personal income from changes in payments and changes in who is receiving payments.

In 2020, aggregate pre-tax personal income decreased by 1.2 percent after adjusting for changes in prices. Compared to 2019, many fewer people received earnings from work, while mean earnings fell as many were unemployed for part of the year. These changes were partially offset by unemployment insurance payments, as well as larger property income amounts.

Sources of Personal Income Growth, 2020

percentage point contribution to aggregate growth



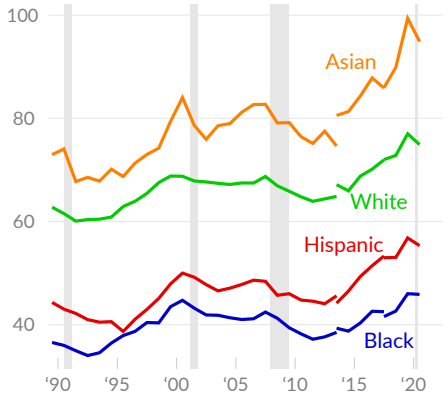
Source: Census Bureau

Household Income

Given massive variance in personal income, with half of the population receiving no market income, many people rely on the income of other members of their household for survival. Next, we discuss household income, which measures the combined income of all people in a given housing unit. Like personal income, household income is distributed very unevenly in the US.

Real Median Household Income

thousands of 2020 US dollars



Source: Census Bureau

Black median household income was $45,870 in 2020, compared to an inflation-adjusted equivalent of $46,005 in 2019 (see —). Non-Hispanic white median household income was $74,912 in 2020 and $77,007 in 2019 (see —). Hispanic (any race) median household income was $55,321 in 2020 and $56,814 in 2019 (see —). Asian median household income was $94,903 in 2020 and $99,400 in 2019 (see —).

Two values are shown for 2013 and 2017 to mark revisions to the survey design (2013) and the processing of survey data (2017). These data are not perfectly comparable over time.

Household Spending and Saving

The previous subsection examines money coming into households while this section covers money leaving households. Consumer spending includes household purchases of goods and services, certain spending for households, such as Medicare and Medicaid, and estimates for services furnished without payment. As an example of a special estimate, homeowners are considered to rent their homes to themselves.

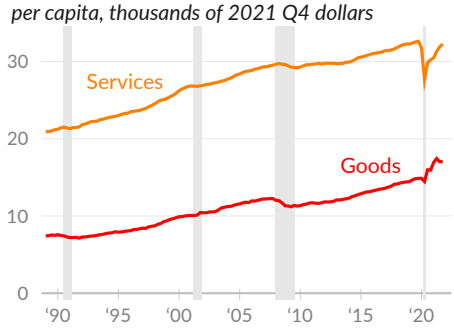
Over the past 30 years, increased consumer spending represents the majority of economic growth. Consumer spending usually increases when households have more income and falls when households have less income. This effect is visible in both the long-run and during the course of a business cycle, with consumer spending generally falling or slowing during a recession. During the COVID-19 pandemic, some categories of spending were lower as a result of business closures and restrictions.

Personal saving occurs when households have income in excess of their expenses. Savings are invested, often providing additional income, and are used for future expenses, such as costs incurred during retirement.

Spending

Consumer spending is comprised of two broad expenditure types: goods and services. Spending on goods includes durable goods (goods with a useful life of at least three years), such as cars, furniture, or recreational goods, and nondurable goods, such as groceries, clothing, and gasoline. Spending on services includes housing, health care, restaurants and bars, transportation services, financial services, and other services.

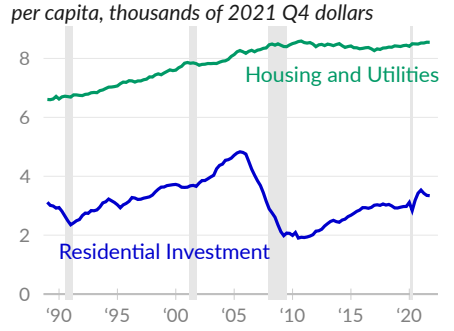
Expenditure Types
per capita, thousands of 2021 Q4 dollars



Source: Bureau of Economic Analysis

Total consumer spending is $16.3 trillion in 2021 Q4, compared to a price-adjusted $16.2 trillion in 2021 Q3 and $15.6 trillion in 2019 Q4. On a per person basis, consumer spending is $49,270 in 2021 Q4, of which $17,026 are spent on goods (see —) and $32,244 on services (see —). In the fourth quarter of 2019, before the pandemic, consumer spending on goods was $14,869 per person, and spending on services was $32,615 per person, after adjusting for inflation.

Shelter Costs
per capita, thousands of 2021 Q4 dollars



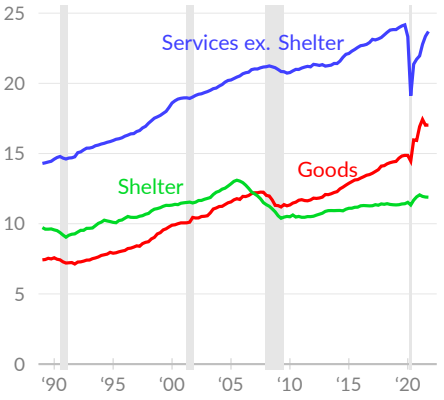
Source: Bureau of Economic Analysis

Within consumer spending on services, housing and utilities spending totals $8,548 on an annualized and per person basis in 2021 Q4 (see —) and $8,448 in 2019 Q4. Construction or improvement of housing is considered residential fixed investment, not consumer spending, but can be combined with spending to analyze patterns in shelter costs. In 2021 Q4, residential investment totals $3,341 per person (see —), compared to $2,975 in the pre-COVID data covering 2019 Q4.

The combined categories from the previous two charts cover spending on goods, spending on services other than shelter, and spending on housing, utilities, and residential construction. Including residential construction with other housing costs provides a more broad overview of household sector expenses.

Expenditure Types

per capita, thousands of 2021 Q4 dollars



Source: Bureau of Economic Analysis

Consumer spending on services other than housing and utilities totals $23,696 per person, on an annaulized basis, in 2021 Q4 (see —), compared to $23,351 in 2021 Q3, and $24,166 in 2019 Q4. Spending on non-housing services has decreased 1.9 percent since 2019 Q4.

Shelter costs, which combine housing, utilities, and residential fixed investment, are $11,889 per person in 2021 Q4 (see —), $11,901 in 2021 Q3, and $11,424 in 2019 Q4. Shelter spending peaked at $13,099 per person in the third quarter of 2005, during the housing bubble.

Expenditure Types

per capita, annualized, 2021 Q4 dollars

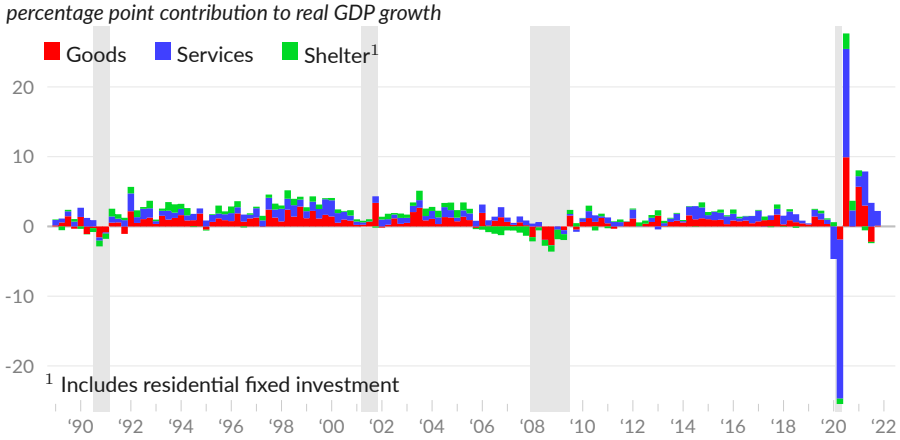
	2021 Q4	2019 Q4	2000 Q1	1989 Q1
Total	$49,270	47,531	35,877	28,030
— Goods	17,026	14,869	9,897	7,426
Motor Vehicles and Parts	2,095	2,005	1,722	1,296
Furniture and HH Equipment	1,426	1,224	588	407
Recreational Durable Goods	1,786	1,302	271	79
Groceries	3,823	3,461	2,933	2,913
Clothes and Shoes	1,450	1,211	889	660
— Services ex. Shelter	23,696	24,166	18,600	14,296
Health Care Services	7,926	8,002	5,275	4,776
Transportation	1,484	1,629	1,420	986
Recreational	1,680	1,924	1,508	1,076
Food and Accommodations	3,331	3,356	2,609	2,396
Financial and Insurance	3,926	3,781	3,807	2,256
— Shelter	11,889	11,424	11,326	9,725
Housing Services and Utilities	8,548	8,448	7,603	6,608
Residential Fixed Investment	3,341	2,975	3,723	3,117

Source: Bureau of Economic Analysis

Next, we examine how changes in consumer spending on goods (see ■), services excluding housing and utilities (see ■), and shelter (see ■, calculated as housing and utilities plus residential fixed investment), affect GDP growth. These categories contributed 2.2 percentage points to GDP growth in 2021 Q4 and contributed 1.4 percentage points in 2021 Q3, compared to an addition of 1.1 percentage points in 2019 Q4, before the pandemic.

Consumer Spending and Residential Investment

percentage point contribution to real GDP growth



Source: Bureau of Economic Analysis

In the the fourth quarter of 2021, household spending on goods contributed 0.1 percentage point to GDP growth, household spending on services other than housing and utilities added 2.1 percentage points, and shelter spending and investment did not contribute.

Consumer Spending and Residential Investment

percentage point contribution to real GDP growth

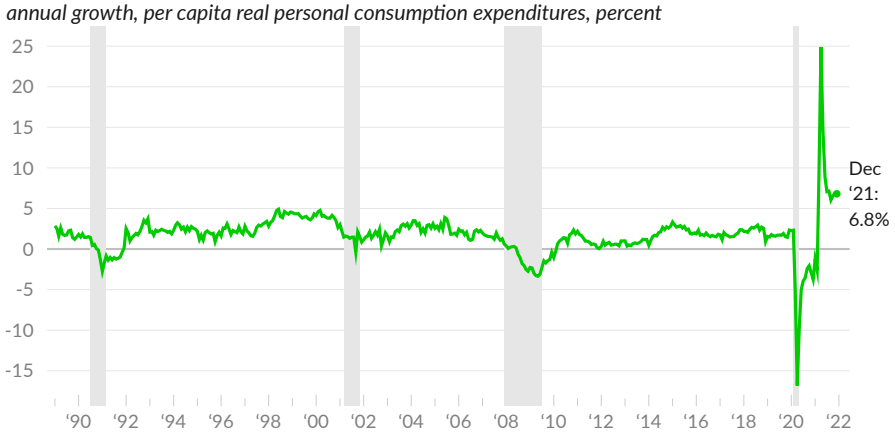
	2021 Q4	'21 Q3	'21 Q2	'21 Q1	'20 Q4	*moving averages* 3-year	10-year	30-year
Total	2.25	1.35	7.92	7.44	2.26	1.93	1.72	1.88
■ Goods	0.13	-2.21	2.99	5.69	-0.07	1.39	0.99	0.88
Motor Vehicles and Parts	-0.20	-2.18	0.48	1.36	0.06	0.06	0.11	0.10
Furniture and HH Equipment	-0.12	-0.24	0.00	0.82	-0.12	0.13	0.12	0.10
Recreational Durable Goods	0.28	-0.16	0.29	0.84	0.01	0.33	0.21	0.23
Groceries	-0.07	-0.02	0.18	0.92	-0.18	0.22	0.14	0.10
Clothes and Shoes	-0.05	-0.01	0.66	0.59	0.06	0.16	0.08	0.09
■ Services (ex. Shelter)	2.09	3.38	4.89	1.51	2.30	0.40	0.66	0.80
Health Care Services	0.79	0.53	1.10	-0.50	1.50	0.21	0.29	0.27
Transportation	0.38	0.77	0.73	0.09	0.09	0.00	0.05	0.06
Recreational	0.43	0.52	0.73	0.49	0.10	-0.05	0.03	0.06
Food and Accommodations	0.08	0.55	2.25	1.13	-0.19	0.10	0.12	0.09
Financial and Insurance	0.35	0.22	-0.17	0.27	0.33	0.08	0.03	0.13
■ Shelter	0.00	-0.19	-0.56	0.84	1.38	0.32	0.27	0.28
Housing Services and Utilities	0.03	0.19	0.04	0.24	0.04	0.13	0.08	0.20
Residential Fixed Investment	-0.03	-0.38	-0.60	0.60	1.34	0.19	0.20	0.08

Source: Bureau of Economic Analysis

Consumer spending is also reported on a monthly basis. Inflation- and population-adjusted consumer spending increased 6.8 percent over the year ending December 2021 (see —), far above the previous year rate (a decrease of 3.7 percent over the year ending December 2020).

Consumer Spending Growth

annual growth, per capita real personal consumption expenditures, percent



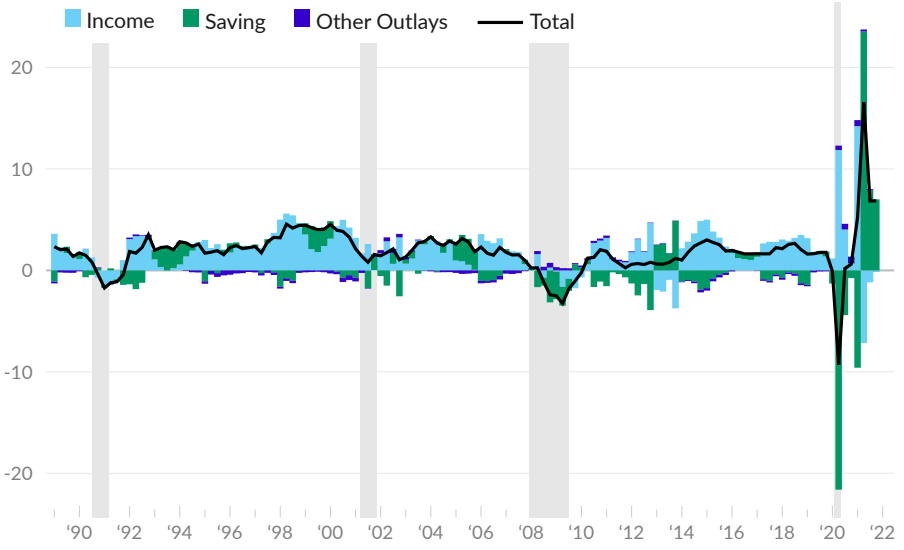
Source: Bureau of Economic Analysis

Changes to consumer spending (see —) are largely the result of changes to income (see ■) and changes to the rate at which income is saved (see ■). Changes to other outlays (see ■) reflect changes in interest payments, fines and fees, and charitable giving.

Real per capita consumer spending increased at an average rate of 6.9 percent over the four quarters ending 2021 Q4. Changes to disposable income subtracted 0.1 percentage point, changes to saving added seven percentage points, and changes to other outlays didn't affect the total. During 2019, real per capita consumer spending increased at an average rate of 1.7 percent. Increased income contributed two percentage points, and a slight increase in saving subtracted 0.2 percentage point.

Contributions to Consumer Spending

percentage point contribution to real per capita PCE growth, one-year moving average



Source: Bureau of Economic Analysis

Saving

The portion of after-tax income that is not spent by households is considered **personal saving**, from an economic accounting perspective. Personal saving as a share of disposable personal income is the *personal saving rate*. Households use savings for investment and because income can be more volatile than expenses. However, economists also point out that aggregate personal saving is a direct reduction in corporate profits, as it represents income to persons that was at some point a business expense, but that does not get returned to businesses as revenue through consumer spending.

As of December 2021, the Bureau of Economic Analysis report a personal saving rate of 7.9 percent (see —). Since February 2020, the personal saving rate decreased by a total of 0.4 percentage point.

Personal Saving Rate

personal saving as a share of disposable personal income

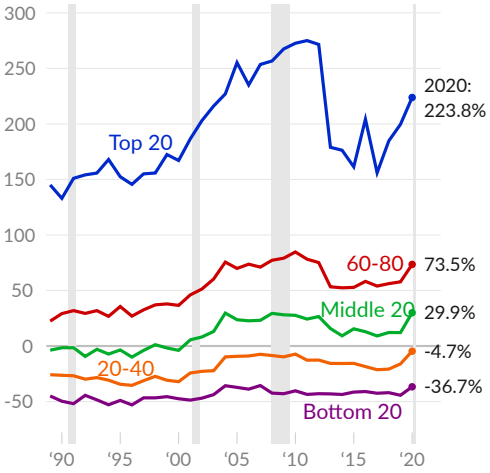
Source: Bureau of Economic Analysis

Distribution of saving

The Consumer Expenditure Survey (CE) provides data on consumer spending and income. Saving can be estimated from these data as after-tax income minus spending (other than spending on pensions).

Saving Rate by Income Quintile

share of median personal income, percent



Source: Author's calculations from CE

The bottom quintile, or fifth of households, by total money income, are estimated to dissave in 2020, equivalent to more than a third of a median salary (see —). This is a combination of people going into debt and retirees dissaving. Households in the top 20 percent of the population by income save more than two typical incomes, on average in 2020 (see —).

The middle fifth of households, which includes the 40th to 60th percentiles by total money income, saves an amount equivalent to a fairly high portion of a median salary (see —). Relative to data from the Bureau of Economic Analysis, the CE data undercount income. Still, the distribution of saving rates is very wide.

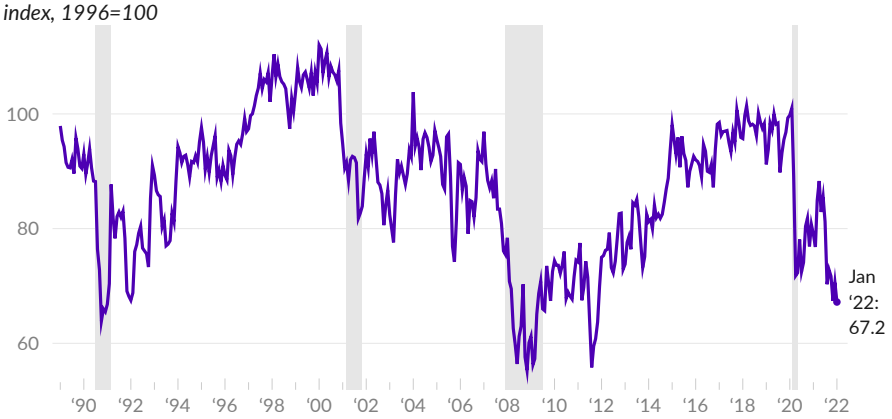
Consumer Sentiment

The University of Michigan conducts a monthly survey of **consumer sentiment** (see —). The survey asks about personal finances, business conditions, and buying conditions. An increase in consumer sentiment means individuals feel more confident about economic conditions and are more willing to make large purchases or take on debt.

As of January 2022, the latest value of the consumer sentiment index is 67.2, following 70.6 in December 2021 and compared to 79.0 one year prior, in January 2021. As a pre-COVID baseline, the index average value was 97.3 during the year ending February 2020; the consumer sentiment index is currently 30.9 percent below this level.

Consumer Sentiment

index, 1996=100



Source: University of Michigan

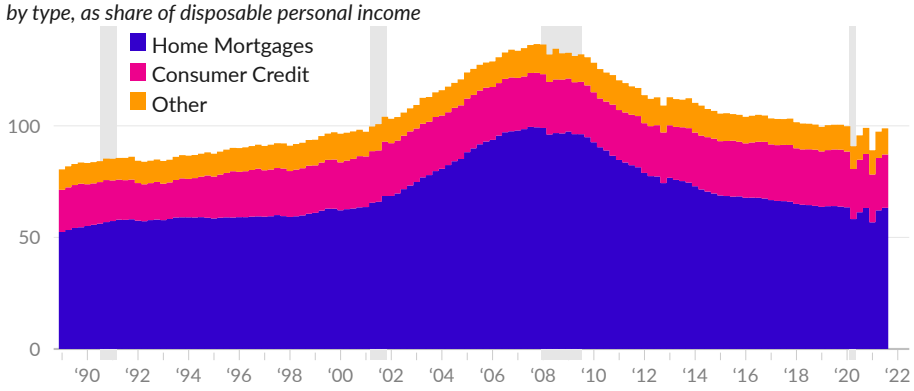
Household Balance Sheets

Liabilities

The Federal Reserve report household and nonprofit liabilities total $17.97 trillion in 2021 Q3. The vast majority–$11.50 trillion or 64.0 percent of the total–are home mortgages (see ■). Consumer credit liabilities (see ■) which include auto loans, credit card debt, student loans, and other personal loans, total $4.34 trillion (24.2% of the total). The remaining liabilities (see ■) are primarily attributable to nonprofits.

The ratio of household and nonprofit debt to disposable personal income has fallen to 98.9 percent in 2021 Q3 from its housing-bubble peak of 136.6 percent in 2007 Q4. Over the past three years, nominal household and nonprofit debt has increased 13.2 percent while nominal disposable personal income has increased 14.3 percent. As a result, the ratio of household and nonprofit debt to disposable personal income has fallen by 2.1 percentage points.

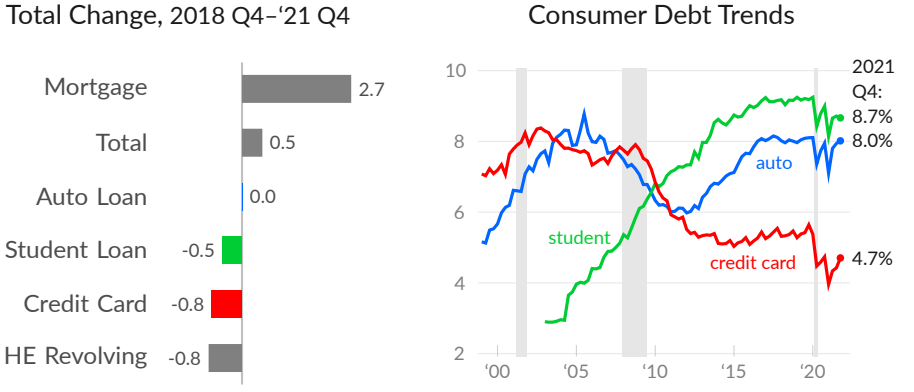
Household and Nonprofit Debt
by type, as share of disposable personal income



Source: Federal Reserve, Bureau of Economic Analysis

Federal Reserve Bank of New York (FRBNY) analysis of Equifax data shows $15.6 trillion in total consumer debt in the fourth quarter of 2021, which is equivalent to 85.6 percent of disposable personal income. Over the past three years, total consumer debt has increased by $2.03 trillion, compared to an increase of $2.28 trillion in disposable personal income. As a result, the ratio of total consumer debt to disposable personal income increased 0.5 percentage point over this period.

Mortgages and Consumer Credit
share of disposable personal income, percent



Source: Federal Reserve Bank of New York and Bureau of Economic Analysis

Trends in **household debt** over the past three years, measured in both the US Financial Accounts and the New York Fed Consumer Credit Panel, show mortgages growing in line with income while consumer credit debt falls relative to income. Minor discrepancies between the two data sources arise because the Financial Accounts include debt of nonprofit institutions and the Consumer Credit Panel does not include people without a social security number.

According to the same FRBNY data, mortgage debt, including home equity lines of credit, totalled $11.25 trillion in the fourth quarter of 2021, equivalent to 61.8 percent of disposable personal income (DPI). Student loans totalled $1,576 billion, or 8.7 percent of DPI; auto loans totalled $1,458 billion (8.0 percent of DPI); and credit card debt totalled $856 billion (4.7 percent of DPI).

Over the past three years, the ratio of total mortgage debt to disposable personal income fell by 1.9 percentage points, compared to a decrease of 0.5 percentage point for student loans, virtually no change for auto loans, and a decrease of 0.8 percentage point for credit card debt

Household Debt Outstanding

trillions of US dollars — *share of disposable personal income*

	2021 Q4	2021 Q3	'21 Q4	'21 Q3	'18 Q4	'13 Q1	'03 Q1
Financial Accounts Total*	–	$17.97T	–	98.9	100.6	112.8	109.3
Mortgage Debt Total	–	$11.50T	–	63.3	64.1	76.7	74.8
Consumer Credit	–	$4.34T	–	23.9	25.2	23.6	24.0
Other	–	$2.13T	–	11.7	11.2	12.5	10.5
Consumer Credit Panel Total	$15.58T	$15.24T	85.6	83.9	85.1	90.8	87.2
Mortgage Debt Total	$11.25T	$10.99T	61.8	60.5	59.9	68.6	62.5
Mortgage	$10.93T	$10.67T	60.1	58.7	57.3	64.1	59.6
Home Equity Revolving	$0.32T	$0.32T	1.7	1.7	2.6	4.5	2.9
Consumer Credit	$4.33T	$4.25T	23.8	23.4	25.2	22.2	24.7
Auto Loan	$1.46T	$1.44T	8.0	7.9	8.0	6.4	7.7
Credit Card	$0.86T	$0.80T	4.7	4.4	5.5	5.3	8.3
Student Loan	$1.58T	$1.58T	8.7	8.7	9.2	8.0	2.9
Other	$0.44T	$0.42T	2.4	2.3	2.6	2.5	5.8

Source: Federal Reserve, Federal Reserve Bank of New York, Bureau of Economic Analysis

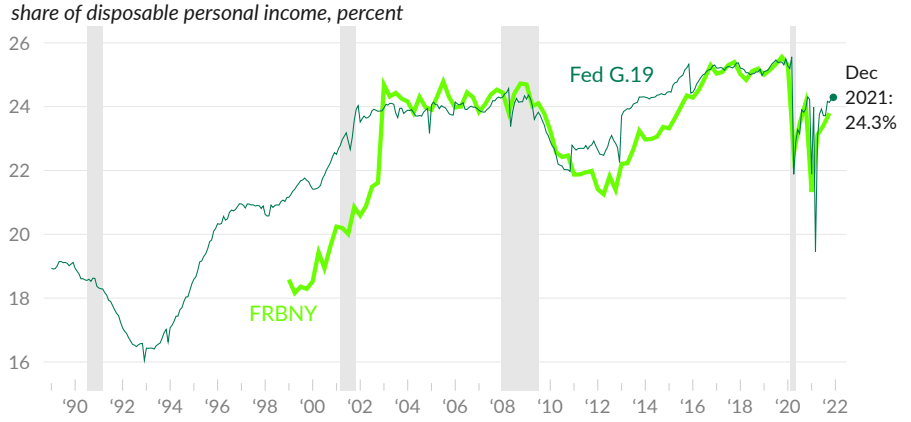
Consumer Credit

The Federal Reserve also report consumer credit on a monthly basis. In the monthly measure, consumer credit totals $4.43 trillion US dollars on a seasonally-adjusted and annualized basis in December 2021. Over the past year, consumer credit increased by 5.9 percent, while after-tax income increased by 5.6 percent. As a result, the ratio of consumer credit to disposable income was virtually unchanged. In December 2021, total consumer credit is equivalent to 24.3 percent of annualized December 2021 disposable income (see —).

The latest comparable figure from the FRBNY data discussed in the previous section, which covers 2021 Q4, shows consumer credit is equivalent to 23.8 percent of annual disposable personal income (see —). Over the past year, the ratio decreased by a total of 0.3 percentage point.

Consumer Credit

share of disposable personal income, percent



Source: Federal Reserve; FRBNY

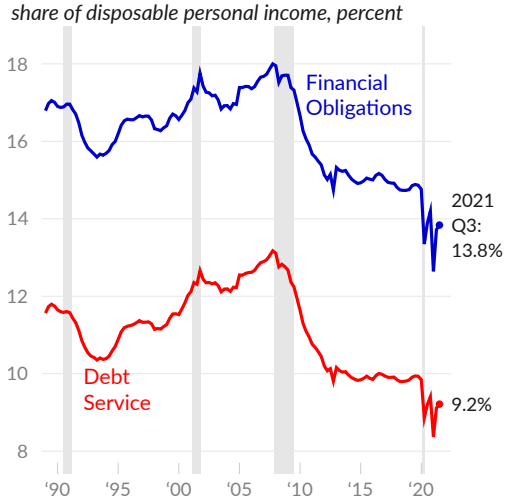
Financial Obligations

Payments to service debt, along with rent, auto lease payments, homeowner's insurance, and property tax are considered financial obligations. The Federal Reserve report financial obligations as a share of disposable personal income. The ratio of debt service payments and financial obligations to income gives insight into the aggregate debt and financial burden on households.

As of 2021 Q3, the financial obligations ratio is 13.8 percent (see —), and the debt service ratio is 9.2 percent (see —). The financial obligations ratio peaked at 18.1 percent in 2007 Q4, during the housing bubble.

Financial Obligations and Debt Service Ratios

share of disposable personal income, percent



Source: Federal Reserve

Assets

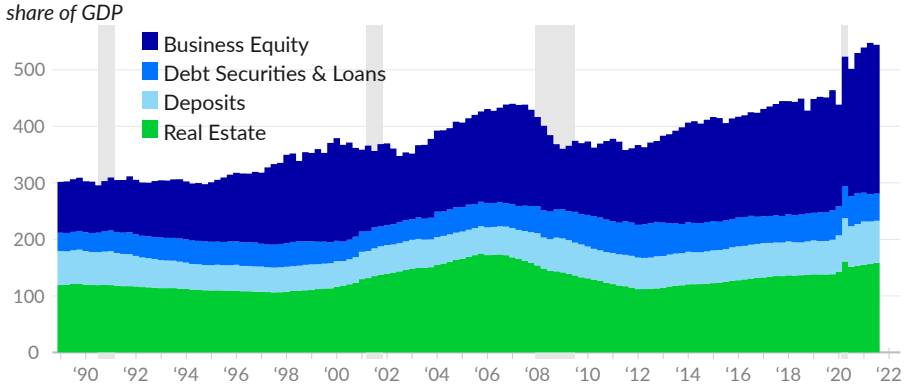
Assets of households and nonprofits were valued at $162.7 trillion in 2021 Q3, equivalent to 701 percent–or 7.01 years–of GDP. Of this, $48.6 trillion, or 29.9 percent of the total, are tangible assets and $114.1 trillion, or 70.1 percent, are financial assets.

Tangible, or non-financial, assets include peoples' homes as well as consumer durable goods, such as cars, furniture, and appliances. The market value of owner-occupied real estate is $36.8 trillion in 2021 Q3, equivalent to 1.59 years of GDP (see ■). Consumer durable goods have a replacement value of $7.0 trillion, or 0.3 years of GDP. Tangible assets are reported for the combined household and nonprofit sector and include real estate and equipment belonging to nonprofits, which totals $4.8 trillion in 2021 Q3.

Financial assets include equity in businesses–corporate and non-coporate–with a market value of $61.1 trillion, or 2.6 years of GDP (see ■), in 2021 Q3. Debt securities and loan assets total $11.1 trillion, or 0.48 years of GDP (see ■). Cash and deposits, including money market accounts, total $17.2 trillion, or 0.74 years of GDP (see ■). All other financial assets total $24.6 trillion.

Selected Household and Nonprofit Assets

share of GDP

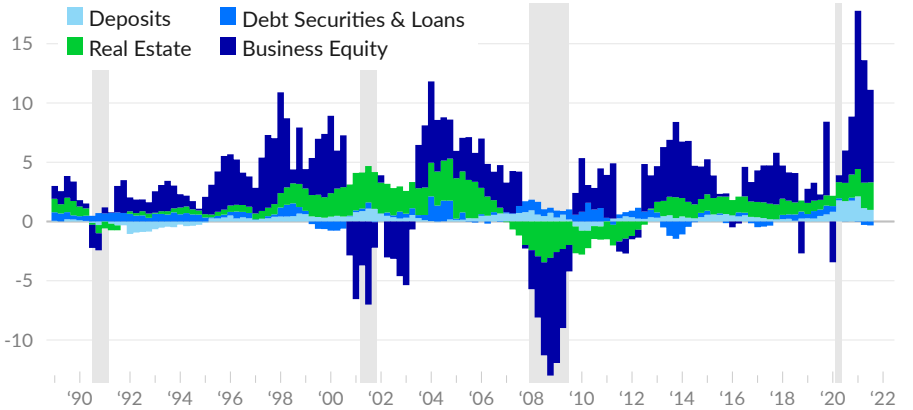


Source: Federal Reserve, Bureau of Economic Analysis

Household and nonprofit assets grew by 11.6 percent over the year ending 2021 Q3. Owner-occupied real estate contributed 2.3 percentage points to total growth, and business equity contributed 7.8 percentage points.

Contributions to Real Growth in Household and Nonprofit Assets

contribution to one-year percent change in assets, adjusted by PCE price deflator



Source: Federal Reserve, Bureau of Economic Analysis

Household and Nonprofit Assets

various measures:	*trillions of USD*	*share of GDP*		*real annual growth rate*		
	2021 Q3	2021 Q3	2020 Q3	One-year	Three-year	20-year
Total Assets	$162.7	701.1	661.1	11.6	7.0	3.8
Non-financial assets	48.6	209.6	200.3	10.1	6.5	2.8
Owner-occupied real estate	36.8	158.7	151.6	10.2	6.8	2.9
Consumer durable goods	7.0	30.1	28.3	11.9	6.0	1.9
Nonprofit assets	4.8	20.8	20.4	7.7	5.2	3.9
Financial assets	114.1	491.6	460.9	12.3	7.2	4.3
Deposits, incl. money market	17.2	74.3	71.7	9.0	10.4	4.2
Debt securities and loans	11.1	48.0	52.7	-4.2	0.6	3.4
Business equity	61.1	263.4	225.7	22.8	10.4	5.5
Corporate equities	46.7	201.2	166.6	27.1	11.8	6.5
Noncorporate business equity	14.4	62.2	59.1	10.8	6.4	3.3

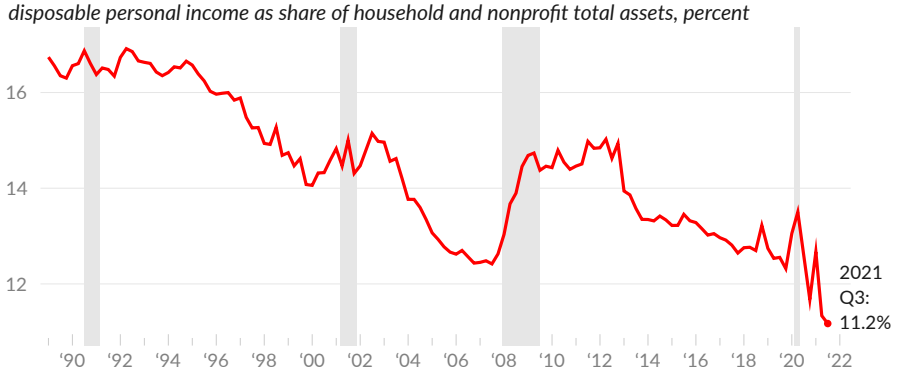
Source: Federal Reserve, Bureau of Economic Analysis

Return on Assets

Asset prices rising faster than income can be viewed as a decrease in the expected rate of return on total household assets. This can be measured by disposable income as a share of household assets. As of 2021 Q3, disposable income was equivalent to 11.2 percent of total assets (see —), compared to an average rate of 16.0 percent during the 1990s.

Return on Household Assets

disposable personal income as share of household and nonprofit total assets, percent



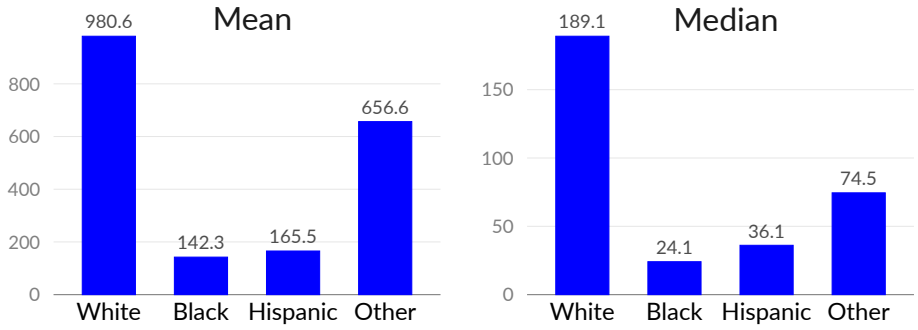
Source: Federal Reserve, Bureau of Economic Analysis

Wealth/Net Worth

Wealth varies substantially by race and ethnicity. Net worth, measured as total assets minus total liabilities, captures the overall financial position–or wealth–of families. In 2019, white non-Hispanic families' average net worth was $980,550, compared to $142,330 for black non-Hispanic families, and $165,540 for Hispanic families of any race. Additionally, the wealth of a typical (median) family is much lower than the average wealth of families, the result of a concentration of wealth among the wealthiest families.

Racial Wealth Gap

net worth by race/ethnicity, thousands of US dollars, 2019



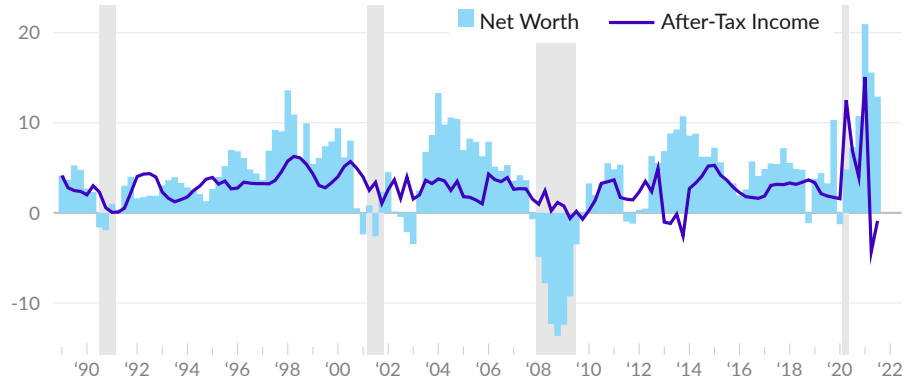
Source: Federal Reserve, Survey of Consumer Finances

The market value of household assets has risen much faster than the total level of household debt, resulting in a substantial increase in aggregate net worth. In 2021 Q3, household and nonprofit institution net worth was $144.7 trillion, equivalent to 8.0 years of disposable personal income; the result of total assets of $162.7 trillion and total liabilities of $18.0 trillion.

In 2021 Q3, inflation-adjusted net worth increased by 12.9 percent (see), and inflation-adjusted after-tax income decreased by 0.9 percent (see —). Over the past three years, real net worth grew at an average rate of 7.4 percent, while real after-tax income grew at an average rate of 3.9 percent

Net Worth and After-Tax Income Growth

one-year percent change in net worth and after-tax income, adjusted by PCE price deflator



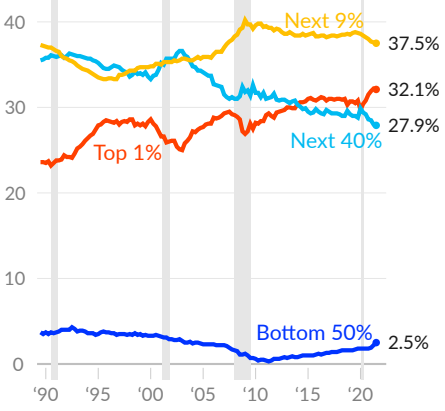
Source: Federal Reserve, Bureau of Economic Analysis

The Federal Reserve report net worth by percentile. The top one percent of households by wealth own 32.1 percent percent of US wealth, as of 2021 Q3 (see —), while the top 10 percent of households own 69.6 percent percent. The bottom half of households own 2.5 percent percent of US wealth (see —).

Since 1989, the wealth share of the top one percent increased 8.5 percentage points, while the share held by the bottom 50 percent decreased 1.1 percentage points. The wealth share of the 40 percent of households in wealth percentiles 50 through 90 decreased 7.6 percentage points since 1989.

Share of US Wealth

share of total net worth, by percentile, percent



Source: Federal Reserve

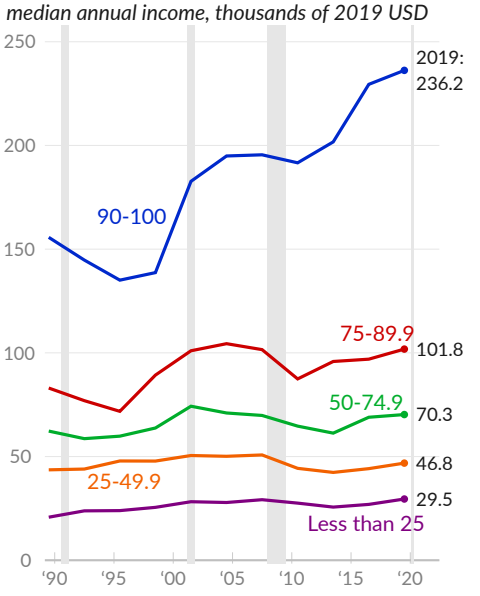
Wealth and Income

Wealth, when measured as assets minus liabilities, can be a source of income, but does not correspond perfectly to income. For example, early-career professionals with student debt may have a negative net worth and a high income. That said, data on family income by wealth percentile show that income tends to increase with wealth.

Additionally, the before-tax income of the wealthiest ten percent of families (see —) has increased substantially more than the income of other groups. The top ten percent of families by wealth, percentiles 90 to 100 with a mean wealth of $5.7 million and a median wealth of $2.6 million in 2019, have a median annual income of $236,203 in 2019 and $155,693 in 1989, after adjusting for prices. Median income for the group increased $80,510, or 51.7 percent, over the 30-year period.

Before-Tax Income by Wealth Percentile

median annual income, thousands of 2019 USD



Source: Federal Reserve (SCF)

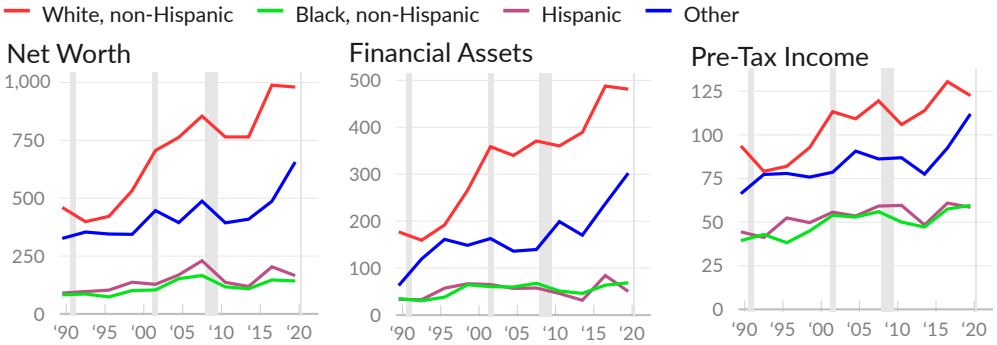
In contrast, families in the third quartile of wealth (50th to 74.9th percentiles, mean wealth of $700,000 in 2019, see —) have a median income of $70,250 in 2019 and $62,277 in 1989, an increase of $7,973 (12.8 percent).

Median income for families in the second quartile (25th to 49.9th percentiles, mean wealth of $236,000 in 2019, see —) increased $3,239 (7.4 percent) to $46,833 in 2019, from $43,594 in 1989.

For the bottom quarter of families by wealth (see —), median income increased $8,766 or 42.2 percent to $29,525, over the 30 years ending 2019. The bottom quarter of families have a negative mean wealth in 2019 and a median wealth of virtually zero.

The US history of slavery and inter-generational white wealth show up in current data from the Survey of Consumer Finances. The racial wealth gap discussed above cannot be explained by borrowing or access to credit. White families have substantially more financial assets including stocks and are much more likely to receive inheritance. Income for black families is also substantially lower–about half of white family income. Persistent structural inequalities are seen in income data, but are also evident from measures of wealth and assets.

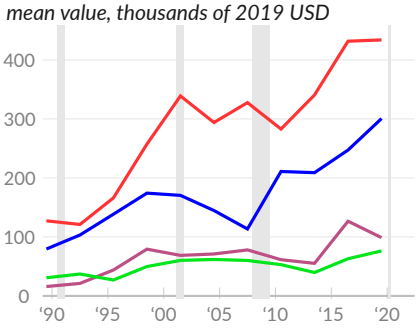
Measures of Wealth and Income by Race or Ethnicity
by family, mean, thousands of 2019 USD



Source: Federal Reserve

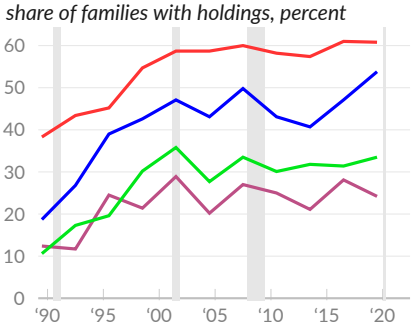
In 2019, among the 60.8 percent of white families who own stocks, the average value of stock holdings is $433,900. The return on these assets is a supplement to labor income and the assets themselves provide cushion against unexpected expenses. Meanwhile, black families have relatively few financial assets; only 33.5 percent of black families own stocks, with median stock holdings of $76,300.

Stock Holdings
mean value, thousands of 2019 USD



Source: Federal Reserve

Stock Holdings
share of families with holdings, percent



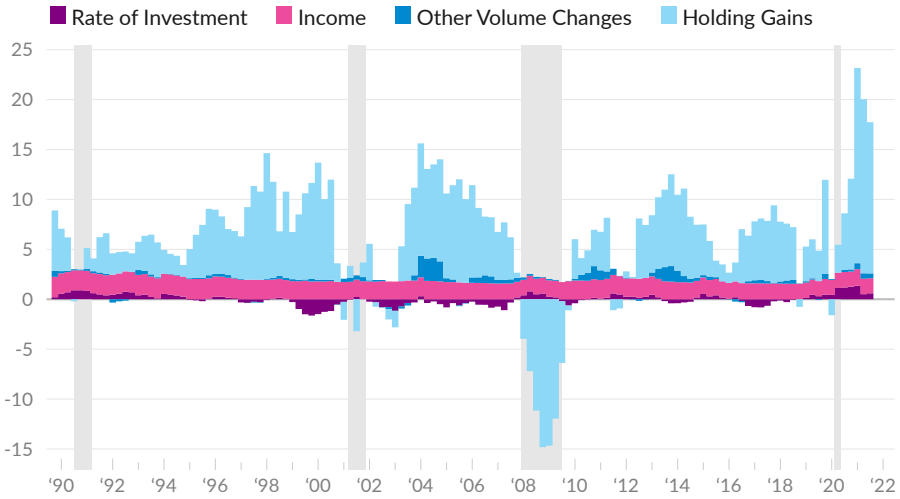
Source: Federal Reserve

Changes in net worth come mostly from changes in the value of assets and other holding gains (see), but also from saving of income, and decisions about how much to spend. Each period, households spend a portion of their income. The saved portion of income, after consumer spending and spending to cover depreciation of households assets, is considered net investment and increases net worth. Since 1989, household net investment has averaged 10 percent of disposable personal income.

In the chart, income invested at the historical-average rate (see) is visually separated from investment that is above or below trend (see). The separation distinguishes changes in disposable personal income from changes in decisions about how to use that income. Separately, changes in data sources or from natural disasters are identified as other volume changes (see).

Net Worth Growth

contribution to one-year percent change in net worth, nominal



Source: Federal Reserve, Bureau of Economic Analysis

In the the third quarter of 2021, holding gains contributed 15.1 percentage points to the 17.7 percent change in net worth. Income invested at the 1989-onward average rate of 10.2 percent would have contributed 1.5 percentage points; an additional 0.6 percentage points were added as household net investment was 14.2 percent of disposable person income in 2021 Q3. Other volume changes contributed 0.5 percentage point.

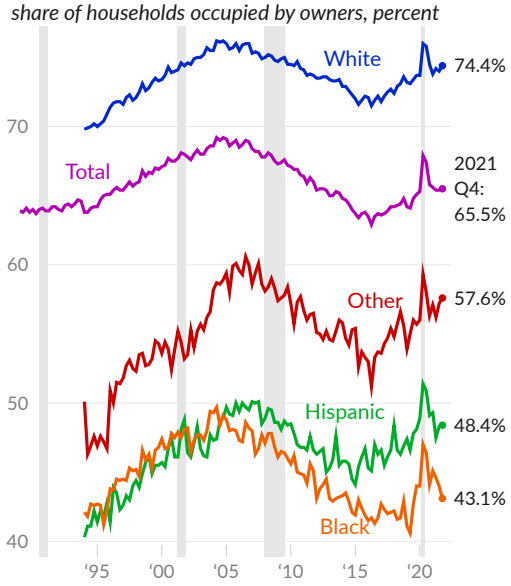
Over the past three years, net worth grew at an average rate of 9.5 percent. Holding gains contributed 7.1 percentage points to this total, on average; net investment of income contributed 2.1 percentage points; and other volume changes contributed 0.3 percentage point.

Homeownership

The **homeownership rate** measures the percent of occupied housing units that are owner-occupied, as opposed to rented. In 2004, near to the peak of the housing bubble, the overall homeownership rate reached 69.2 percent. As of 2021 Q4, the Census Bureau report a homeownership rate of 65.5 percent (see —). Over the past three years, the overall US homeownership rate increased by a total of 0.7 percentage point.

Homeownership Rate

share of households occupied by owners, percent



Source: Census Bureau

Census data also show large differences in homeownership rates by race and ethnicity. Around three-quarters (74.4 percent in 2021 Q4) of non-Hispanic white households own their home (see —), compared to fewer than half of black and Hispanic households.

During the housing bubble, the homeownership rate for black households increased by nearly ten percentage points, peaked at 49.7 percent in the second quarter of 2004, and fell to 40.6 percent in 2019 Q2. The current homeownership rate for black households is 43.1 percent, as of 2021 Q4 (see —). The rate for Hispanic households of any race is 48.4 percent in 2021 Q4, substantially below the 51.4 percent peak rate in the second quarter of 2020 (see —).

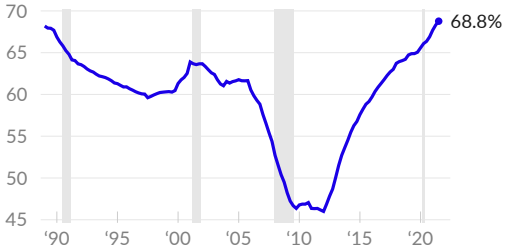
Use caution when interpreting homeownership rates during the COVID-19 pandemic. Individuals who are renters or homeowners are captured by the measure, but when an individual moves in with family and stops being a head of household, they are dropped from the measure. Therefore when renters move in with family the homeownership rate increases. The 2020 spike in homeownership rates reflects renters moving in with family.

As seen during the collapse of the housing bubble, it is possible for someone to be a homeowner but have no equity in their home, for example if the market price of the home falls below the principal remaining on the mortgage. Trends in owners' equity as a share of the market value of real estate show substantial improvement since the lows following the collapse of the housing bubble, when millions of homes were in foreclosure.

As of 2021 Q3, the Federal Reserve report owners' equity is 68.8 percent of residential real estate (see —). Over the past three years, the owners' equity share increased by a total of 4.7 percentage points. Over the past year, the share increased by a total of 2.4 percentage points. The current share is slightly above the 1989 average of 67.9 percent.

Owners' Equity Share of Real Estate

owners' equity as percent of real estate



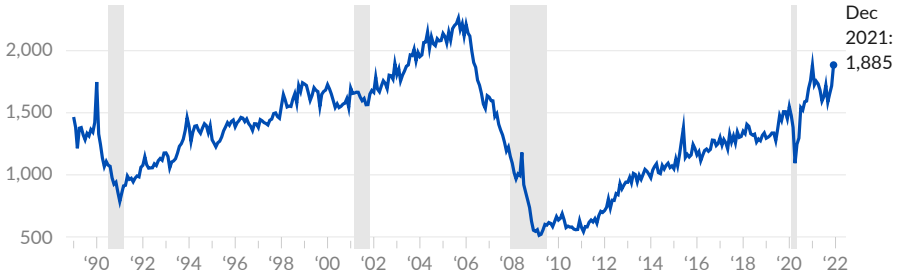
Source: Federal Reserve

Housing Construction

The Census Bureau tracks the issuance of new residential building permits, which offer insight into planned residential construction. In December 2021, a seasonally-adjusted annual rate of 1,885,000 new residential housing units were authorized by building permits, the highest level since May 2006 (see —). Permits issued increased by 168,000 (9.8 percent) over the previous month, increased by 127,000 (7.2 percent) over last December, and increased by 633,000 (50.6 percent) total over the past five years.

Residential Construction Permits

building permits issued, seasonally-adjusted annual rate, in thousands

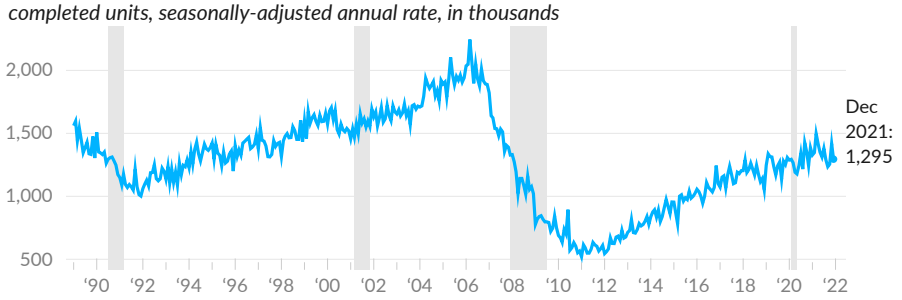


Source: Census Bureau

In addition to data on permits, the Census Bureau also report how many residential construction projects are started and completed. Not all permitted projects are built and completion can be affected by economic conditions. In December 2021, a seasonally-adjusted annual rate of 1,295,000 new residential units were completed (see —), compared to 1,418,000 in November and 1,255,000 in December 2020.

Residential Construction Completions

completed units, seasonally-adjusted annual rate, in thousands

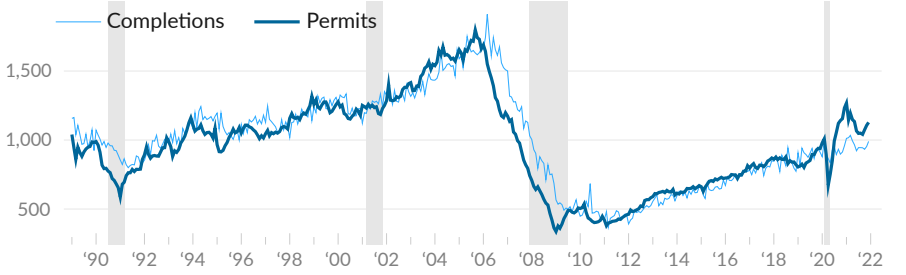


Source: Census Bureau

In December 2021, a seasonally-adjusted annual rate of 1,128,000 new single-family residential units were permitted and 990,000 were completed.

Single-family units

permits and completions, seasonally-adjusted annual rate, in thousands

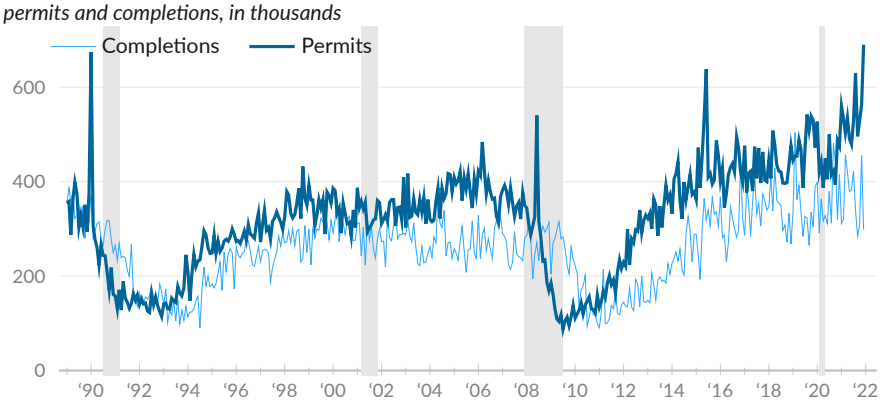


Source: Census Bureau

In December 2021, a seasonally-adjusted annual rate of 690,000 new multi-family residential units were permitted and 299,000 were completed.

Multi-family units

permits and completions, in thousands



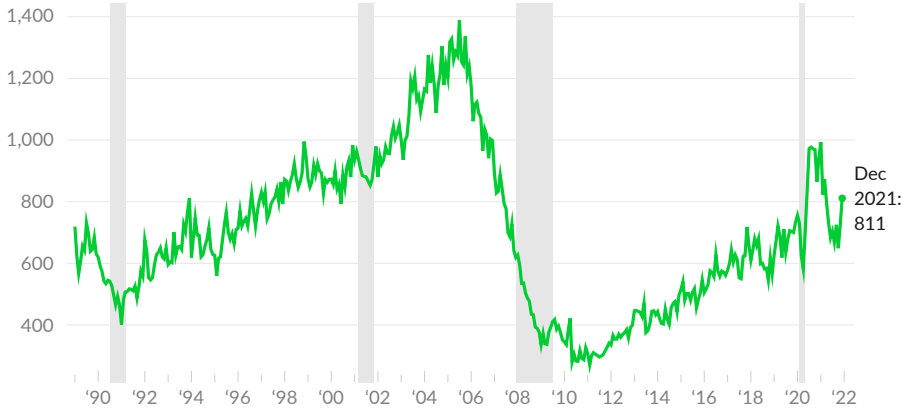
Source: Census Bureau

Housing Sales

In December 2021, the Census Bureau report seasonally-adjusted single family new homes sales totaling 811,000 (see —). Over the past year, new homes sales decreased 0.1 percent. Pre-COVID, in February 2020, the annualized rate of single family new home sales was 730,000. Since February 2020, new home sales have increased 11.1 percent.

New Home Sales

new single family homes sold, in thousands, seasonally adjusted annual rate



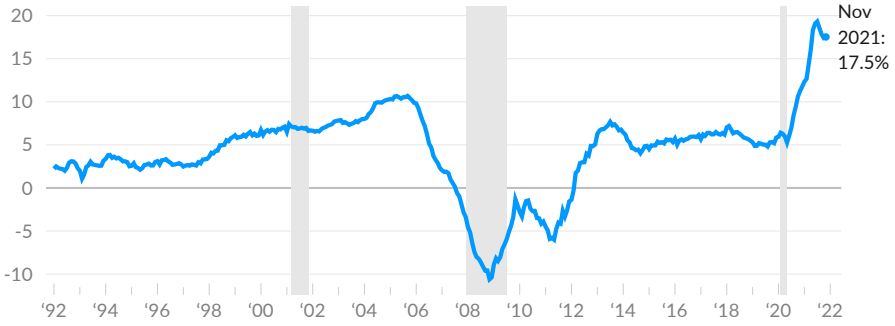
Source: Census Bureau

Housing Prices

The Federal Housing Finance Agency (FHFA) housing price index (see —) captures changes in the price of the same home. The index increased 17.5 percent over the year ending November 2021, following an increase of 17.4 percent in October 2021. Among Census Divisions, the fastest one-year housing price index growth rate in November 2021 was 22.8 percent in the Mountain Division, which includes Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, and Wyoming.

House Price Index

seasonally adjusted index, one-year percent change



Source: Federal Housing Finance Agency

Housing Price Growth

seasonally adjusted, one-year percent change

	Nov '21	Oct '21	Sep '21	Aug '21	Nov '20	Nov '19	Nov '18	'03–'05 Average	'09–'12 Average
Mountain	22.8	23.3	23.9	25.7	13.9	6.7	7.8	11.1	-4.2
South Atlantic	20.4	19.5	19.9	20.7	11.6	5.5	6.1	11.3	-3.7
East South Central	19.8	18.9	17.6	18.8	11.7	4.6	6.5	5.1	-1.6
Pacific	18.9	20.0	19.7	21.3	12.1	5.1	5.2	18.4	-3.9
West South Central	18.1	17.1	18.1	16.9	9.0	3.8	4.5	4.3	0.3
United States	17.5	17.4	17.8	18.6	11.2	5.2	5.7	9.2	-2.5
New England	15.4	15.6	18.3	18.7	12.9	5.1	4.7	10.3	-2.2
Middle Atlantic	14.0	14.2	14.3	15.6	11.1	4.5	5.3	11.3	-2.3
East North Central	13.9	14.0	14.7	15.2	10.6	5.9	5.7	4.3	-2.4
West North Central	13.3	13.5	13.9	14.9	10.0	5.1	5.1	5.4	-1.1

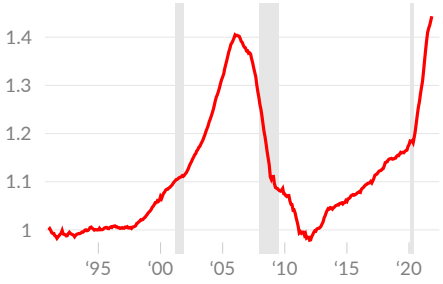
Source: Federal Housing Finance Agency

The purchase price of housing should move with the price of rent, the service that housing provides. When housing prices exceed the rental equivalent, it may suggest that housing is overvalued.

During the housing bubble that caused the great recession, housing prices reached more than 40 percent above the rental equivalent. As of November 2021, housing prices are 44.4 percent above the rental equivalent (see —).

Housing Price to Rent Ratio

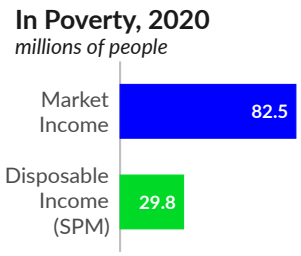
index, 1991=1



Source: FHFA; BLS

Poverty

In 2020, income from labor and capital ownership, called *market income*, was below the Census Bureau threshold for poverty for 82.5 million people in the US, equivalent to 25.3 percent of the population. An adjusted measure called *disposable income* includes market income plus income from government programs and tax credits, and subtracts taxes paid. According to the Census Bureau Supplemental Poverty Measure (SPM), **29.8 million people are in poverty** based on their disposable income, equivalent to 9.1 percent of the population. Government programs and tax credits moved the income of 52.8 million people above the poverty threshold.

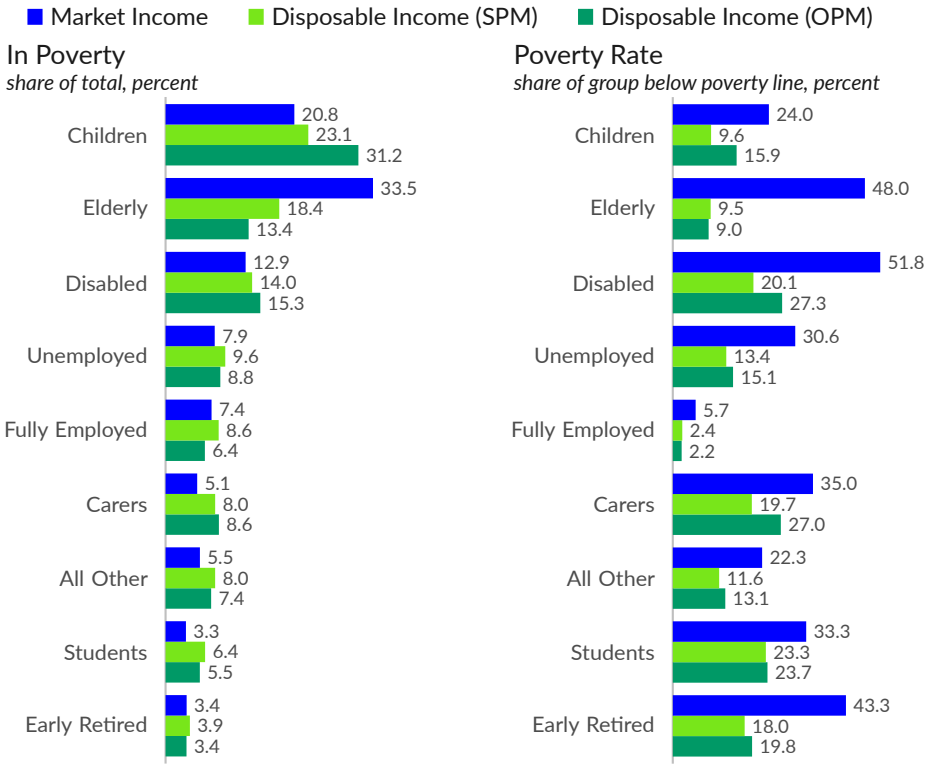


Source: CPS ASEC

For purposes of program eligibility and economic data, poverty is defined by having income below a certain threshold. The processes for calculating poverty vary, with the Official Poverty Measure (OPM) based on three times a price-adjusted 1963 minimal food budget, and the SPM based on food, shelter, clothing, and utilities costs and additionally capturing program benefits and taxes, along with other adjustments.

While some fully-employed people are in poverty, **the vast majority of poor people are either children, elderly, disabled, caregivers, or students**. These groups represent 69.8 percent of those in poverty in 2020. If the missing labor income required to keep a person out of poverty is not supplied in the form of capital income or welfare income, the person will be poverty, by definition. As a result, these groups that are disproportionately work-limited in some way have much higher rates of poverty.

Poverty Measures, 2020



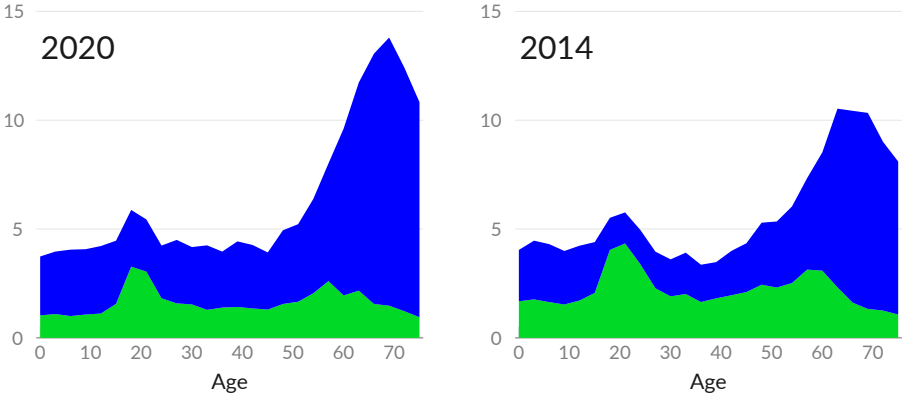
Source: CPS ASEC; Author's Replication of Bruenig, see

The share of a group whose combined labor, capital, and welfare income is below the poverty line is the poverty rate for the group. In 2020, students, caregivers, and the disabled had the highest rates of poverty. Those fully-employed have a low rate of poverty.

By age, market income (see ■) leaves the elderly particularly vulnerable to poverty as they are not as likely to have labor income. After social benefits and taxes (disposable income, see ■), the elderly have much lower rates of poverty than other age cohorts. Higher survivorship for the wealthy also has the effect of reducing poverty in very old ages. Disposable income still leaves young adults and those just below social security and medicare age (late 50s and early 60s) vulnerable to poverty, relative to other ages.

Amount of Poverty by Age ■ Market Income ■ Disposable Income (SPM)

in billions of 2020 US dollars

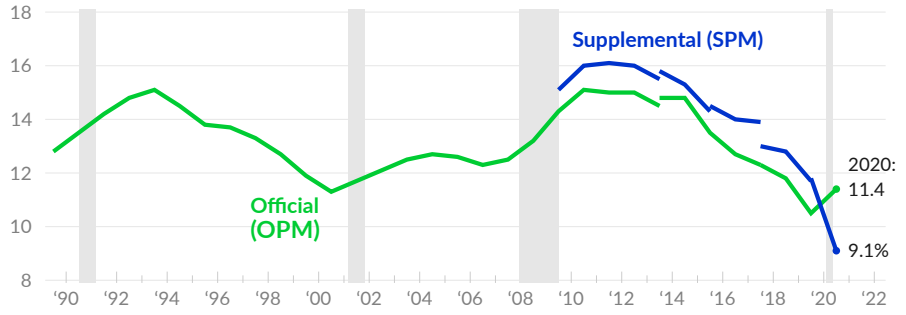


Source: CPS ASEC, 2014 adjusted for inflation with CPI-U-RS

Since 1989, the official poverty measure shows between 10.5 percent and 15.1 percent of people in poverty, with an average poverty rate of 12.8 percent during the period. Poverty rates were above average after recession of 1991 and after the great recession, and below average around 2000. In 2019, both the official US poverty measure and the more-comprehensive supplemental measure reached a new low. In 2020, the supplemental poverty measure fell further, to a new low of 9.1 percent, while the official measure increased. The official poverty rate does not include stimulus checks, housing assistance, or tax credits, while the supplemental rate does.

Poverty Rates

in poverty, share of population, percent



Source: Census Bureau

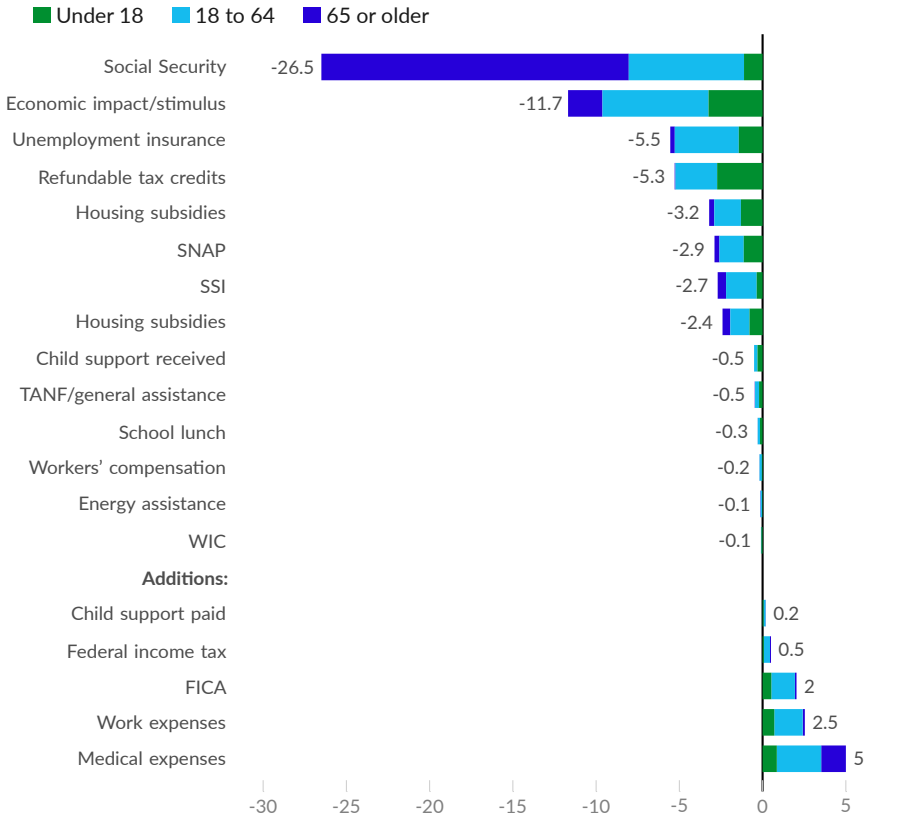
The Census Bureau report the number of people taken out of poverty (according to the supplemental poverty measure) by various government programs, along with how many people are put in poverty by various expenses. In 2020, Social Security payments lift income above the poverty line for 26.5 million people, by far the most effective program for reducing poverty.

Economic impact payments, for example from the CARES act, prevented 11.7 million people from being in poverty. Unemployment benefits removed 5.5 million people from poverty. Refundable tax credits, which often fail to reach the poorest people, would remove 5.3 million people from poverty if participation rates were 100 percent.

Several elements add to the number of people in poverty, medical expenses are the most significant, and cause the disposable income of five million people to fall below the poverty line. Work expenses additionally put two and a half million people in poverty.

Effect of Individual Elements on Poverty Headcount

individual element effect on number of people in poverty, millions, 2020

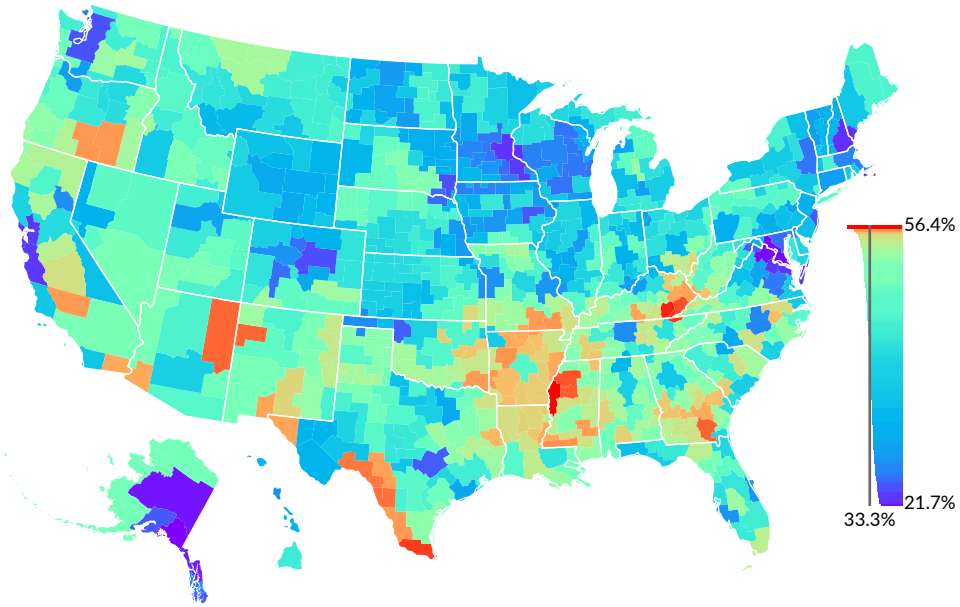


Source: Census Bureau Supplemental Poverty Measure

Poverty can be geographically concentrated. In the United States, some regions have particularly high and persistent poverty rates.

Low-Income Share of Commuter Zone, 2020

Share of commuting zone householders with after-housing-expense annual income below $15,189



Source: American Community Survey, Author's Calculations

Businesses

The factories, offices, and equipment that workers use to produce goods and services are all important to the economy. This section looks at the business sector, with data covering business investment, retail sales, industrial production, corporate profits, and the financial activities of businesses. While the US has some state-owned enterprises, such as the US Postal Service, the Tennessee Valley Authority, and Amtrak, the data contained in this section cover private businesses.

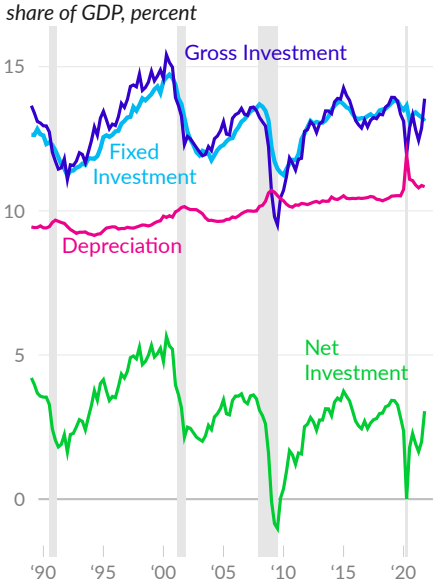
Investment

Production by private businesses requires capital goods, such as buildings, equipment, and software. When businesses purchase such items, defined as having a useful life of more than one year, it is considered fixed investment, or investment in fixed assets. From an accounting perspective, these transactions are considered an exchange of assets (cash in exchange for capital goods) rather than an expense.

Over time, these capital goods wear down, a process called consumption of fixed capital or depreciation. Depreciation is the expense related to capital goods from an accounting perspective. Businesses must decide whether to replace or add to the existing stock of capital goods, and their new purchases of capital goods and inventory investment are considered gross investment. Accordingly, net investment is gross investment minus depreciation, and measures whether the stock of capital goods is expanding.

Net investment is important for many reasons. In the short run, the production and installation of capital goods adds directly to GDP and increases the level of economic activity. In the long run, **investments in fixed assets make workers more productive**, as they allow businesses to produce more goods and services with the same hours of work.

Investment and Depreciation
share of GDP, percent



Source: Bureau of Economic Analysis

In the the fourth quarter of 2021, gross private business investment totals $3,333 billion on a seasonally-adjusted annualized basis, equivalent to 13.9 percent of GDP (see —). Private business investment in fixed assets totals $3,146 billion, or 13.1 percent of GDP (see —). Private business depreciation totals $2,601 billion in the quarter, or 10.8 percent of GDP (see —). As a result, net investment is $732 billion, or 3.1 percent of GDP (see —).

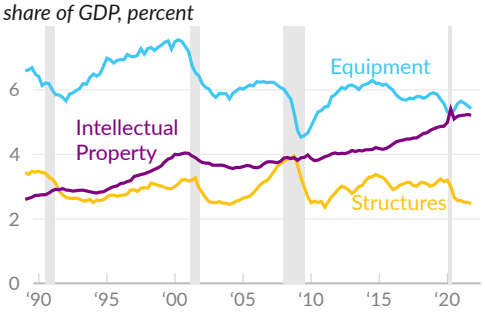
In 2019 Q4, prior to the COVID-19 pandemic, private business gross investment was $2,896 billion. Since 2019 Q4, annualized gross investment increased 15.1 percent. Net investment was $614 billion in 2019 Q4, and increased 19.3 percent from 2019 Q4 to 2021 Q4, as gross investment recovered from its pandemic lows.

Note that gross investment includes fixed investment and inventory investment, or the change in private inventories. Changes to private inventories capture the difference between sales and production. Reduced production of new inventory explains much of the overall reduction in gross investment during the COVID-19 pandemic.

Business investments in fixed assets are grouped into three categories: structures, equipment, and intellectual property (for example software and R&D). Investment in structures was $595 billion in 2021 Q4, equivalent to 2.5 percent of GDP (see —). Equipment investment was $1,301 billion or 5.4 percent of GDP (see —), and intellectual property investment was $1,250 billion or 5.2 percent of GDP (see —).

Business Fixed Investment by Type

share of GDP, percent



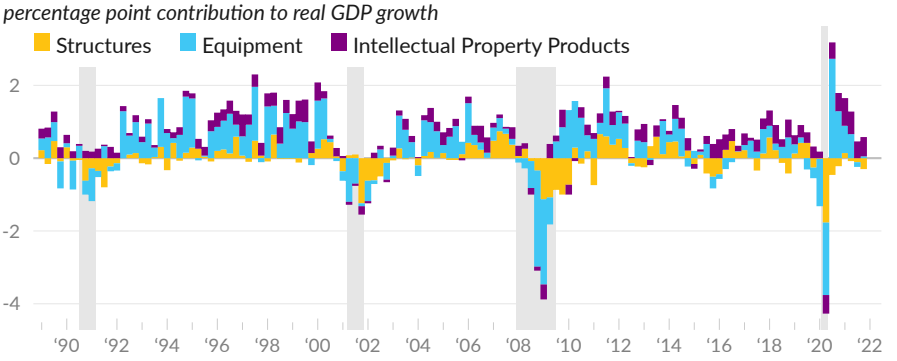
Source: Bureau of Economic Analysis

Contribution to Growth

Business fixed investment contributed 0.28 percentage point to GDP growth in 2021 Q4, in line with the average contribution of 0.35 percentage point over the three years prior to the pandemic. In 2021 Q4, investment in structures subtracted 0.30 percentage point from GDP growth (see ■), investment in equipment contributed 0.05 percentage point (see ■), and investment in intellectual property products contributed 0.53 percentage point (see ■).

Business Fixed Investment

percentage point contribution to real GDP growth



Source: Bureau of Economic Analysis

Business Fixed Investment

percentage point contribution to real GDP growth

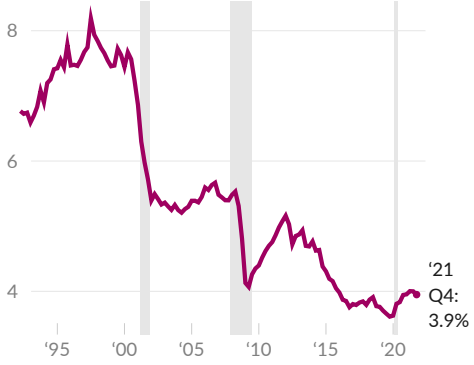
	2021 Q4	'21 Q3	'21 Q2	'21 Q1	'20 Q4	3-year *moving averages*	10-year	30-year
Total	0.28	0.22	1.21	1.65	1.57	0.35	0.52	0.58
■ Structures	-0.30	-0.11	-0.08	0.14	-0.22	-0.19	0.01	0.01
■ Equipment	0.05	-0.13	0.66	0.75	1.29	0.19	0.23	0.34
Information processing	0.45	-0.03	-0.17	0.49	0.31	0.17	0.14	0.22
Computers and peripherals	0.20	0.07	-0.29	0.25	0.11	0.06	0.03	0.12
Industrial equipment	0.19	0.08	0.35	0.08	0.21	0.06	0.04	0.04
Transportation equipment	-0.43	-0.18	0.43	0.08	0.61	-0.09	0.03	0.05
■ Intellectual property products	0.53	0.46	0.62	0.76	0.50	0.36	0.28	0.23
Software	0.27	0.20	0.29	0.52	0.21	0.20	0.16	0.14
Research and development	0.17	0.18	0.28	0.25	0.27	0.15	0.11	0.08

Source: Bureau of Economic Analysis

Productive business investments also show up as **new orders for core capital goods**. The category excludes the more-volatile aircraft orders as well as defense-related orders, and is derived from a Census Bureau survey of shipments, inventories, and orders.

New orders for manufactured core capital goods excluding aircraft totalled $79 billion in December 2021, equivalent to 3.9 percent of GDP (see —). New orders increased by 10.4 percent over the past year, and increased by 21.9 percent since February 2020.

New Orders for Core Capital Goods
nondefense capital goods ex-aircraft, share of GDP



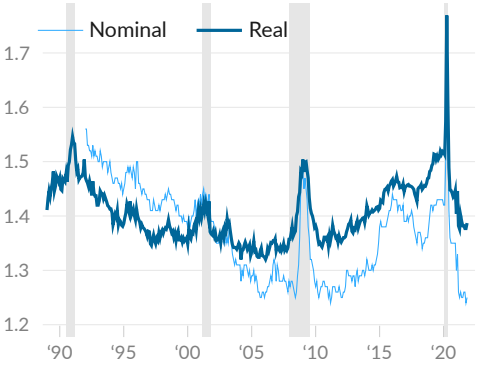
Source: Census Bureau

Inventories

Changes in private inventories are often grouped with investment in national accounts. For purposes of flow measures such as GDP, inventory changes capture a situation where goods were produced but not sold and therefore are not included in consumption or investment. This situation can allow a drop in spending that was not predicted to be obscured in GDP growth figures. However, BEA report an inflation-adjusted ratio of inventories to sales in manufacturing and trade businesses (see —).

When thinking about the longer-term trends in these data, it's important to note that sales of businesses include services while inventories include only goods. Over the 30 years prior to COVID-19, sales shifted towards services, which reduced the inventories to sales ratio, all else equal. Following COVID-19, sales shifted back towards goods, increasing the inventories to sales ratio, all else equal, and affecting comparability of data over this period.

Inventories to Sales Ratio
total business



Source: FRED, BEA

Census report the nominal ratio of inventories to sales for the total business sector (see —). In November 2021, the ratio of inventories to sales was 1.25, compared to 1.24 in October 2021, 1.35 in November 2020, and 1.42 in February 2020.

The inflation-adjusted version from BEA shows inventories at 1.39 times sales in November 2021, following a ratio of 1.24 in October 2021, and 1.44 one year prior, in November 2020. In 2019, real monthly inventories were 1.51 times real monthly sales, on average.

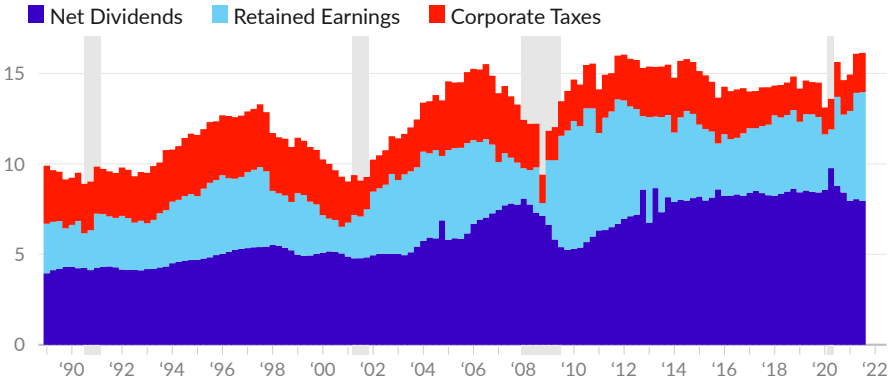
Corporate Profits

The national accounts include detailed information on **aggregate corporate profits**. In the third quarter of 2021, corporate profits were $2.92 trillion, equivalent to 16.1 percent of the income paid to US nationals after depreciation costs (net national income). Of this, $1.44 trillion, equivalent to 8.0 percent of net national income, were paid out as dividends (see ■), $1,084 billion were retained (corporate saving, see ■), and $393 billion, 13.5 percent of corporate profits, went to corporate income tax (see ■).

In 2019, corporate profits were 14.4 percent of net national income. Dividends were equivalent to 8.5 percent, corporate savings were 4.1 percent, and corporate income taxes were 1.8 percent of net national income and 12.8 percent of corporate profits.

Destination of Corporate Profits

share of net national income

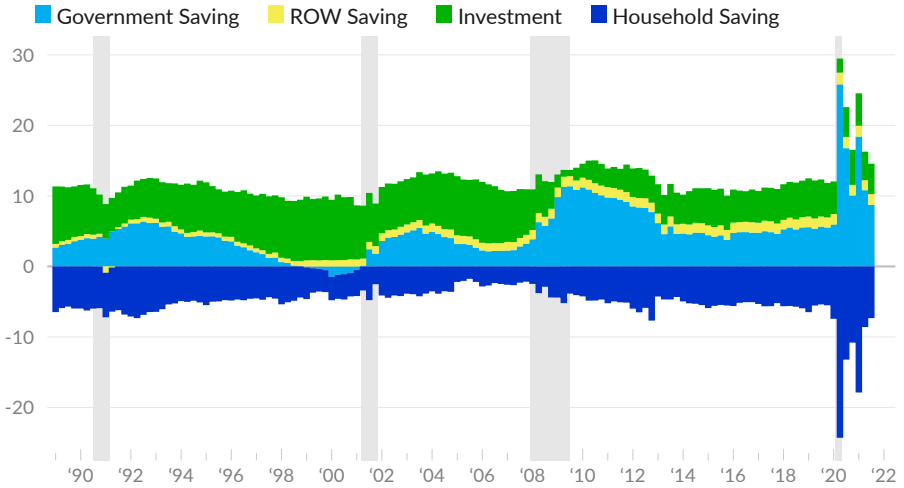


Source: Bureau of Economic Analysis

Aggregate corporate savings (corporate profits less dividends and corporate profit tax) are the result of net investment and non-business saving. Investment (see ■) is a source of aggregate profit because it is revenue for one party but not an expense for the other. Non-business saving, which includes household (see ■), government (see ■), and rest of world saving (see ■), necessarily reduces aggregate corporate profits because it is money that did not return to businesses as revenue.

Sources of Corporate Saving

contribution to corporate saving, as share of gross national income



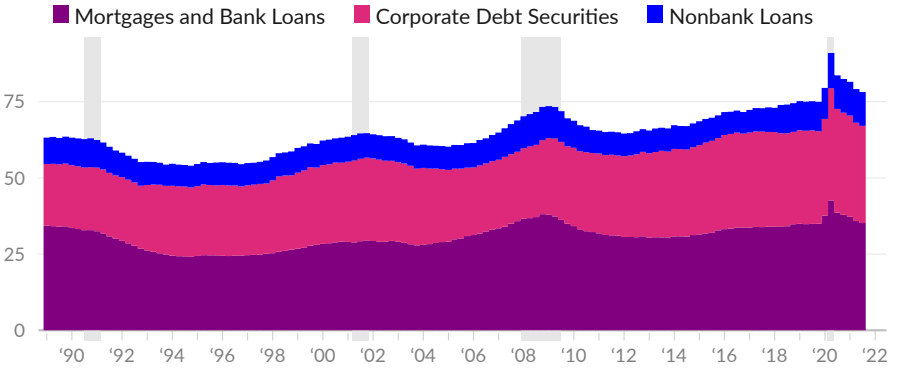
Source: Bureau of Economic Analysis

Business Debt

As of 2021 Q3, nonfinancial business debt–the debt security and loan liabilities of nonfinancial businesses–both corporate and non-corporate–totals $18,147 billion, with $11,388 billion (62.8%) held by corporate businesses. Over the past three years, nonfinancial business debt has increased faster than overall economic activity. As a share of GDP, nonfinancial business debt increased by 4.1 percentage points to 78.2 percent in 2021 Q3 from 74.1 percent in 2018 Q3. The vast majority of the increase, 1.7 percentage points, comes from nonbank loans (see ■).

Nonfinancial Business Debt

by type, as share of GDP



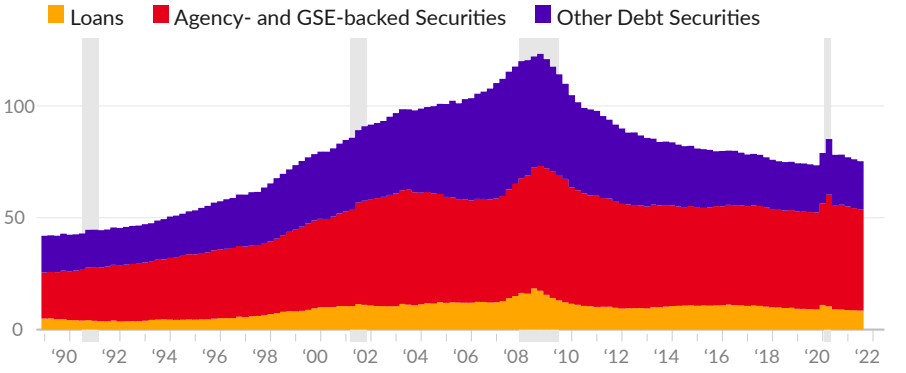
Source: Federal Reserve, Bureau of Economic Analysis

The debt of the domestic financial sector includes agency and government-sponsored enterprise (GSE) backed securities (see ■), corporate and foreign bonds, loans (see ■), and open market paper. The long-term increase in financial sector debt reflects the emergence and growth of various asset-backed securities. In addition to home mortgage-backed securities, the domestic financial sector issues debt securities based on commercial mortgages, auto loans, credit cards, student debt, and even restaurant revenue.

Domestic financial sector debt has fallen as a share of GDP to 75.3 percent in 2021 Q3 from a housing-bubble peak of 123.2 percent in 2008 Q4.

Financial Sector Debt

by type, as share of GDP



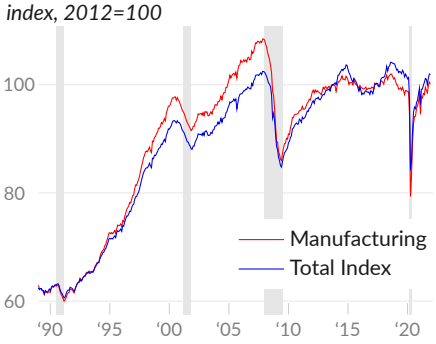
Source: Federal Reserve, Bureau of Economic Analysis

Industrial Production

A monthly index produced by the Federal Reserve shows industrial production increased by 3.7 percent over the year ending December 2021, following an increase of 5.0 percent over the year ending November 2021. One-year growth in manufacturing production was 3.5 percent in December 2021, and manufacturing contributed 2.6 percentage points to the overall change in industrial production. Over the same period, mining contributed 1.6 percentage points to the overall change, and electric and gas utilities subtracted 0.4 percentage point.

By market group, production of consumer goods subtracted 0.1 percentage point from one-year industrial production growth in December 2021. Production of business equipment contributed 1.1 percentage points, production of nonindustrial supplies contributed 0.5 percentage point, and production of materials contributed 2.2 percentage points.

Industrial Production
index, 2012=100



Source: Federal Reserve

Industrial Production Growth

One-year growth | *contribution to total* | | | | *rate, percent* | | | |

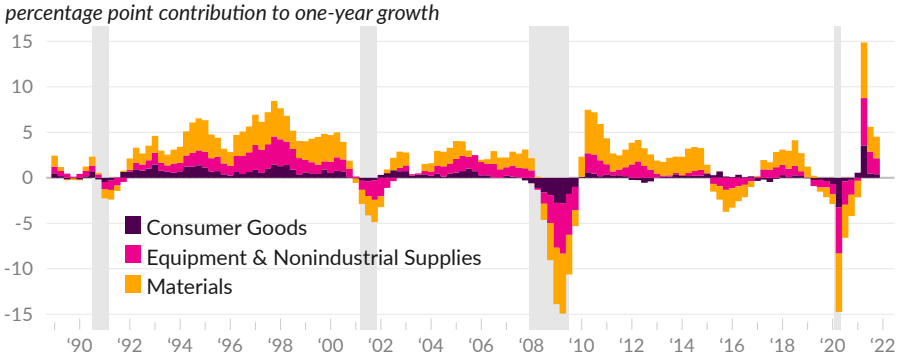
	Dec '21	Nov '21	Oct '21	Dec '20	Dec '21	Nov '21	Oct '21	Dec '20
Total index	3.7	5.0	4.8	-3.3	3.7	5.0	4.8	-3.3
Manufacturing	2.6	3.3	3.3	-1.7	3.5	4.5	4.5	-2.2
Durable manufacturing	1.4	1.7	1.9	-0.9	3.8	4.6	5.0	-2.4
Motor vehicles & parts	-0.3	-0.2	-0.2	0.2	-5.9	-5.0	-4.0	2.9
Nondurable manufacturing	1.2	1.7	1.6	-0.5	3.6	4.9	4.5	-1.5
Mining	1.6	1.3	1.7	-1.7	11.0	8.9	12.2	-15.2
Utilities	-0.4	0.4	-0.1	0.1	-3.4	3.8	-0.8	1.3
Consumer goods	-0.1	0.8	0.5	0.2	-0.2	2.8	1.7	0.7
Consumer durables	-0.1	0.0	0.0	0.3	-1.0	0.4	0.5	4.3
Automotive products	-0.2	-0.2	-0.1	0.2	-6.4	-4.7	-3.8	5.3
Consumer nondurables	0.0	0.8	0.4	-0.1	0.0	3.6	2.0	-0.4
Foods and tobacco	-0.1	0.0	0.1	-0.0	-0.8	0.4	1.1	-0.0
Chemical products	0.3	0.4	0.4	0.1	5.5	8.1	8.1	1.4
Consumer energy products	-0.2	0.4	-0.0	-0.1	-3.2	6.7	-0.7	-1.5
Equipment & nonindustrial supplies	1.6	1.8	1.8	-1.5	5.7	6.6	6.5	-5.3
Equipment	1.1	1.1	1.3	-1.0	8.4	8.9	9.9	-8.2
Industrial equipment	0.3	0.4	0.4	-0.1	9.7	12.0	11.4	-3.1
Nonindustrial supplies	0.5	0.7	0.6	-0.5	3.4	4.7	3.8	-2.9
Construction supplies	0.2	0.3	0.2	0.0	4.4	5.4	3.7	0.1
Business supplies	0.3	0.5	0.4	-0.5	2.8	4.4	3.8	-4.3
Materials	2.2	2.4	2.5	-1.9	4.9	5.3	5.6	-4.5
Consumer parts	-0.0	0.0	0.0	0.1	-1.1	0.1	0.9	2.4
Equipment parts	0.3	0.3	0.3	-0.1	5.6	6.2	7.1	-1.4
Chemical materials	0.4	0.3	0.3	0.2	6.9	6.1	6.1	3.2
Energy materials	1.2	1.3	1.5	-1.5	6.5	7.2	8.2	-10.0

Source: Federal Reserve

Market group data show the lack of growth in the production of consumer goods, equipment, and nonindustrial supplies over the past decade.

Industrial Production Growth, Market Group

percentage point contribution to one-year growth

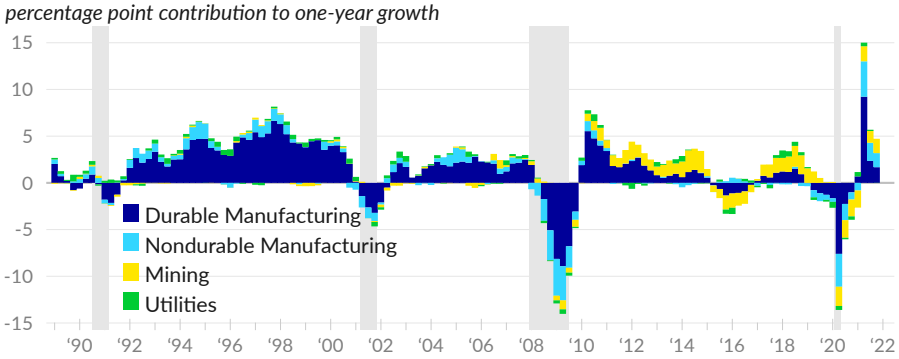


Source: Federal Reserve

Industry group data show a long-term change in the composition of new industrial activity, towards mining and away from manufacturing.

Industrial Production Growth, Industry Group

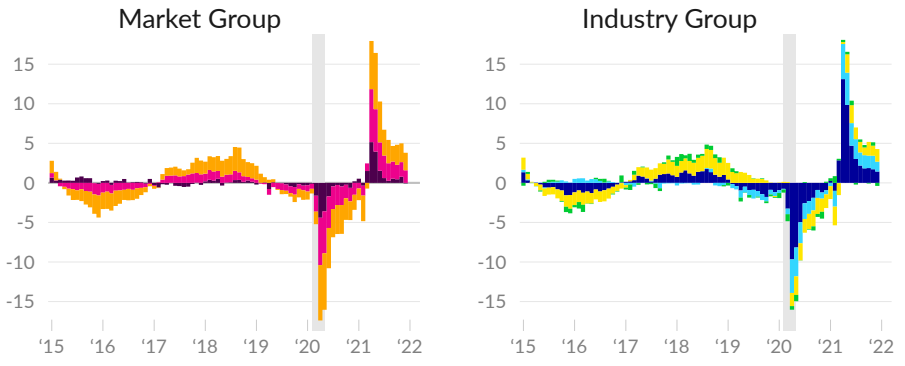
percentage point contribution to one-year growth



Source: Federal Reserve

Reduced production during the pandemic was broad-based. The monthly data are shown in detail below.

Recent data in detail



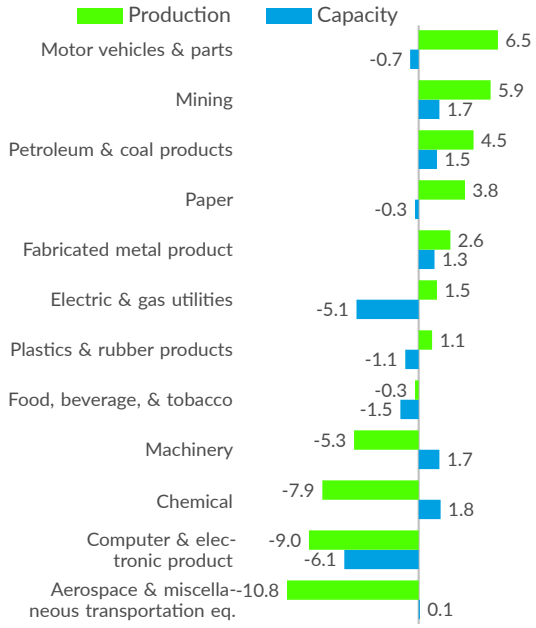
Source: Federal Reserve

As of December 2021, of a subset of 12 industries that contribute the majority of industrial production, seven increased **production** since February 2020, five decreased production, and none were unchanged (see ■). Since February 2020, aerospace & miscellaneous transportation equipment production decreased by 10.8 percent, production of computer & electronic products decreased by 9.0 percent, chemical production decreased by 7.9 percent, and motor vehicles & parts production increased by 6.5 percent.

Since February 2020, six of the 12 industries increased **capacity**, six decreased capacity, and none were unchanged (see ■). Production capacity for computer & electronic products decreased by 6.1 percent, electric & gas utilities capacity decreased by 5.1 percent, and chemical capacity increased by 1.8 percent.

Industrial Production and Capacity

As of December 2021, percent change since February 2020



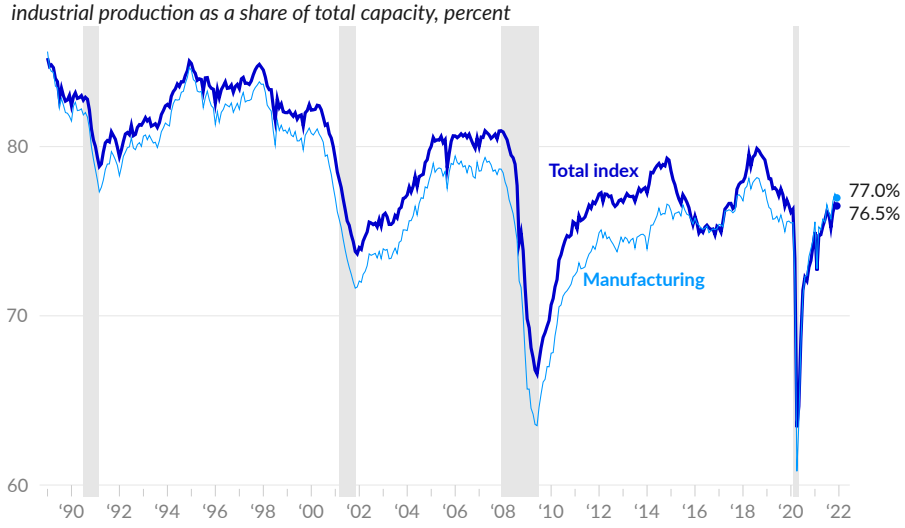
Source: Federal Reserve

The Federal Reserve's monthly industrial production report also measures the economy's total industrial capacity. The extent to which the economy is using its industrial capacity is called **capacity utilization**, and calculated as industrial production as a share of total industrial capacity. Long-term, capacity utilization has fallen as many US factories and industrial production facilities closed.

In December 2021, the industrial capacity utilization rate was 76.5 percent (see —), and the manufacturing capacity utilization rate was 77.0 percent (see —). Total capacity utilization has fallen by 8.7 percentage points since January 1989.

Capacity Utilization

industrial production as a share of total capacity, percent



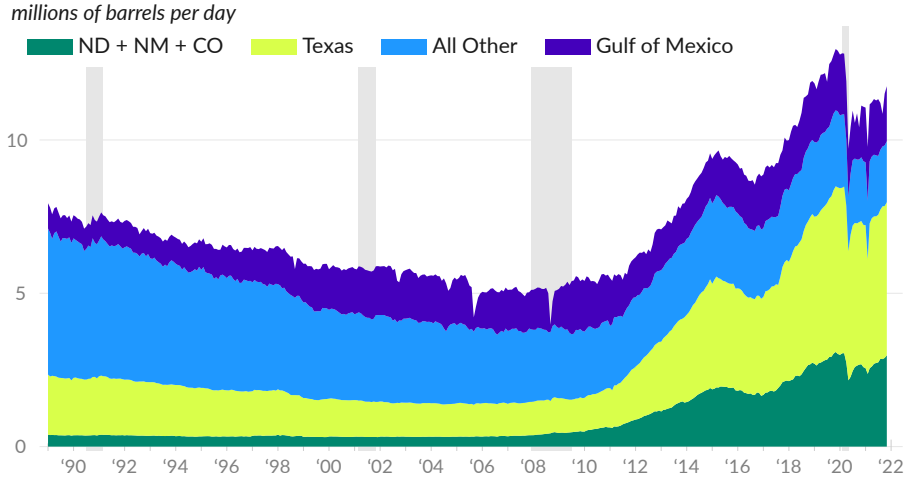
Source: Census Bureau

Energy Production and Use

The Energy Information Administration report a large increase in US **crude oil production**, from around five million barrels per day in 2007 to nearly 13 million barrels per day at the end of 2019. Much of the increase comes from Texas, New Mexico, North Dakota, and Colorado. During November 2021, the US produced 11.8 million barrels per day.

Crude Oil Production

millions of barrels per day

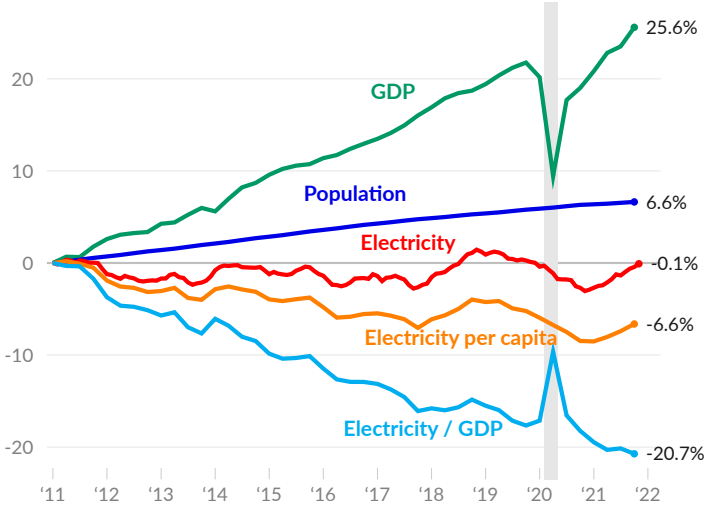


Source: Energy Information Administration

Since 2011, annualized total US **electricity generation** has remained fairly constant at around four trillion kilowatt hours. Over the same period, the US population has increased by 6.3 percent and real GDP has increased by 24.6 percent. During the 12 months ending November 2021, the US generated 4,123 billion kilowatt hours of electricity.

Electricity Generation, Population, and Production

cumulative percent change since 2011

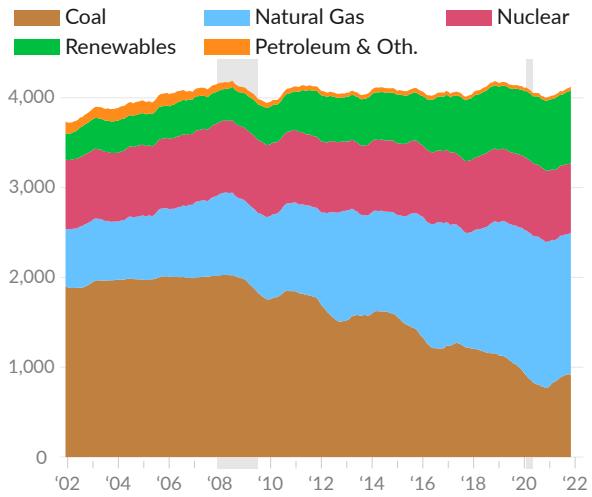


Source: EIA, BEA

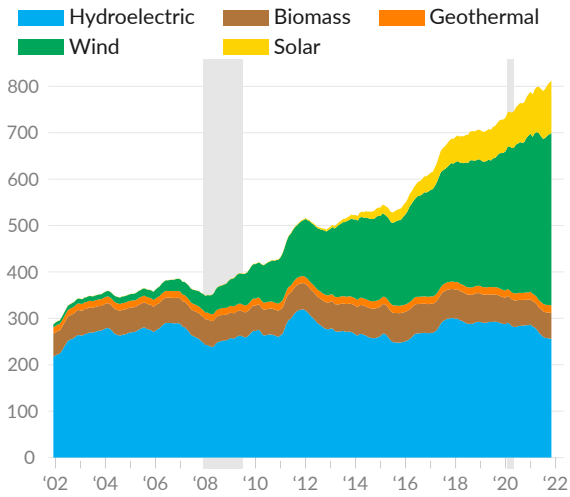
Over the year ending November 2021, 1,577 billion kilowatt hours of electricity were generated using natural gas (see), 918 billion kilowatt hours were generated from coal (see), 779 billion from nuclear (see), and 812 billion from renewable sources (see).

Electricity Generation by Source

billion kilowatt hours, 12-month moving sum



Renewable Sources



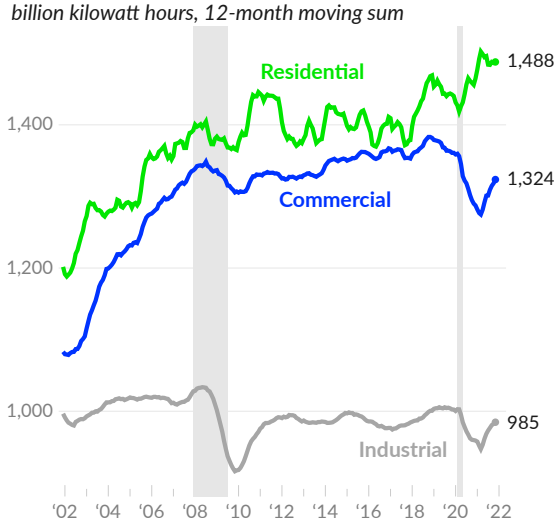
Source: Energy Information Administration

Among renewable energy sources, over the year ending November 2021, 256 billion kilowatt hours of electricity were generated with conventional hydroelectric (see), 56 billion kilowatt hours were generated from biomass (see), 16 billion were generated from geothermal (see), 371 billion from wind (see), and 113 billion from solar (see).

Retail sales of electricity by sector show a decrease in electricity sales to commercial and industrial sectors during the pandemic, offset in part by increased electricity sales to the residential sector.

Electricity Retail Sales by Sector

billion kilowatt hours, 12-month moving sum



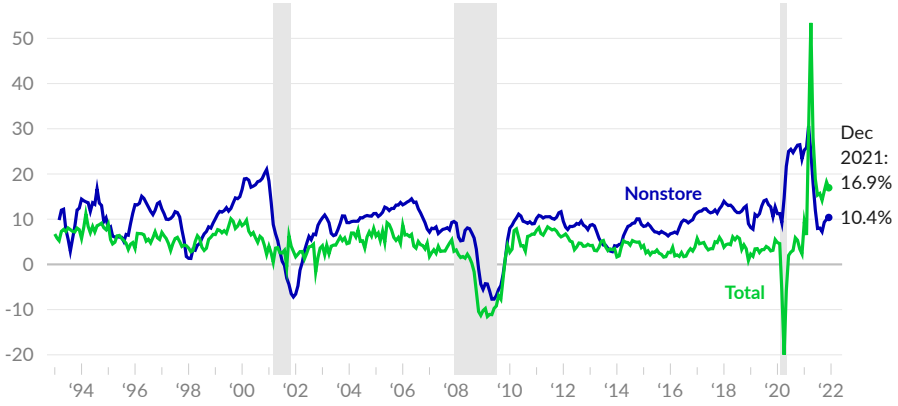
Source: Energy Information Administration

Retail Sales

According to the Census Bureau, retail and food service sales total $626.8 billion in December 2021, equivalent to 31.4 percent of GDP on an annualized basis. Over the past year, retail and food service sales increased by 16.9 percent, without adjusting for inflation (see —). Nonstore sales, which include online retailers, have increased by 10.7 percent over the same period, and total $82.6 billion, or 4.1 percent of GDP. Nonstore sales growth is smoothed in the chart below by taking the three-month moving average (see —).

Retail Sales and Food Services

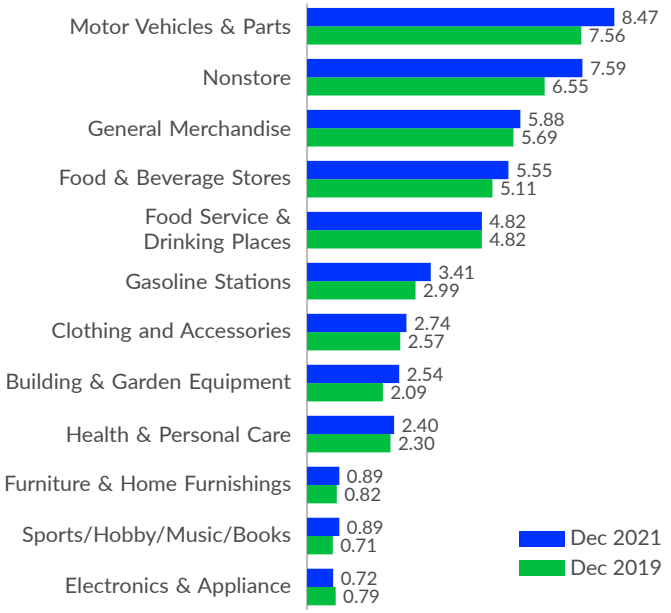
annual growth, percent; nonstore is 3-month moving average



Source: Census Bureau

Retail sales

share of disposable personal income



Source: Census Bureau, BEA

Government

Public institutions are collectively referred to as the *public-sector* or the *government*. In the United States, the government has the authority to spend, tax, and create money, as well as to regulate economic and financial activity. The government also enforces and determines the ownership of property. These activities are all extremely important to production and distribution in the economy.

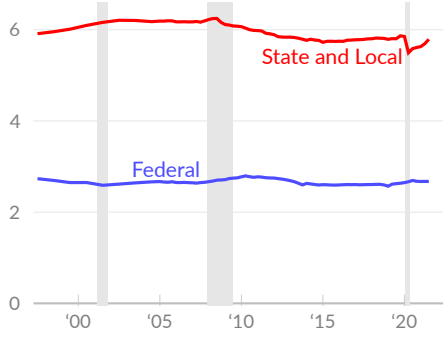
This chartbook section covers various government statistics, including contributions to current economic activity, receipts and expenditures, assets and liabilities, and government jobs.

Current Economic Activity

The government has several roles in society and there are multiple ways to interpret its contribution to current economic activity. The contribution to overall economic activity from the government sector can be measured as: 1) the gross output of the sector minus intermediate inputs used in production (value added); 2) the government income payments to people and on behalf of people and taxes and social insurance contributions; or 3) the sum of government expenditures on final goods and services, including investment.

The value added in production by the government sector is composed primarily of the compensation of government employees. These employees provide all types of services: education, health care, transportation, utilities, sanitation, etc. Government value added also includes a residual term called gross operating surplus, much of which reflects money spent replacing and maintaining government fixed assets.

Value Added in Domestic Production
per capita, thousands of 2021 Q3 dollars



Source: Bureau of Economic Analysis

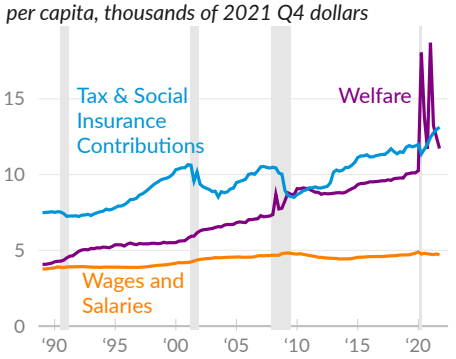
In the third quarter of 2021, the federal government value added in domestic production is $886.4 billion, equivalent to $2,674 per capita (see —). In 2019 Q4, federal government value added in production was equivalent to $2,634 per capita, after adjusting for inflation.

State and local government value added in domestic production is $1,919.5 billion in 2021 Q3 and $1,840.0 billion in 2019 Q4, equivalent to $5,790 and $5,867 per capita, respectively (see —).

Payments from the government to people include both the wages and salaries of government workers and transfer payments, also referred to as government social benefits or welfare. Welfare is critically important to society, yet the word is stigmatized in the US. It's worth noting that a huge portion of US welfare payments are not cash transfers to people but payments to businesses on behalf of people. For example, the US overpays for prescription drugs and medical services on behalf of people. Those over-payments benefit shareholders and doctors. The US also structures certain welfare payments as complex phased-in tax credits, paid the following year, which have very high private administrative costs (around ten percent goes to tax preparation services) and exclude the poorest people.

Over the past thirty years, welfare payments, including those made to businesses, have mostly kept pace with consumer spending, while tax collection lagged behind income growth. Increased welfare payments on a per capita basis reflect price protections for the medical industry, as well as a larger share of the population receiving social security benefits. During the COVID-19 pandemic, consumer spending on services collapsed as businesses were closed, while government transfer payments to people hit record highs. As a result, estimates show seven million people taken out of poverty.

Personal Income and Outlays
per capita, thousands of 2021 Q4 dollars



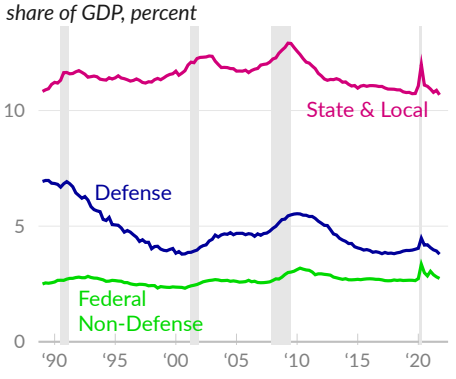
Source: Bureau of Economic Analysis

In 2021 Q4, government worker wages and salaries, not including benefits, were equivalent to $4,701 per capita, following a price-adjusted $4,812 in 2019 Q4 (see —). Welfare payments were equivalent to $11,719 per capita in 2021 Q4, compared to $10,114 per capita in 2019 Q4 (see —). In 1989 Q1, welfare payments were equivalent to $4,081 per person.

Personal current taxes and social insurance contributions total $13,128 per capita in 2021 Q4, $11,888 in 2019 Q4, and $7,477 in 1989 (see —).

Another approach to calculating the government sector effect on current economic activity is to add up spending on final goods and services. Government consumption and investment tends to be more stable than consumer spending or private investment, and thus tends to rise as a share of economic activity during recessions. This category does not include government transfer payments, which mostly become consumer spending.

Consumption and Investment
share of GDP, percent



Source: Bureau of Economic Analysis

In 2021 Q4, federal non-defense spending and investment was $657.0 billion, equivalent to 2.7 percent of GDP, compared to 2.6 percent of GDP in 2019 Q4 (see —). Federal spending on national defense was equivalent to 3.8 percent of GDP in the latest quarter and 4.0 percent in 2019 Q4 (see —). National defense spending was 6.9 percent of GDP in 1989 Q1.

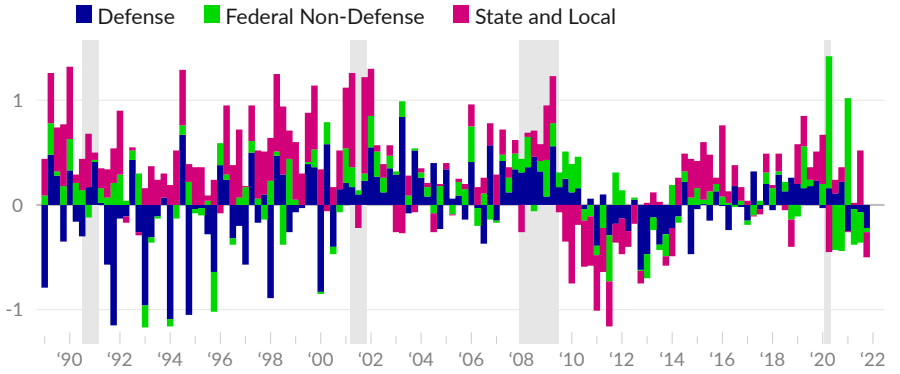
In 2021 Q4, state and local government spending and investment was equivalent to 10.7 percent of GDP, compared to 10.7 percent in 2019 Q4 (see —).

Government Spending and Investment

Government consumption expeditures and gross investment, which provide services and infrastructure, subtracted 0.51 percentage point from real GDP growth in 2021 Q4, far below the average contribution of 0.02 percentage point over the past year, and far below the average of 0.23 percentage point since 1989. In 2021 Q4, federal defense spending and investment (see ■) subtracted 0.22 percentage point, nondefense federal government spending and investment (see ■) subtracted 0.04 percentage point, and state and local government (see ■) subtracted 0.24 percentage point.

Government Consumption and Investment

percentage point contribution to real GDP growth



Source: Bureau of Economic Analysis

Government Consumption and Investment

percentage point contribution to real GDP growth

	2021 Q4	'21 Q3	'21 Q2	'21 Q1	'20 Q4	*moving averages* 3-year	10-year	30-year
Total	-0.51	0.17	-0.36	0.77	-0.09	0.27	0.10	0.21
Federal total	-0.27	-0.35	-0.38	0.78	-0.22	0.16	0.01	0.07
■ National defense	-0.22	-0.07	-0.04	-0.25	0.22	0.07	-0.04	0.01
Consumption expenditures	-0.20	-0.16	-0.09	-0.28	0.12	0.02	-0.04	0.00
Gross investment	-0.02	0.09	0.05	0.03	0.10	0.05	0.00	0.01
■ Nondefense	-0.04	-0.29	-0.34	1.02	-0.44	0.09	0.05	0.06
Consumption expenditures	-0.08	-0.33	-0.35	1.07	-0.34	0.07	0.04	0.04
Gross investment	0.04	0.04	0.01	-0.05	-0.10	0.02	0.01	0.02
■ State & local total	-0.24	0.52	0.02	-0.01	0.14	0.11	0.09	0.14
Consumption expenditures	-0.12	0.60	0.28	0.22	-0.05	0.12	0.09	0.12
Gross investment	-0.12	-0.08	-0.26	-0.23	0.19	-0.02	0.00	0.03

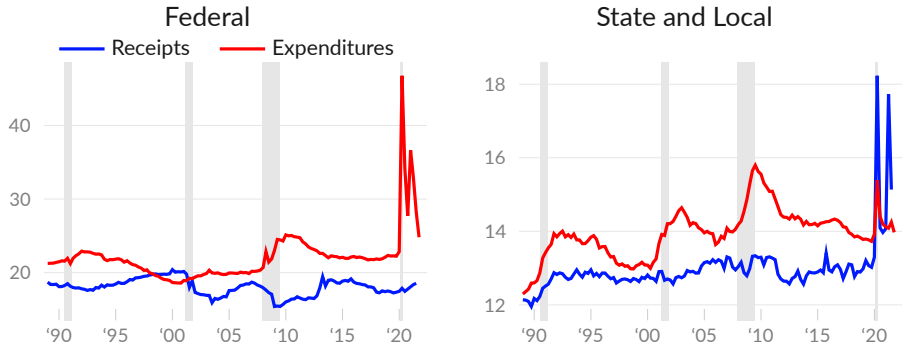
Source: Bureau of Economic Analysis

Government current expenditures include consumption and investment as well as transfers such as government social benefits to persons. Government spending provides services and income to people. Government current receipts come primarily from taxes. When government expenditures exceed receipts, it is referred to as a *government deficit*, and corresponds to a private sector surplus. A large government deficit, relative to GDP, means the government is increasing current household income and corporate profits.

Federal government expenditures total $6.0 trillion, or 24.8 percent of GDP, in 2021 Q4. BEA has not yet released receipts data for 2021 Q4, however, in 2021 Q3, federal government receipts total $4.3 trillion, or 18.5 percent of GDP. In 2021 Q3, the federal government deficit was $2,257 billion or 9.7 percent of GDP.

Combined state and local government expenditures total $3.4 trillion, or 14.0 percent of GDP, in 2021 Q4. BEA has not yet released receipts data for 2021 Q4, however, in 2021 Q3, combined state and local government receipts total $3.5 trillion, or 15.1 percent of GDP. In 2021 Q3, the combined state and local government surplus was $206 billion or 0.9 percent of GDP.

Receipts and Expenditures as Share of GDP

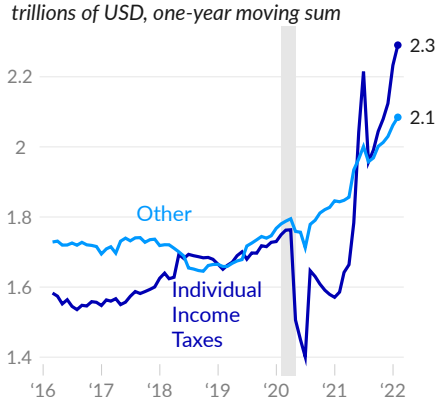


Source: Bureau of Economic Analysis

The United States Treasury report federal government receipts and outlays in the Monthly Treasury Statement. Over the 12 months ending January 2022, Federal government receipts total $4.4 trillion, of which $2.3 trillion are from individual income taxes (see —). The remaining receipts (see —) are largely social insurance contributions ($1.3 trillion) and corporate income taxes ($0.4 trillion).

Federal Government Receipts

trillions of USD, one-year moving sum



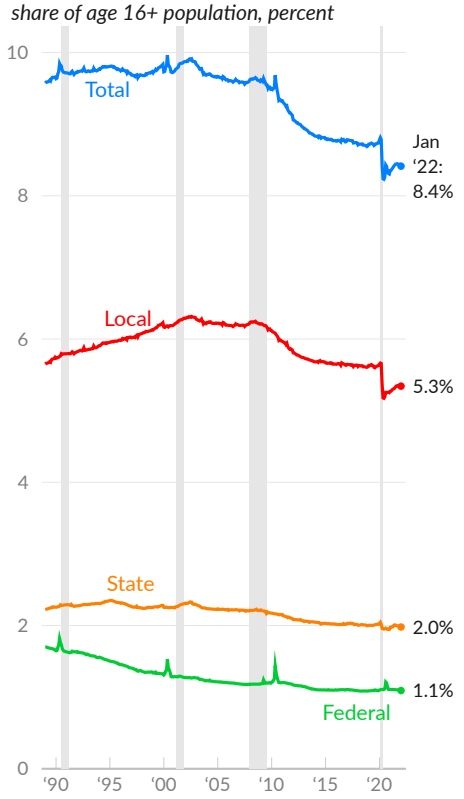
Source: Treasury

Government Jobs

Government workers provide public services to the population. As examples, federal government jobs include the Postal Service, state government jobs include teachers and social workers, and local governments employ firefighters and utilities workers. Additionally, government employment is traditionally a relatively-stable source of aggregate household income. Government jobs are also disproportionately likely to provide health insurance and retirement benefits.

Government Employment

share of age 16+ population, percent



Source: Bureau of Labor Statistics

In January 2022, there were 22.1 million government jobs, equivalent to 8.4 for every 100 people in the age 16+ population (see —). The previous year, in January 2021, there were 21.8 million government jobs, equivalent to 8.4 percent of the age 16 or older population. During the 1990s, there were 9.7 government jobs per person age 16 or older. If the rate was the same today, there would be 3.5 million additional government workers.

By level of government, there were 14.1 million local government workers in January 2022, equivalent to 5.3 percent of those age 16 or older (see —). In the same period, there were 5.2 million state government workers (2.0 percent of 16+ year olds, see —), and 2.9 million federal government workers (1.1 percent, see —).

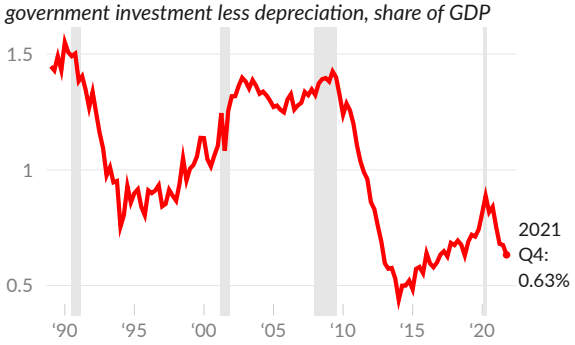
Since 2019, the US has lost 587,000 total government jobs. Of these, 587,000, or 100.0 percent of the shortfall, are local government jobs. During the same period, state governments lost 38,000 jobs, while the federal government added 38,000 jobs.

Government Net Investment

Government gross investment, less depreciation, is the government's net investment in the tangible assets that make the economy more productive. Government investment includes infrastructure, buildings, equipment, intellectual property, and other capital goods. In the latest data, covering 2021 Q4, government net investment is $151.8 billion. Government net investment is equivalent to 0.63 percent of GDP in 2021 Q4 (see —), compared to 0.84 percent in 2020 Q4, and 0.74 percent in 2019 Q4.

Government Net Investment

government investment less depreciation, share of GDP



Source: Bureau of Economic Analysis

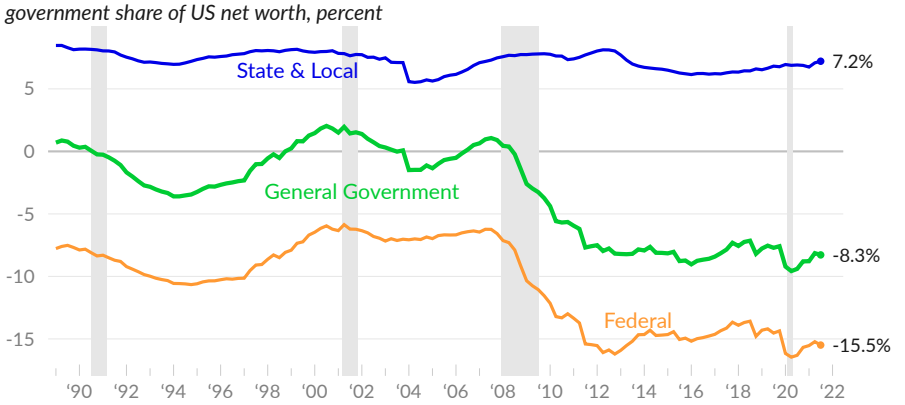
Government Balance Sheets

Government Sector Net Worth

The combined US government sector has a net worth of $-20.3 trillion, as of 2021 Q3, equivalent to -8.3 percent of national wealth (see —). Federal government net worth (not including land) is equal to -15.5 percent of national wealth (see —) while state and local government net worth is equilavent to 7.2 percent (see —).

Government Share of US Wealth

government share of US net worth, percent



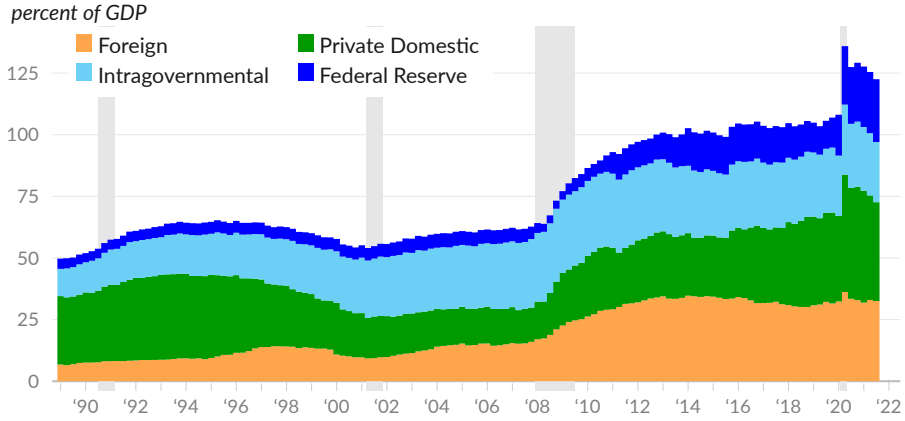
Source: Federal Reserve

Liabilities

In the third quarter of 2021, total public debt was $28.4 trllion, equivalent to 122.5 percent of GDP. Of this, $9.3 trillion, or 32.7 percent of the total, is held by private domestic investors (see ■). An additional $7.5 trillion, or 26.6 percent of the total, is held by foreign investors (see ■). The remainder is held by the Federal Reserve (see ■) and various government agencies and trusts (see ■), such as the Social Security Trust Fund.

Total Public Debt By Holder

percent of GDP



Source: Treasury

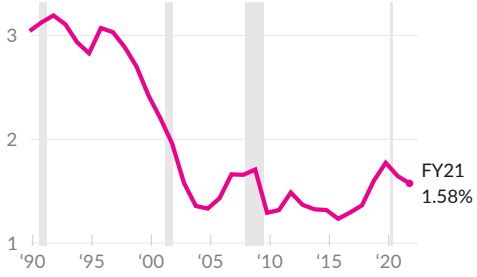
The ratio of public debt to GDP increased during the COVID-19 response, while the typical interest income from holding public debt fell because of lower interest rates. Treasuries and other government debt securities provide a safe asset for the balance sheets domestic households and businesses, and for foreign investors.

Interest Expense

The Office of Management and Budget report federal interest outlays of $352 billion in fiscal year 2021, compared to $345 billion in fiscal year 2020. Put into the context of the size of the economy, federal interest outlays in fiscal year 2021 were equivalent to 1.58 percent of GDP (see —), following 1.65 percent of GDP in FY2020 and 1.77 percent in FY2019, and compared to an average of 2.9 percent in the 1990s, when interest rates were substantially higher.

Federal Interest Outlays

share of GDP, percent



Source: FRED; OMB

While debt levels are much lower for the consolidated state and local government sectors, interest rates on state and local government debt are typically higher. As a result, interest paid to investors can claim a larger share of government expenses at the state and local level.

Assets

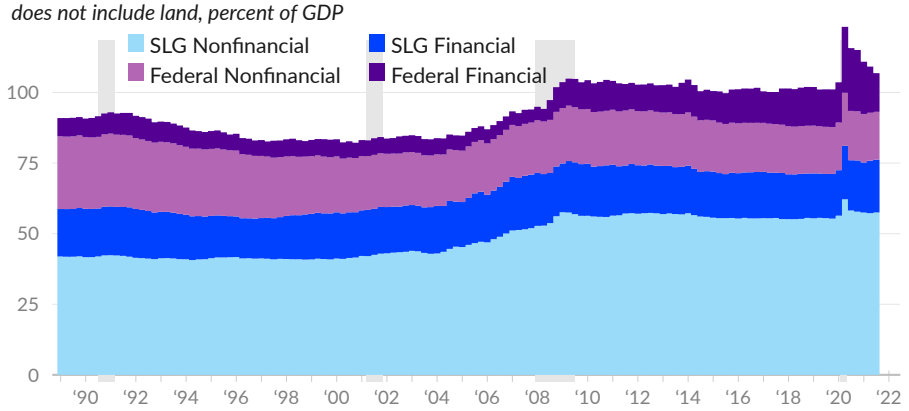
US government assets include financial assets but are mostly comprised of the non-financial assets of state and local governments (SLG), such as buildings and equipment. Land is not included in US measures of government assets.

In the third quarter of 2021, public/government assets excluding land are valued at $24.8 trillion, equivalent to 106.8 percent of GDP. Of this, state and local government nonfinancial assets, such as buildings and equipment, are equivalent to 57.5 percent of GDP (see), and state and local government financial assets, such as insurance trust funds, are equivalent to 18.7 percent of GDP (see).

Federal government nonfinancial assets are equivalent to 16.9 percent of GDP in 2021 Q3 (see). Federal government financial assets have a market value equivalent to 13.7 percent of GDP (see).

Government Assets

does not include land, percent of GDP



Source: Federal Reserve

International Transactions

Transactions between the US and the rest of the world are recorded in the balance of payments as either current account transactions (which measure income) or capital and financial account transactions (which measure change in ownership of assets). This section discusses both types of transactions with a focus on the difference between payments from residents and payments to residents, referred to as the balance of payments. The section also covers trade in more detail and discusses trends in exchanges rates.

Balance of Payments

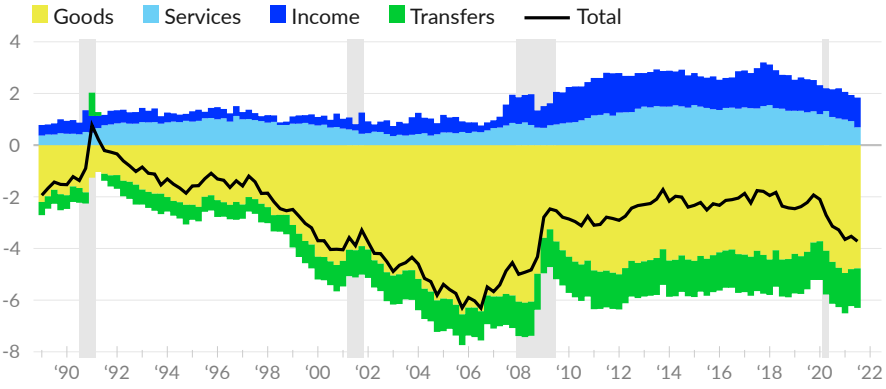
The **current account balance** captures international payments for goods and services as well as international transfers of money and net income received from ownership of foreign assets. It is the result of a set of payments to US residents, called current receipts, which are largely for exports of goods and services and returns on foreign assets, and a set of payments from US residents to the rest of the world, called current payments. Current payments are for goods and services imports, as well as transfers and payments for foreign ownership of US-based assets.

The current account balance can be decomposed into the balance on trade in goods (see), the balance on trade in services (see), the balance on primary income (such as wages or income from assets [see]), and secondary income (such as remittances and taxes [see]).

As of 2021 Q3, the US runs a current account deficit of 3.7 percent of GDP, primarily as the result of a trade deficit on goods of 4.8 percent of GDP. The initial GDP report for 2021 Q4 does not include the data needed to calculate the current account balance, however, the goods trade deficit for 2021 Q4 is equivalent to 4.8 percent of GDP.

Current Account Balance

balance on individual current account component, as percent of GDP



Source: Bureau of Economic Analysis

US current payments exceed current receipts and the US runs a persistent current account deficit. As a result, the extra flow of income (including in the form of goods and services) is balanced by an outflow of assets. Economic theory suggests that investment flows towards countries with lower labor costs and less capital per worker, as they have higher marginal productivity from additional capital. However, in the case of the US the opposite is happening, as net investment is flowing from less-developed countries with lower wages into the US. In other words, the US is borrowing money from less-developed countries to balance out its trade deficit, as shown in the financial accounts.

Components of Current Account

share of GDP, percent *moving averages*

	2021 Q4	'21 Q3	'21 Q2	'21 Q1	'20 Q4	'20 Q3	3-year	10-year
Current receipts	–	16.56	16.47	16.20	15.99	15.39	–	–
Exports	11.10	10.71	10.82	10.49	10.34	9.84	11.00	12.28
Goods	7.83	7.55	7.59	7.29	7.08	6.68	7.39	8.23
Durable	4.21	4.16	4.25	4.18	4.15	3.96	4.29	5.01
Nondurable	3.62	3.39	3.34	3.12	2.93	2.73	3.10	3.21
Services	3.27	3.17	3.23	3.20	3.26	3.15	3.61	4.05
Income receipts	–	5.10	4.89	4.91	4.86	4.71	–	–
Transfer receipts	0.74	0.75	0.76	0.80	0.79	0.84	0.78	0.78
Current payments	–	20.28	20.01	19.85	19.26	18.53	–	–
Imports	15.11	14.79	14.70	14.45	14.06	13.27	14.28	15.33
Goods	12.61	12.32	12.40	12.24	11.83	11.21	11.79	12.61
Durable	7.96	7.87	8.11	8.13	7.98	7.43	7.64	7.94
Nondurable	4.65	4.44	4.29	4.12	3.85	3.78	4.14	4.67
Services	2.50	2.48	2.31	2.21	2.23	2.07	2.49	2.72
Income payments	–	3.95	3.88	3.84	3.69	3.64	–	–
Transfer payments	1.40	1.53	1.43	1.56	1.52	1.62	1.51	1.45
Current account balance	–	-3.72	-3.53	-3.65	-3.28	-3.14	–	–

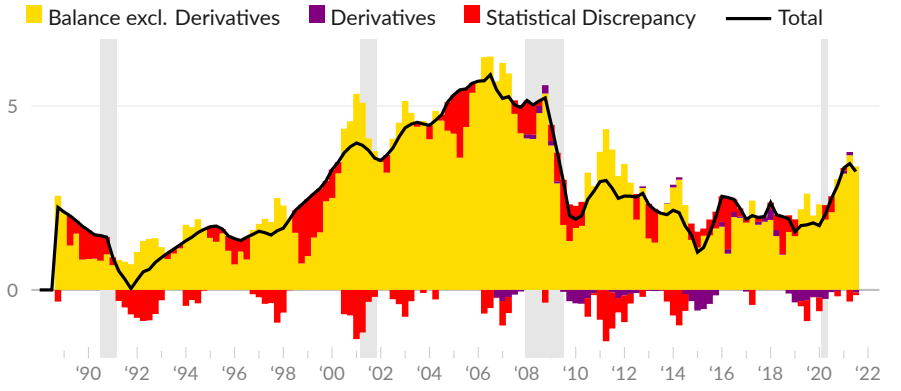
Source: Bureau of Economic Analysis

Financial account transactions include the net domestic acquisition of foreign assets and the net domestic incurrence of foreign liabilities. The US **financial account balance** (see ■) is the net lending or borrowing of the combined domestic sectors with the rest of the world. The timing of payments lead to a statistical discrepancy (see ■), but the financial and capital account balance and current account balance otherwise sum to zero.

Over the year ending 2021 Q3, net domestic acquisitions of foreign assets were equivalent to 5.8 percent of GDP, while net domestic incurrence of foreign liabilities was equivalent to 9.2 percent of GDP. As a result, domestic net borrowing totals 3.2 percent of GDP over the one-year period.

Financial Account Balance

percent of GDP



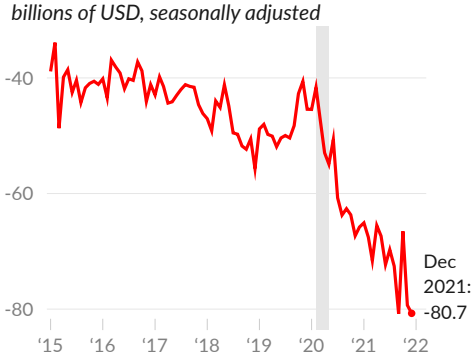
Source: Bureau of Economic Analysis

Trade

Goods and services trade between the US and the rest of the world is reported each month by the Census Bureau. US purchases of foreign goods and services are imports and foreign purchases of US goods and services are exports. Trade in goods includes consumer goods, industrial equipment, and agricultural products. Trade in services includes travel and tourism, business services, and charges for the use of intellectual property, among other services.

US Imports and Exports, Monthly
billions of USD, seasonally adjusted

Trade Balance, Monthly
billions of USD, seasonally adjusted



Source: Census Bureau

US imports of goods and services totaled $308.9 billion in December 2021, following imports of $304.1 billion in November (see —). Over the three months ending December 2021, imports averaged $301.2 billion per month, compared to an average of $251.9 billion per month one year prior, during the same three months. In 2019, imports averaged $258.7 billion per month.

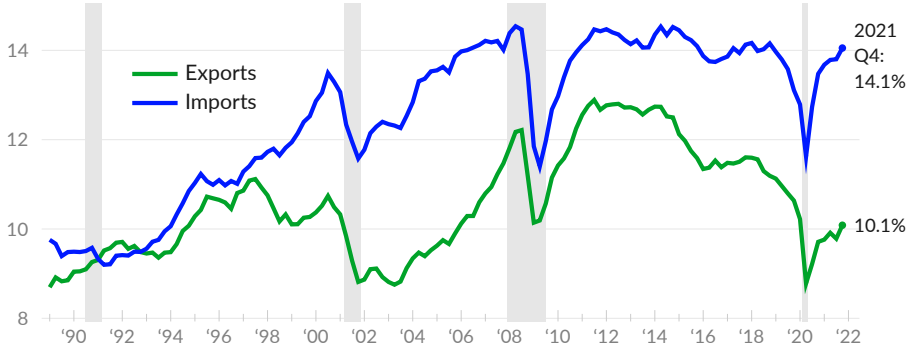
The US exported $228.1 billion of goods and services in December 2021, following $224.7 billion in November (see —). The three-month average was $225.6 billion in December, and $186.3 billion one year prior. Exports were $210.7 billion per month, on average, in 2019.

Spending on imports exceeds payments received for exports, so the US runs a trade deficit. In December, the trade deficit was $80.7 billion, following $79.3 billion in November (see —). Over the past three months, the trade deficit averaged $75.5 billion, compared to an average of $65.6 billion one year prior, during the same three months. In 2019, the trade deficit averaged $48.0 billion per month.

Nonpetroleum goods and services imports (see —) were equivalent to 14.1 percent of GDP in the the fourth quarter of 2021, while exports of nonpetroleum goods and services (see —) were equivalent to 10.1 percent of GDP. In 2019 Q4, nonpetroleum imports were 13.1 percent of GDP, and exports were 10.6 percent.

Imports and Exports, Nonpetroleum

includes goods and services, but excludes petroleum products, share of GDP



Source: Bureau of Economic Analysis

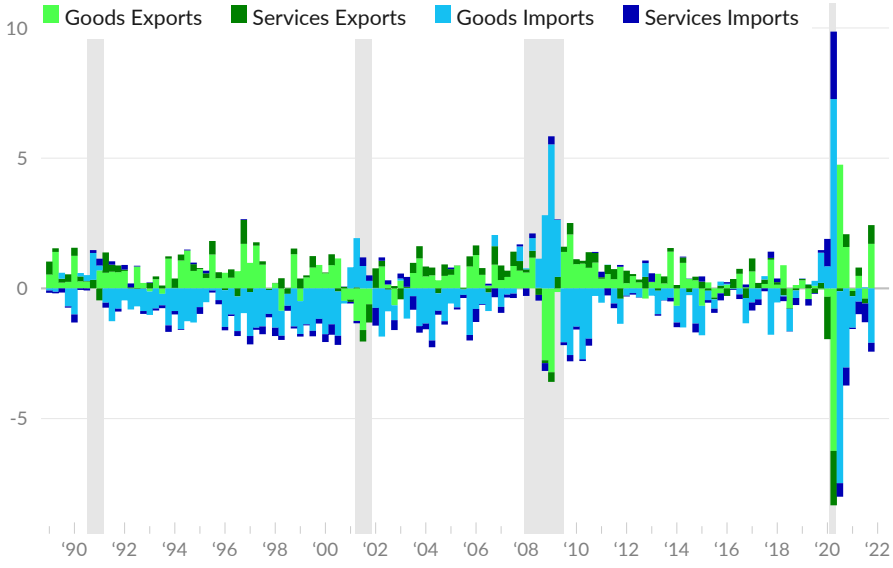
Contribution to Overall Growth

The **trade balance** (exports of goods and services minus imports of goods and services) acts as an adjustment to consumption and investment when calculating domestic production using the expenditure approach. A country with a positive trade balance, or trade surplus, produces more exports than its residents purchase in imports, therefore its trade balance is added to domestic purchases to calculate domestic production. The US runs a persistent trade deficit, which is subtracted from spending data to estimate domestic production.

Goods exports contributed 1.71 percentage points to GDP growth in the fourth quarter of 2021 while services exports contributed 0.72 percentage point. Good imports subtracted 2.09 percentage points from GDP growth and services imports subtracted 0.34 percentage point.

International Trade

percentage point contribution to real GDP growth



Source: Bureau of Economic Analysis

Changes to the trade balance can come from many sources, such as changes in domestic or foreign preferences and income, changes in exchange rates, and changes in trade policy. The following table shows major categories of trade as a share of gross domestic product at various points over the past 30 years.

Exports and Imports by Type

percentage point share of GDP — *period averages*

	2021 Q4	'21 Q3	'20 Q4	2016	2012 –13	2005 –06	1998 –99	1989 –93
Exports of goods and services	11.10	10.71	10.34	11.94	13.61	10.31	10.41	9.42
Exports of goods	7.83	7.55	7.08	7.74	9.35	7.30	7.52	6.84
Foods, feeds, and beverages	0.71	0.64	0.72	0.70	0.81	0.46	0.50	0.60
Industrial supplies & materials	2.84	2.74	2.23	2.07	2.95	1.92	1.55	1.65
Petroleum and products	1.01	0.93	0.63	0.53	0.90	0.28	0.11	0.12
Capital goods, except automotive	2.24	2.26	2.19	2.78	3.21	2.84	3.27	2.61
Automotive vehicles, & parts	0.63	0.59	0.71	0.80	0.90	0.77	0.79	0.67
Consumer goods, ex. food & auto	1.07	0.99	0.91	1.03	1.12	0.91	0.86	0.74
Durable goods	0.48	0.45	0.45	0.56	0.61	0.49	0.44	0.39
Nondurable goods	0.59	0.54	0.45	0.48	0.50	0.41	0.42	0.35
Exports of services	3.27	3.17	3.26	4.20	4.26	3.01	2.90	2.58
Transport	0.28	0.26	0.25	0.44	0.54	0.46	0.49	0.59
Travel	0.38	0.29	0.22	1.03	0.98	0.71	0.93	0.90
Intellectual property charges	0.46	0.47	0.57	0.60	0.67	0.50	0.40	0.29
Other business services	2.05	2.05	2.12	2.00	1.92	1.19	0.92	0.60
Imports of goods and services	15.11	14.79	14.06	14.65	16.73	15.99	12.65	10.38
Imports of goods	12.61	12.32	11.83	11.87	13.87	13.48	10.59	8.45
Foods, feeds, and beverages	0.81	0.82	0.75	0.70	0.69	0.54	0.46	0.43
Industrial supplies & materials	2.95	2.89	2.11	2.34	4.24	4.24	2.22	2.16
Petroleum and products	1.06	0.99	0.58	0.85	2.49	2.15	0.65	0.87
Capital goods, except automotive	3.32	3.32	3.23	3.18	3.36	3.00	3.03	2.04
Automotive vehicles, & parts	1.45	1.44	1.80	1.88	1.84	1.84	1.74	1.46
Consumer goods, ex. food & auto	3.40	3.22	3.31	3.13	3.18	3.20	2.47	1.83
Durable goods	1.75	1.69	1.72	1.64	1.71	1.75	1.29	0.97
Nondurable goods	1.65	1.53	1.59	1.49	1.47	1.46	1.18	0.86
Imports of services	2.50	2.48	2.23	2.78	2.87	2.51	2.06	1.93
Transport	0.53	0.49	0.35	0.49	0.59	0.60	0.54	0.55
Travel	0.33	0.30	0.14	0.58	0.55	0.57	0.63	0.61
Intellectual property charges	0.19	0.22	0.22	0.22	0.21	0.18	0.13	0.06
Other business services	1.31	1.32	1.38	1.32	1.32	0.91	0.57	0.38

Source: Bureau of Economic Analysis

Import Penetration

Goods can be produced domestically or imported or some combination of the two. The import share of the total US demand for goods, measured as US produced goods and imported goods less exported goods, is also referred to as *import penetration*. This measure has risen considerably over the past thirty years. The majority of the long-term increase has been concentrated in consumer goods, while the decrease since 2011 has come primarily from petroleum and related products.

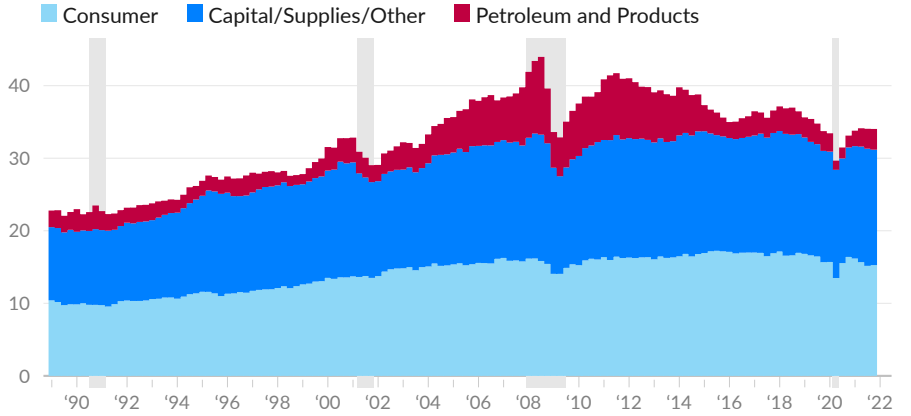
From 1989 to 2011, imports of consumer goods excluding petroleum increased by the equivalent of 5.7 percent of domestic consumption of goods; petroleum-related imports increased by the equivalent of 6.3 percent; and all other goods imports increased by the equivalent of 6.2 percent.

Since 2011, imports of consumer goods decreased by the equivalent of 1.1 percent of domestic goods demand; imports of petroleum products decreased by the equivalent of 5.5 percent; and other imports decreased by the equivalent of 0.2 percent.

As of 2021 Q4, imports of consumer goods excluding petroleum and petroleum products are equivalent to 15.3 percent of domestic consumption of goods (see ■). Petroleum-related imports claim 2.9 percent (see ■) and imports of all other goods, primarily capital goods, industrial supplies, and materials are equivalent to 15.9 percent (see ■).

Import Share of Goods

import share of domestic-produced and imported goods less exports, by category



Source: Bureau of Economic Analysis

The US Census Bureau report monthly data on US trade in goods, including by partner country. In December 2021, trade with the top 25 trading partners (see table) comprises 86.8 percent of total US trade in goods.

US Trade in Goods *census basis, millions of USD, not seasonally adjusted*	December 2021			December 2020		
	Imports	Exports	Total	Imports	Exports	Total
Total, All Countries	257,909	159,136	417,045	215,372	132,193	347,566
China	49,534	13,384	62,919	41,833	14,529	56,363
Canada	33,053	27,512	60,565	24,718	22,884	47,603
Mexico	33,241	23,741	56,982	29,580	19,455	49,036
Japan	11,555	6,553	18,108	11,438	5,598	17,037
Germany	11,651	5,535	17,186	10,954	4,821	15,776
South Korea	8,720	5,425	14,146	7,350	4,837	12,187
Taiwan	7,316	3,721	11,038	5,699	2,691	8,390
India	7,065	3,924	10,989	4,893	2,781	7,674
United Kingdom	5,302	5,282	10,585	4,908	4,548	9,456
Vietnam	9,583	987	10,570	6,912	947	7,859
Netherlands	3,373	5,141	8,515	2,530	4,079	6,609
Switzerland	5,442	2,448	7,890	4,693	2,006	6,699
France	4,090	3,127	7,218	3,911	2,200	6,111
Ireland	5,986	1,167	7,154	6,152	740	6,892
Brazil	3,028	4,099	7,127	2,599	3,364	5,963
Italy	5,274	1,832	7,107	4,915	1,417	6,333
Malaysia	5,158	1,358	6,517	4,423	1,120	5,543
Singapore	2,186	3,228	5,414	2,869	2,306	5,175
Thailand	4,269	1,107	5,376	3,279	978	4,257
Belgium	1,522	2,833	4,356	2,144	2,159	4,303
Indonesia	2,660	891	3,552	1,739	673	2,412
Spain	1,741	1,799	3,540	1,228	1,010	2,238
Australia	1,161	2,189	3,351	1,541	1,969	3,510
Hong Kong	422	2,680	3,102	205	2,386	2,591
Turkey	1,453	1,532	2,986	1,019	688	1,708

Source: Census Bureau

International Investment Position

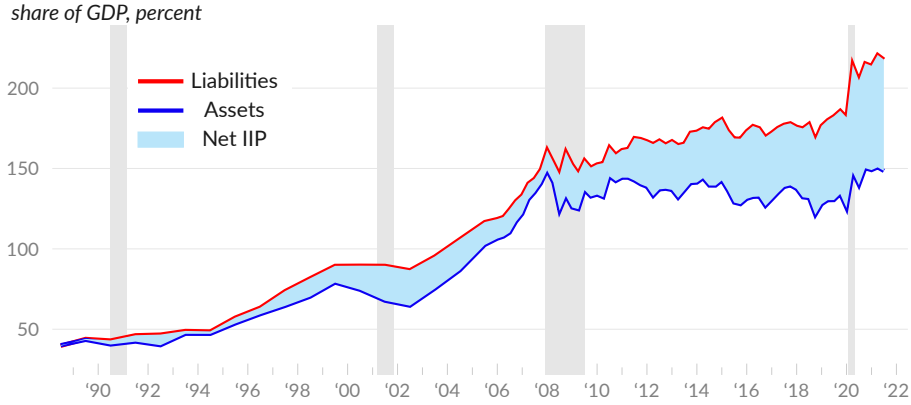
The US net international investment position (IIP) measures the difference between residents' foreign assets and liabilities. The Bureau of Economic Analysis report US IIP data on a quarterly basis beginning in 2006, while prior data are annual.

In 2021 Q3, domestic holdings of foreign assets total $34.5 trillion, equivalent to 148.5 percent of GDP (see —). In 2021 Q2, these assets were equivalent to 150.7 percent of GDP, and in 2019, they were equivalent to 130.6 percent. Domestic liabilities to the foreign sector total $50.5 trillion, or 217.8 percent of GDP, in 2021 Q3, following 220.7 percent in 2021 Q2, and 181.3 percent in 2019 (see —).

The overall result of these financial positions, net IIP, or holdings of foreign assets minus liabilities, identifies the US as a net debtor to the rest of the world, to the equivalent of 69.3 percent of GDP in 2021 Q3, following 69.9 percent in 2021 Q2, and 50.6 percent in 2019 (see).

International Investment

share of GDP, percent



Source: Bureau of Economic Analysis

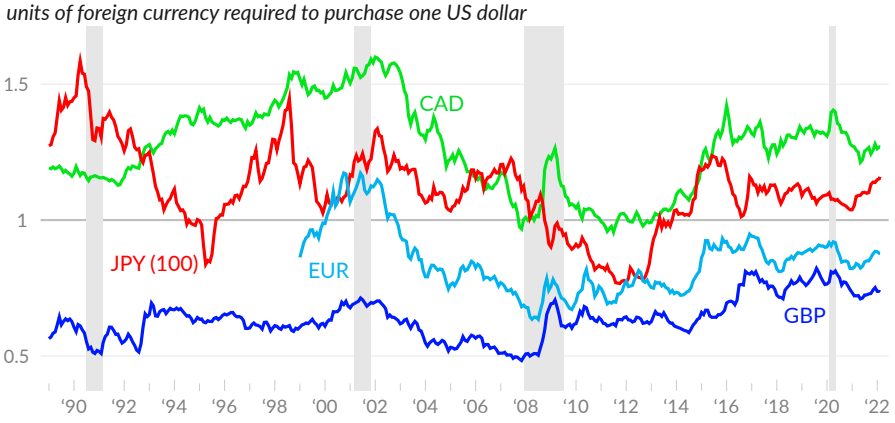
Exchange Rates

Changes in the strength or weakness of the US dollar (USD) can affect trade and financial flows. The dollar is said to be relatively strong when more units of foreign currency, for example Japanese yen (JPY), British pounds (GBP), euros (EUR), or Canadian dollars (CAD), are required to buy one USD.

As of February 11, 2022, one US dollar buys approximately: 1.27 Canadian dollars (see —), 116 Japanese yen (see —), 0.88 euros (see —), and 0.74 British pounds (see —). Over the past three years, the nominal exchange rate between the US dollar and the Canadian dollar was virtually unchanged, the USD-JPY rate increased by 10.7 percent, the USD-EUR rate increased by 6.4 percent, and the USD-GBP rate increased by 1.8 percent.

Selected Exchange Rates

units of foreign currency required to purchase one US dollar



Source: Federal Reserve

Broad Dollar Index

trade-weighted foreign exchange rate index
January 2006=100

Source: Federal Reserve

Fed trade-weighted dollar indices show weighted-average foreign exchange rates with US trading partners, which simplify thinking about the overall role of foreign exchange rates on the US external sector. The Broad Dollar Index (see —), which starts in 2006, summarizes foreign exchange rates between the US and trading partners, weighting rates by the amount of trade in both goods and services.

The latest index value, as of February 11, 2022, is 114.9, an increase of 14.9 percent since inception in 2006. Over the past three years, the index value has averaged 115.5, compared to an average of 112.6 over the previous three-year period.

Selected Exchange Rates

units of foreign currency required to buy one US dollar

	Feb 11, 2022	1-month moving average	1-year moving average	1-month percent change	1-year percent change	5-year percent change
EUR	0.877	0.881	0.851	-0.4	6.1	-3.2
GBP	0.735	0.738	0.728	0.2	0.6	-9.0
JPY	115.9	114.7	110.8	0.5	11.4	10.4
CAD	1.268	1.263	1.253	0.6	-0.8	-4.9
MXN	20.41	20.55	20.33	0.3	0.9	10.7
CNY	6.35	6.35	6.44	-0.3	-2.0	-6.3
CHF	0.925	0.921	0.917	0.2	4.1	-5.1
HKD	7.80	7.79	7.78	0.0	0.6	0.6
INR	75.34	74.63	74.05	2.1	3.1	13.5
AUD	1.393	1.397	1.341	0.3	7.0	7.7
NZD	1.497	1.494	1.424	1.4	7.4	10.1
BRL	5.20	5.38	5.40	-7.1	-3.9	63.6
KRW	1198.7	1197.5	1153.7	0.3	8.6	6.0
MYR	4.19	4.18	4.16	0.0	3.6	-0.3
DKK	6.52	6.56	6.33	-0.4	6.1	-3.3
NOK	8.80	8.83	8.63	0.1	2.0	7.0
SEK	9.26	9.19	8.66	2.3	10.9	2.8
ZAR	15.08	15.32	14.82	-2.8	-0.8	13.6
SGD	1.344	1.346	1.345	-0.5	1.1	-3.3
TWD	27.83	27.75	27.91	0.5	-0.6	-11.4

Source: Federal Reserve

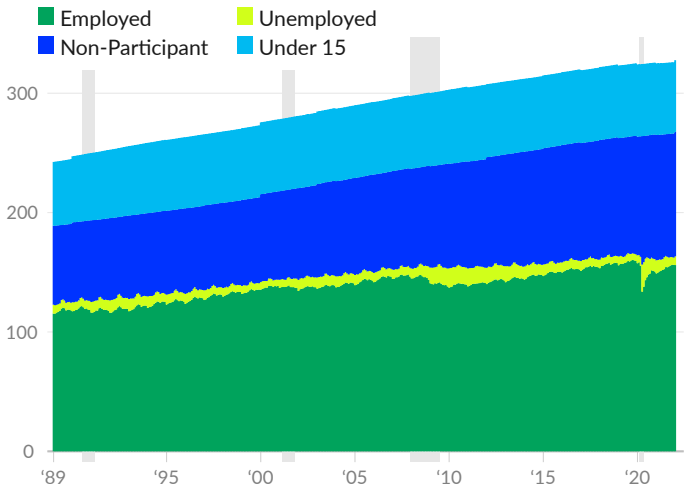
Labor Markets

Labor is the primary source of income for US households and is essential to the production of goods and services. The portion of labor that is provided by a household member to others outside of the household or to other households is considered *employment*. As of January 2022, 156.0 million people are employed (including self-employment).

The number of people who are considered employed divided by the total population is the employment rate or employment-to-population ratio, which is 47.6 percent as of January 2022. Note that these values are not seasonally adjusted and include children, while BLS published values refer to those 16 or older.

Labor Force Status of Population

millions of people



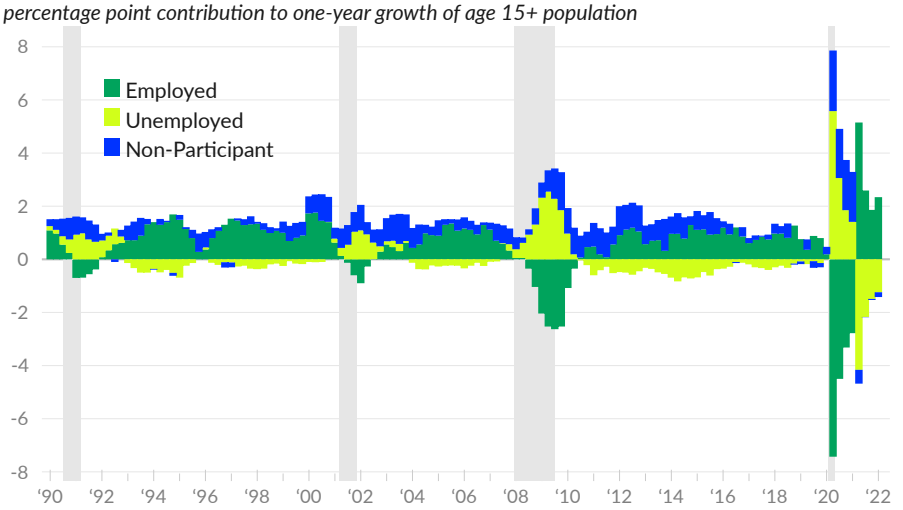
Source: Author's Calculations from CPS

When a member of a household is not employed but looked for a job during the past four weeks or is on temporary layoff, they are considered **unemployed**. As of January 2022, there are 7.3 million unemployed people. The combined group of employed and unemployed people is the labor force. The number of unemployed people divided by the number of people in the labor force is the unemployment rate, currently 4.5 percent. The number of people in the labor force divided by the total population is the labor force participation rate, currently 49.8 percent.

People who are not employed and not unemployed are considered to be outside of the labor force. These non-participants usually comprise about half of the population, and total 164.4 million in January 2022. The category includes children (60.1 million), students (18.9 million), unpaid caregivers (12.9 million), those unable to work due to disability or illness (14.0 million), those who want a job but have given up looking (6.0 million), and retirees and the elderly (50.3 million).

Labor Force Status Changes

percentage point contribution to one-year growth of age 15+ population



Source: Author's Calculations from CPS

The labor force status of the US population varies by age, sex, and over time. Because very few people receive capital income, the share of the population with labor income is particularly important to overall levels of economic activity.

Labor Force Status

January 2022, thousands of people, not seasonally adjusted

	Total, 16+	Men, 16–29	Men, 30–59	Men, 60+	Women, 16–29	Women, 30–59	Women, 60+
Population	263,202	29,766	62,701	35,768	29,689	63,976	41,302
Employed	155,618	18,076	52,249	12,051	17,242	45,946	10,054
Multiple jobs	7,334	631	2,496	468	868	2,446	426
Full-time	113,977	12,230	43,759	8,578	9,854	33,633	5,923
Part-time	41,641	5,846	8,490	3,473	7,388	12,313	4,131
Economic reasons	4,170	749	1,356	232	658	972	204
Unemployed	7,207	1,574	2,075	462	1,149	1,625	321
Not in Labor Force	100,378	10,116	8,378	23,255	11,298	16,406	30,926
Discouraged	5,864	1,136	1,145	687	888	1,319	690
Disabled/Ill	13,926	936	3,625	2,349	636	3,729	2,651
Family/Care	12,939	444	974	132	2,192	8,231	967
School	15,101	7,018	396	40	7,072	527	48
Retirement	50,460	73	1,704	19,944	169	2,125	26,444

Source: Author's Calculations from CPS

Additionally, changes over time in labor force status are particularly important to understanding both secular and cyclical trends in the economy. The following table presents the net two-year change in labor force status, in number of people.

Labor Force Changes

Change from January 2020 to January 2022, thousands of people

	Total, 16+	Men, 16–29	Men, 30–59	Men, 60+	Women, 16–29	Women, 30–59	Women, 60+
Population	3,701	-459	1,529	1,654	-335	498	815
Employed	-1,375	-647	222	100	-780	-86	-184
Multiple jobs	-752	-131	-124	-96	-146	-206	-49
Full-time	-4,077	-702	-1,536	136	-885	-971	-120
Part-time	2,702	54	1,758	-36	105	885	-64
Economic reasons	-567	-66	69	-11	-209	-317	-34
Unemployed	703	6	385	91	-67	246	41
Not in Labor Force	4,373	182	922	1,463	511	338	958
Discouraged	780	78	231	106	14	239	113
Disabled/Ill	-584	18	-55	-91	50	-426	-80
Family/Care	923	161	391	68	42	284	-22
School	32	-181	-35	21	264	-30	-8
Retirement	2,757	-18	290	1,335	59	120	972

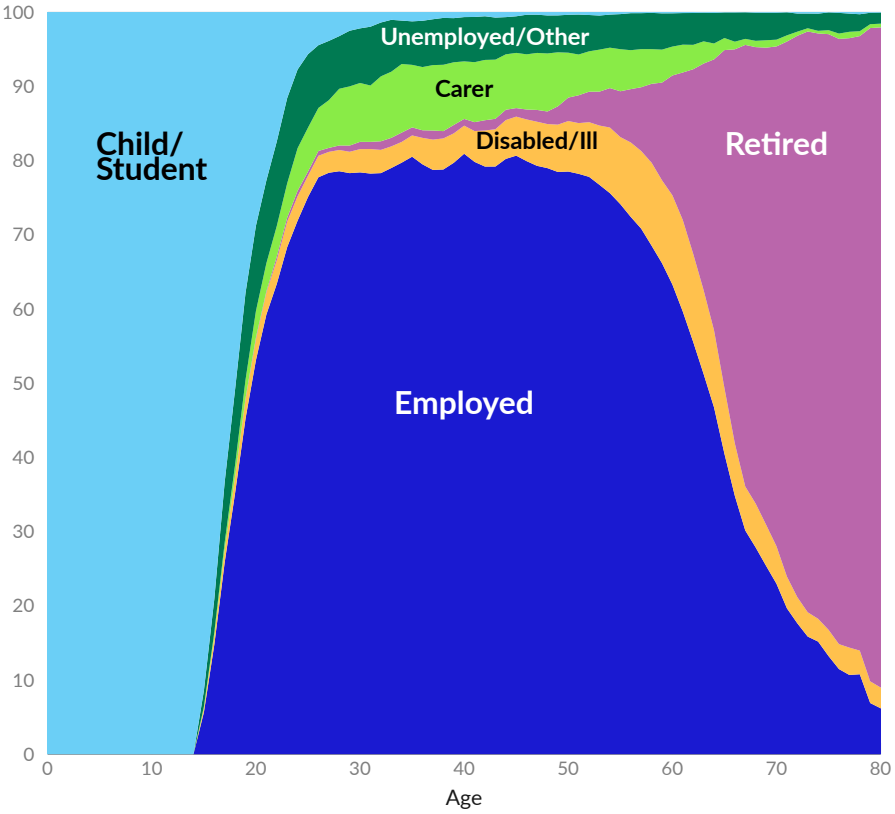
Source: Author's Calculations from CPS

Labor Force Status and Age

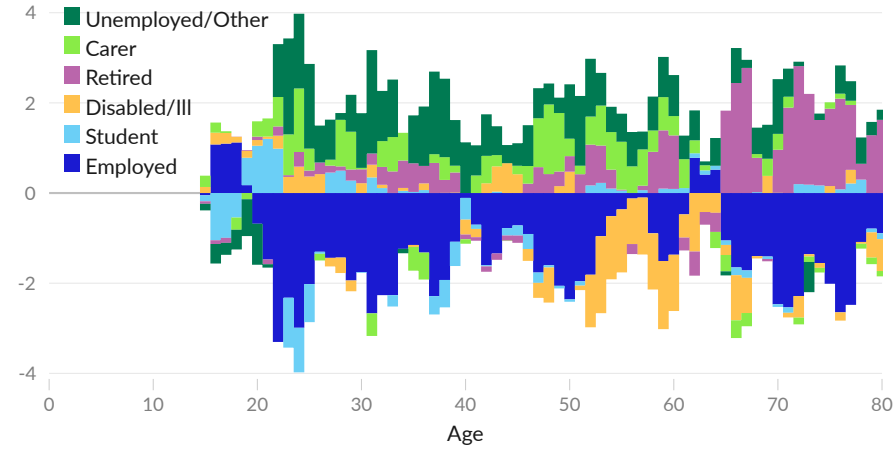
There is a clear relationship between age and employment. Children are not permitted to work and many young people attend school full time. During ages 25 to 54, around 80 percent of the population is employed. The remaining 20 percent include caregivers and those unable to work due to disability or illness. Retirement becomes more likely as workers reach their 60s and 70s; less than 10 percent of people continue to work into their 80s.

Labor Force Status, by Age

share of same-age population, percent, January 2022



change since January 2020 in share of age group, percentage points



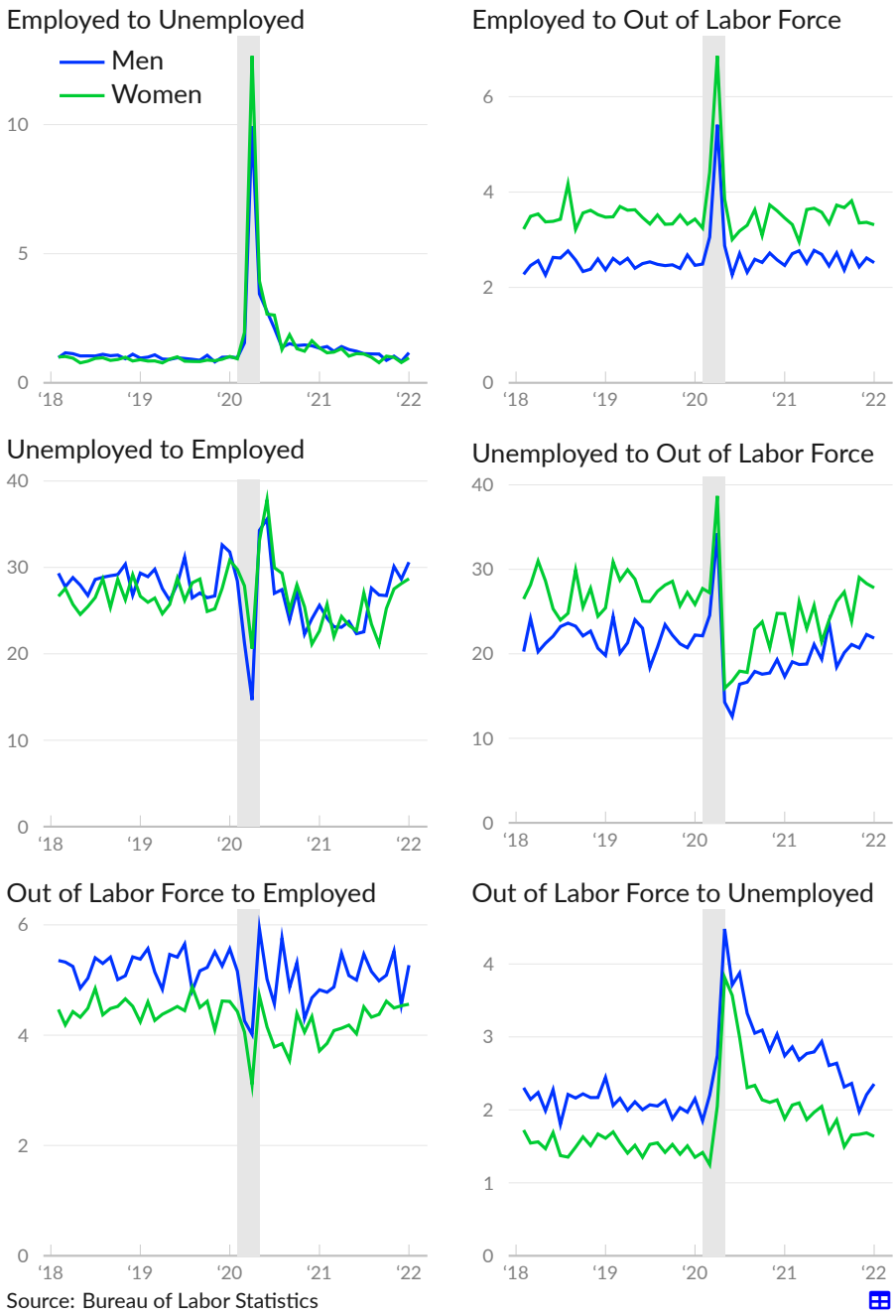
Source: Author's Calculations from CPS, Bruenig

Gross Labor Force Status Changes

The changes in labor force status described above are net changes, rather than gross changes. That is, the one-year change in unemployment is the result of some people staying unemployed, some becoming unemployed, and some no longer being unemployed, as well as other flows like deaths and people becoming working age. This section looks at six categories of gross changes, specifically the share of people with a given labor force status who move to a different status in the following month.

Gross Flows

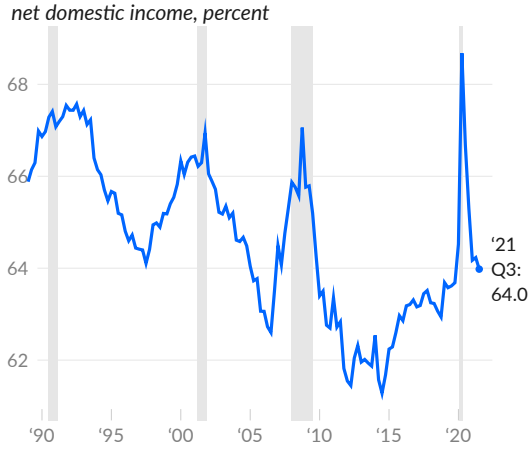
share of initial labor force status, percent



Source: Bureau of Labor Statistics

Labor Share of Income

compensation of employees as share of net domestic income, percent



Source: Bureau of Economic Analysis

The labor share (see —) measures the portion of net income paid to labor. While the laborer share of the population has fallen, cyclical patterns suggest worker bargaining power also affects labor's share.

As of the third quarter of 2021, labor receives 64.0 percent of net domestic income. Labor's share decreased 2.7 percentage points over the past year. The labor share is 2.7 percentage points above its 30-year low of 61.3 percent in 2014 Q3, and 4.7 percentage points below the 30-year high of 68.7 percent in 2020 Q2.

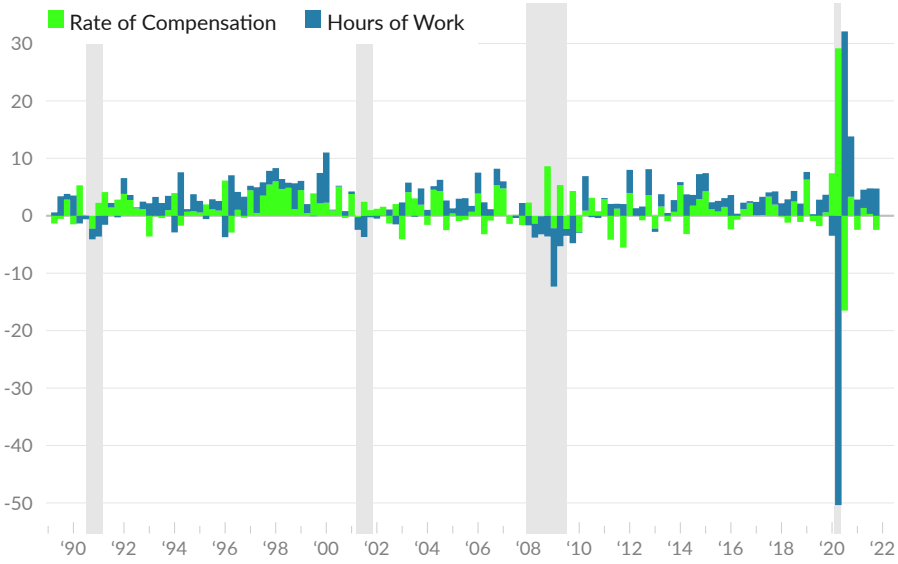
Gross Labor Income

Wages (the unit price of labor) tend not to be cut in response to a short-term decrease in demand; businesses typically instead employ fewer workers and/or cut hours. As a result, wage data give only a partial picture of the labor income received by households.

Gross labor income (compensation of employees in the national accounts), which captures both the amount of employment (see ■) and the rate of compensation (see ■), increased at an annualized and inflation-adjusted rate of 2.29 percent in 2021 Q4. Changes in wages subtracted 2.45 percentage points, and changes in total hours worked contributed 4.74 percentage points.

Gross Labor Income Growth

percentage point contribution to gross labor income growth



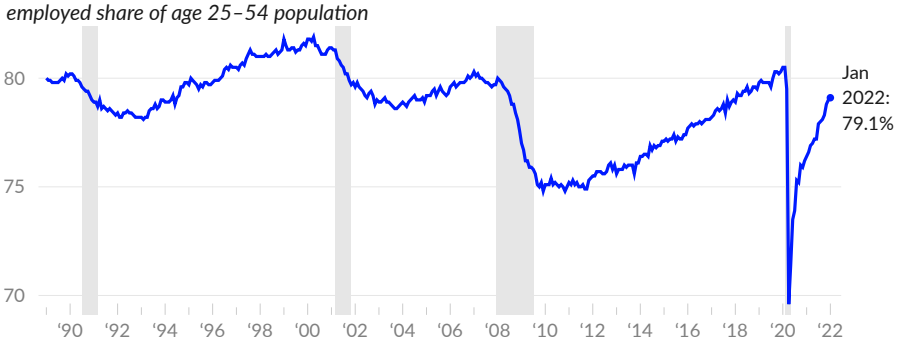
Source: Author's Calculations

Employment

In January 2022, 79.1 percent of 25-54 years olds were employed, compared to 79.0 percent in December 2021. Over the past year, the age 25-54 employment rate increased 2.7 percentage points. The January 2022 rate was 2.3 percentage points (equivalent to 3.0 million workers) below the average rate of 81.4 during the tight labor market of 1999–2000.

Age 25–54 Employment Rate

employed share of age 25–54 population



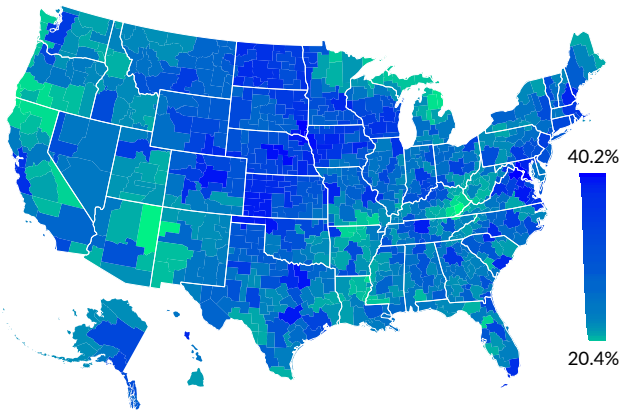
Source: Bureau of Labor Statistics

The monthly jobs report describes employment at a given point in time, by asking about activities during a specific week of the previous month. To instead examine activities over a period of time, annual data on weeks worked per year and hours worked per week can be combined to identify the *fully-employed*, or *full-time, full-year workers*, who usually work 35 hours per week or more for 50 weeks per year or more. The Census Bureau report 105.5 million fully-employed people in 2020, equivalent to 32.3 percent of the US population, compared to 119.2 million (36.6 percent) in 2019.

Employment rates vary dramatically by location. In 2020, 33.6 percent of commuter zones have at least a third of their population working full-time and full-year. A total of 30 commuter zones (out of 741), covering 3.4 million people, have a quarter of the population or less fully employed. The top ten and bottom ten commuter zones by fully-employed rate are listed below.

Commuter Zone Fully-Employed Rate

full-time, full-year worker share of population, 2020



Top 10:

40.2%	Washington, DC
40.1%	Sioux Falls, SD
39.1%	Sioux City, IA
38.6%	Dallas, TX
38.5%	Denver, CO
38.3%	Richmond, VA
38.3%	Austin, TX
37.9%	Nashville-Davidson, TN
37.5%	Fredericksburg, VA
37.5%	Kansas City, MO

Bottom 10:

21.4%	Gallup, NM
22.9%	Corbin, KY
23.0%	Altamont, OR
23.1%	Roseburg, OR
23.9%	Ocala, FL
24.0%	Eureka, CA
24.3%	Pikeville, KY
24.4%	Port Angeles, WA
24.4%	Mount Pleasant, MI
24.8%	McComb, MS

Source: American Community Survey, Dorn, Author's Calculations

Employment Rates of Largest Commuter Zones, 2020

	all ages		*age 25–54*	
	full-time & full-year	employed	full-time & full-year	employed
Los Angeles, CA	32.2	58.8	55.7	88.3
New York, NY	33.4	59.4	57.8	89.5
Chicago, IL	36.3	61.4	63.2	91.2
Houston, TX	34.9	59.2	60.1	89.1
Newark, NJ	35.3	61.1	61.3	90.8
Philadelphia, PA	34.0	61.0	60.7	91.4
Washington, DC	40.2	64.0	67.9	93.1
Boston, MA	35.9	64.7	62.3	92.6
Atlanta, GA	36.0	60.9	62.6	90.5
San Francisco, CA	36.2	63.3	62.1	92.6
Detroit, MI	30.8	59.6	55.6	90.0
Phoenix, AZ	33.8	58.3	60.9	89.7
Dallas, TX	38.6	62.1	65.9	91.6
Seattle, WA	35.6	63.7	60.4	92.7
Miami, FL	36.6	60.3	61.9	90.6

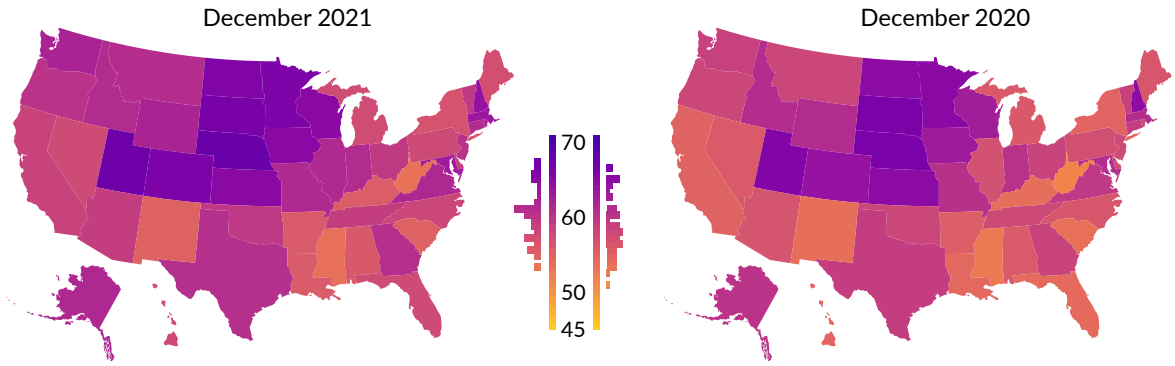
Source: American Community Survey, Dorn, Author's Calculations

The share of the age 16 and older population that is employed in any amount at a point in time varies by state and over time. In December 2021, 25 states had an employment rate above below 60 percent, compared to 44 in April 2020. In December 2020, 33 states had an employment rate below 60 percent and three states had an unemployment rate above 65 percent. In December 2021, seven states have an employment rate above 65 percent.

The states with the highest employment rates in December 2021 are Nebraska (67.6%), Utah (67.3%), and District of Columbia (66.6%). The states with the lowest employment rates are West Virginia (53.0%), Mississippi (53.2%), and New Mexico (54.7%).

Employment Rate by State

employed share of population, percent

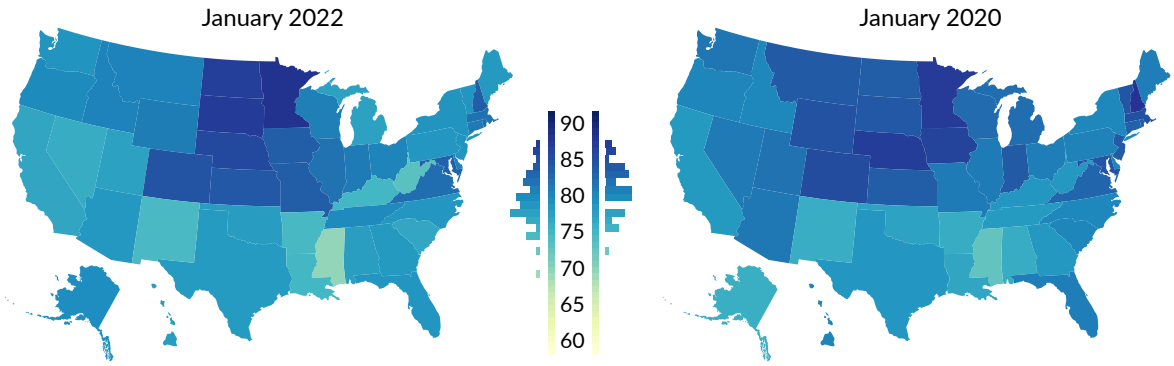


Source: Bureau of Labor Statistics

The employed share of those ages 25 to 54 is an important measure of labor market utilization. When a local labor market is tight and wages are able to adjust to increase participation, this age group will be employed at a very high rate, barring any local labor supply constraints, for example availability or cost of child care or high rates of disability.

Age 25–54 Employment Rate by State

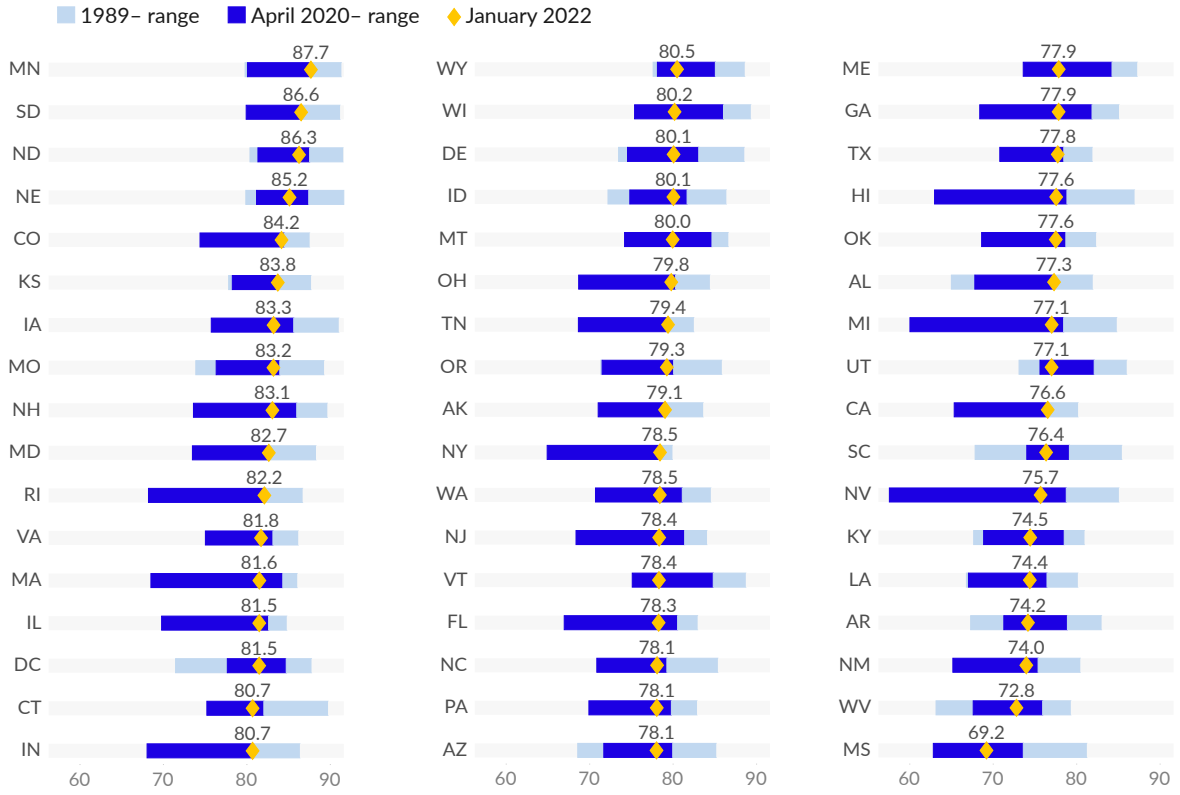
employed share of age 25–54 population, percent



Source: Author's Calculations from CPS

Employment Rate by State

employed share of age 25–54 population, percent, not seasonally adjusted



Source: Author's Calculations from CPS

Payroll Employment

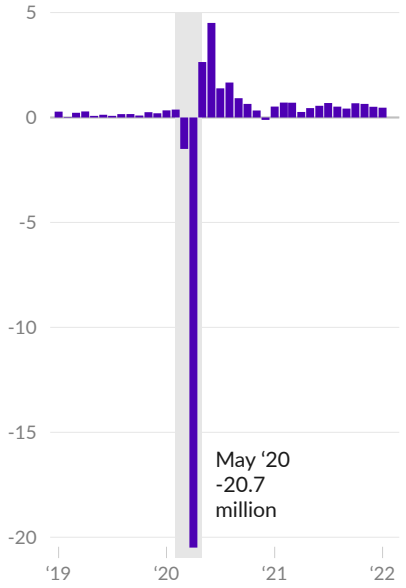
The establishment survey from the monthly jobs report asks nonfarm businesses about their payrolls. In January 2022, there were a seasonally adjusted total of 149.6 million such nonfarm payroll jobs.

The establishment survey is particularly useful for identifying how many jobs were added or lost in each industry each month. The US added 467,000 total payroll jobs in January 2022 (see ■), compared to 510,000 added in December 2021, and an average of 541,000 added over the past three months. US payrolls shed a combined 22.0 million jobs in March and April 2020, and have since recovered 19.1 million jobs (86.9 percent).

To maintain a steady employment rate with population growth, the US needs to add around 150,000 jobs per month. In 2019, the US was adding an average of 164,000 jobs per month.

Total Nonfarm Payroll Growth

one-month change, in millions



Source: Bureau of Labor Statistics

Nonfarm Payrolls by Industry Group

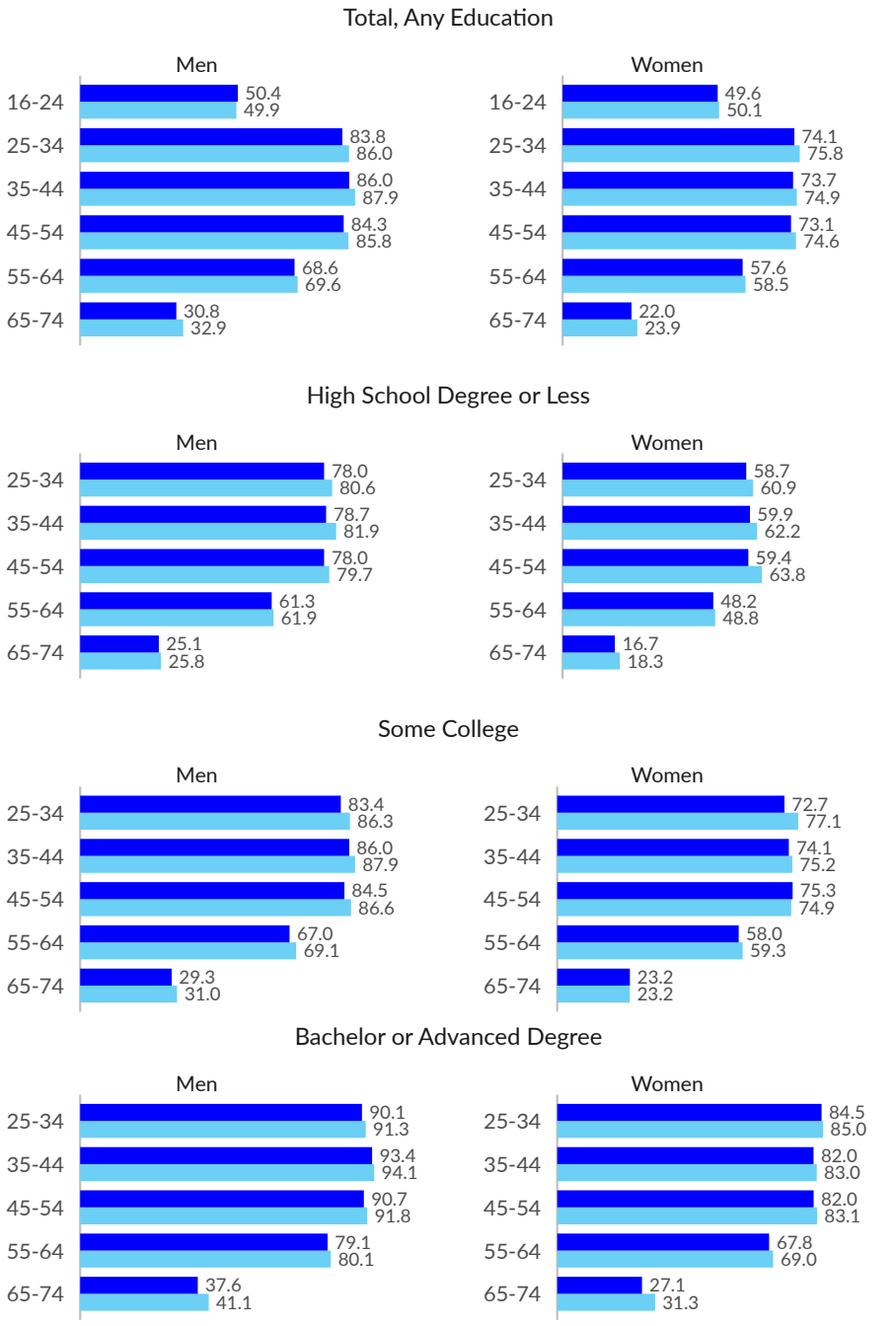
seasonally adjusted, thousands

	levels		*monthly change*				*combined*	
	Jan 2022	Jan 2020	Jan 2022	Dec 2021	Nov 2021	2019 Avg	May '20–	Mar and Apr '20
Total	149,629	152,128	467	510	647	164	19,116	-21,991
Education & Health Services	23,953	24,531	29	50	69	49	2,194	-2,839
Professional & Business Serv.	21,904	21,371	86	88	111	23	2,813	-2,302
Retail Trade	15,658	15,594	61	40	20	-8	2,306	-2,245
Leisure & Hospitality	15,233	16,881	151	163	191	31	6,453	-8,203
Manufacturing	12,559	12,784	13	32	48	0	1,136	-1,362
Financial Activities	8,875	8,837	9	17	32	13	285	-280
Construction	7,523	7,577	-5	26	47	11	1,007	-1,108
Transportation & Warehousing	6,337	5,803	54	25	37	19	1,048	-506
Wholesale Trade	5,768	5,898	16	20	15	2	280	-405
Information	2,934	2,897	18	12	18	3	292	-261
Mining & Logging	582	684	-4	4	4	-4	-33	-71
Utilities	538	547	0	-1	-1	-0	-5	-4

Source: Bureau of Labor Statistics

Employment rates vary over time, but also by age, gender, and education. Over the three months ending January 2022, the employment rate for most age and education subgroups is lower than it was before the pandemic (the three months ending January 2020).

Employment Rates ■ January 2022 ■ January 2020
employed share of age group, percent



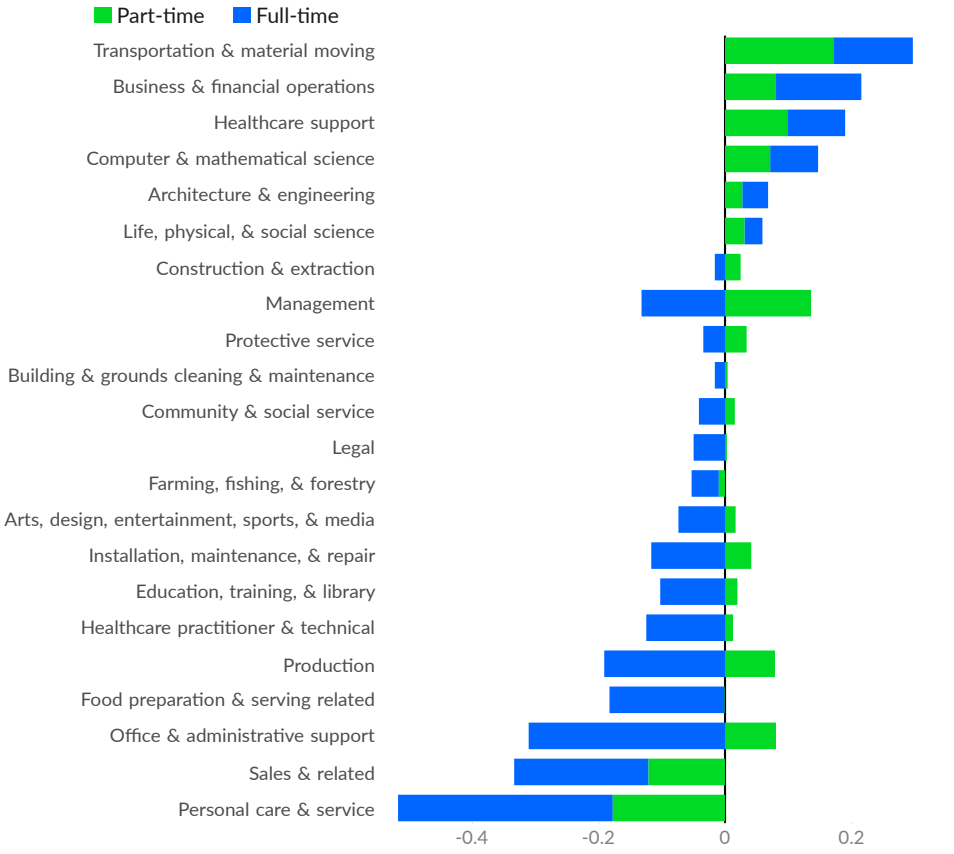
Source: Author's Calculations from CPS

Changes in Employment by Occupation

The COVID-19 pandemic changed the occupational composition of the US workforce. Business closures reduced the share of the US population that is employed in personal care and related services, administrative support, and sales. Many workers trained in these occupations lost or changed jobs and, additionally, some full-time workers became part-time. While employment increased in some occupations, such as healthcare support, the share of people employed full-time decreased in most occupational groups during the past three months, which end January 2022, compared to the same three months prior to the pandemic (ending January 2020).

Change in Occupational Employment, January 2022

change in share of population employed, latest three months vs pre-pandemic, percentage points



Source: Author's Calculation from CPS

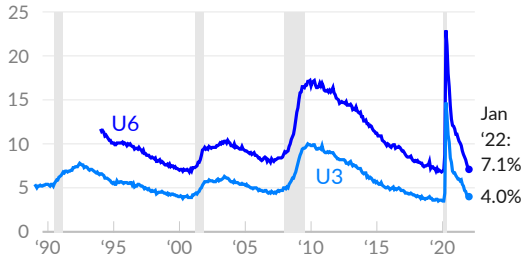
Unemployment

The headline unemployment rate, also known as the U3 unemployment rate, measures people who do not have a job but are looking for one or are on temporary layoff, as a share of the labor force (those employed and unemployed). BLS reports 6.5 million unemployed people in January 2022, and an unemployment rate of 4.0 percent (see —), in line with the December 2021 rate of 3.9 percent, but substantially below the January 2021 rate of 6.4 percent.

BLS also report a broader measure of unemployment, known as U6 or labor under-utilization. Labor under-utilization includes unemployed people counted in U3 as well as people who have given up looking for work and people who are part-time but would like to work full-time. In January 2022, the labor under-utilization rate is 7.1 percent (see —).

Unemployment Measures

share of labor force, percent

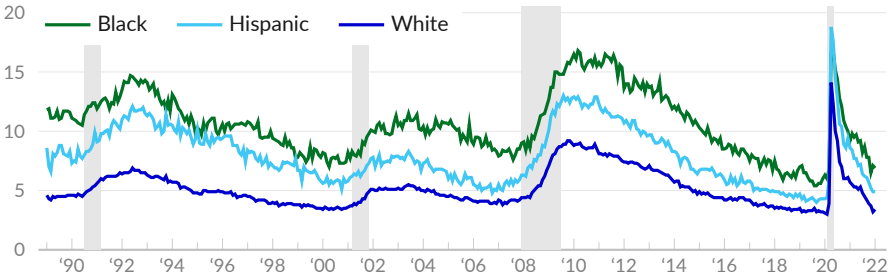


Source: BLS

Unemployment is much more common for disadvantaged groups, with the black or African American unemployment rate typically double the white unemployment rate. A very tight labor market may have the effect of reducing racial discrimination in hiring. However, disadvantaged groups are more likely to lose jobs in a downturn. As a result, the full-employment portion of the business cycle is quite short for many people. Since February 2020, the black unemployment rate has increased by 0.9 percentage point to 6.9 percent (see —).

Unemployment Rate

unemployed share of labor force



Source: Bureau of Labor Statistics

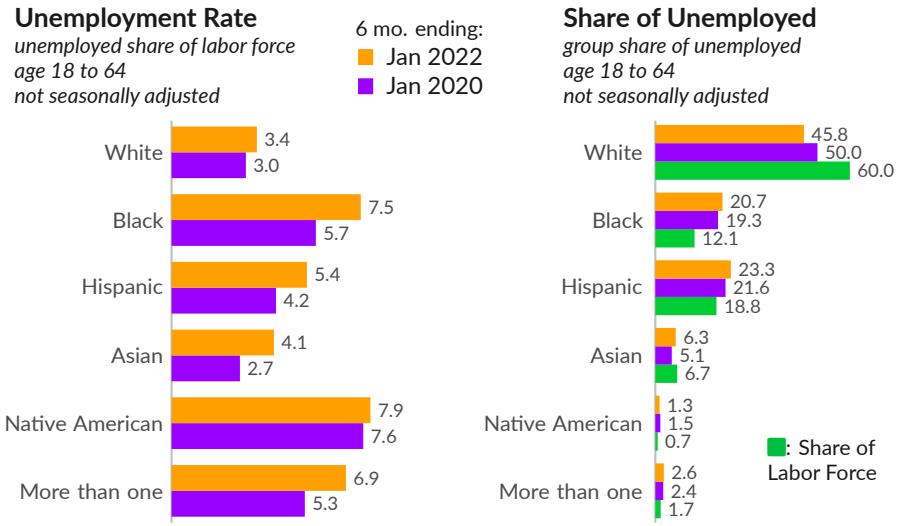
Unemployment Measures

seasonally adjusted, percent

	Jan '22	Dec '21	Nov '21	Oct '21	Sep '21	Aug '21	GFC peak	Date
Under-utilization Rate (U6)	7.1	7.3	7.7	8.2	8.5	8.8	17.2	Dec '09
Unemployment Rate (U3)	4.0	3.9	4.2	4.6	4.7	5.2	10.0	Oct '09
by race/ethnicity:								
White	3.4	3.2	3.7	3.9	4.2	4.5	9.2	Oct '09
Black	6.9	7.1	6.5	7.8	7.8	8.7	16.8	Mar '10
Hispanic	4.9	4.9	5.2	5.7	6.1	6.2	13.0	Aug '09
Asian	3.6	3.8	3.9	4.2	4.2	4.5	8.4	Dec '09

Source: Bureau of Labor Statistics

Current Population Survey microdata are used to calculate unemployment by race and ethnicity over the latest six months, on average, and for the same six months before the COVID-19 pandemic. The groups used to produce these estimates separate those with a non-Hispanic ethnicity by race: white alone, black alone, Asian or Hawaiian/Pacific Islander alone, Native American/American Indian or Alaskan Native alone, or more than one race, from those with a Hispanic ethnicity and any race.



Source: Author's calculations from CPS

Unemployment Rate

Total, any race or ethnicity

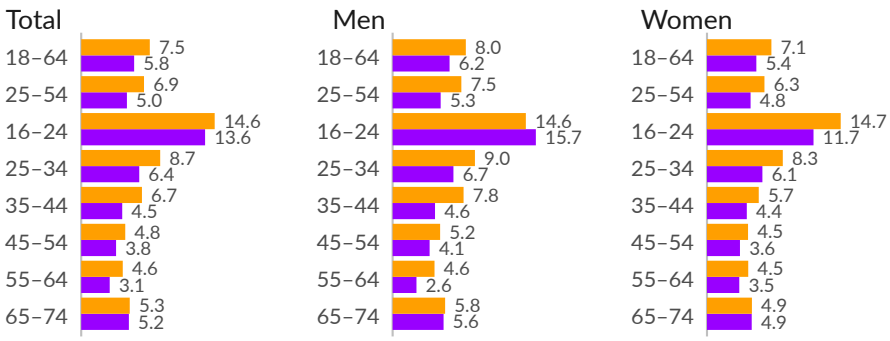
	Total	Men	Women
18–64	4.4 3.5	4.4 3.5	4.4 3.5
25–54	4.0 3.0	4.0 3.0	4.0 3.1
16–24	8.5 8.1	9.0 9.0	7.9 7.2
25–34	4.7 3.7	4.9 3.8	4.5 3.7
35–44	3.8 2.7	3.8 2.5	3.8 2.9
45–54	3.3 2.6	3.1 2.5	3.6 2.7
55–64	3.3 2.5	3.2 2.4	3.4 2.6
65–74	3.5 2.6	3.5 2.7	3.5 2.5

White, non-Hispanic, alone

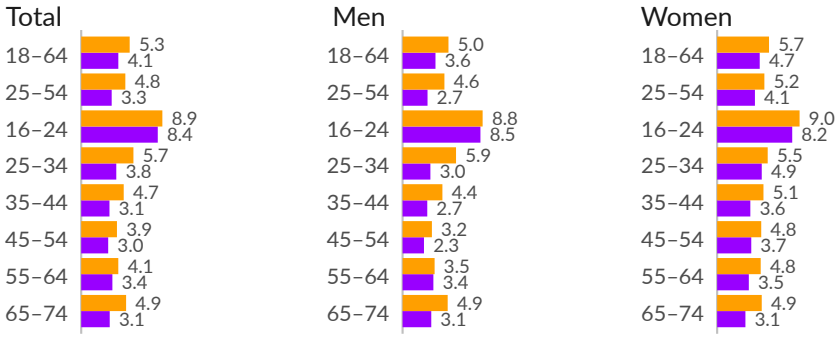
	Total	Men	Women
18–64	3.4 2.9	3.4 3.0	3.3 2.7
25–54	3.1 2.5	3.0 2.6	3.1 2.4
16–24	6.5 6.7	7.3 7.8	5.7 5.6
25–34	3.5 3.0	3.7 3.4	3.3 2.6
35–44	2.9 2.2	2.8 2.1	2.9 2.3
45–54	2.8 2.3	2.5 2.2	3.0 2.3
55–64	2.9 2.2	2.8 2.1	3.0 2.3
65–74	3.0 2.3	2.9 2.4	3.1 2.2

Unemployment Rate, Continued

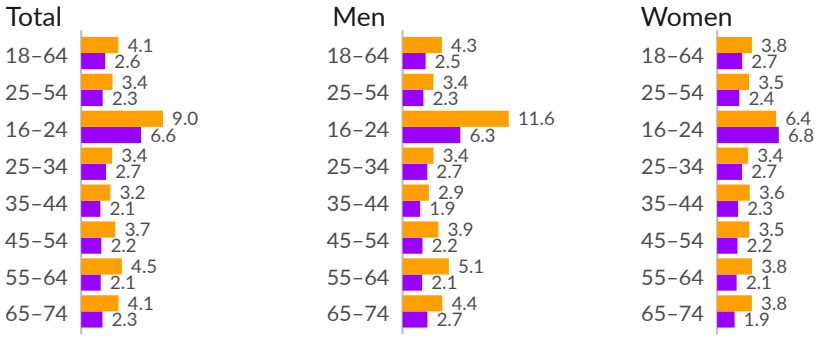
Black, non-Hispanic, alone



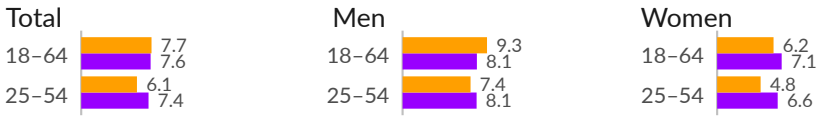
Hispanic, any race



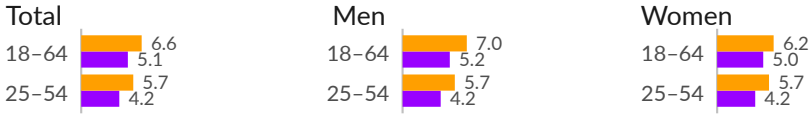
Asian or Hawaiian/Pacific Islander, non-Hispanic, alone



Native American/American Indian or Alaskan Native, non-Hispanic, alone



More than one race, non-Hispanic



Source: Author's calculations from CPS

Reasons for unemployment

There are multiple reasons for unemployment. Some unemployed lost a job, others left a job voluntarily. Some of those looking for a job had previously left the labor force, for example to take care of a child. Lastly, some unemployed are looking for their first job.

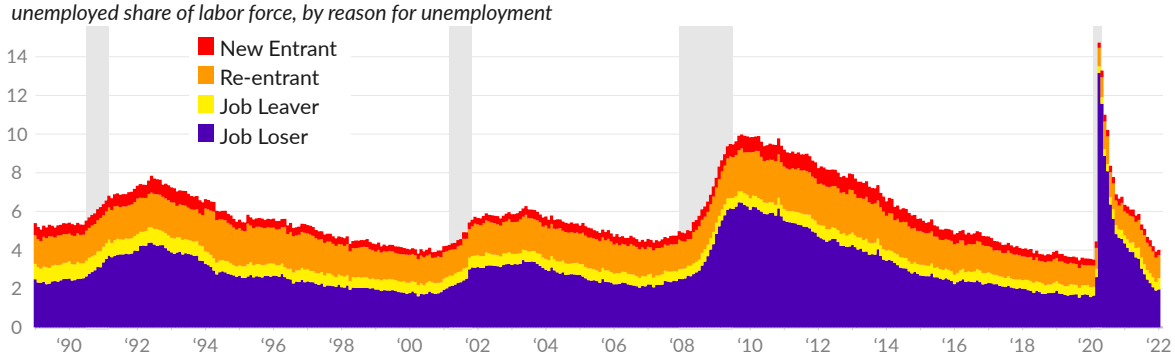
The composition of the unemployed is affected by economic conditions. During the trough of a business cycle, most unemployed are those who lost a job, for example from layoffs, or had a temporary job end (see ■). During and after an economic downturn, it takes young people longer to find their first job. As a result, a higher portion of unemployed are new-entrants (see ■) during the trough of a business cycle.

In contrast during the peak of the business cycle, a much larger share of the unemployed are re-entrants to the labor market, meaning they had previously stopped looking for work but are looking for a job again (see ■). Lastly, good economic conditions can give individuals the confidence to leave jobs they do not enjoy and look for a new job. The share of unemployed who left a job voluntarily (see ■) is highest during the peak of the business cycle.

In January 2022, 2.0 percent of the labor force were unemployed because of losing a job or having a temporary job end. Of these, 0.6 percent of the labor force are unemployed due to temporary layoff, equivalent to 14.7 percent of the unemployed. Additionally, 0.6 percent of the labor force were re-entrants, 1.2 percent were new entrants, and 0.3 percent were job leavers.

Unemployment by Reason

unemployed share of labor force, by reason for unemployment



Source: Bureau of Labor Statistics

Unemployment Reasons and Employed Not at Work

share of labor force, percent

	Jan '22	Dec '21	Nov '21	Oct '21	Sep '21	Jan '21	Dec '20	Nov '20	Oct '20	Sep '20
Unemployed, Any Reason	4.0	3.9	4.2	4.6	4.7	6.4	6.7	6.7	6.9	7.9
Job Loser	2.0	1.9	2.1	2.3	2.5	4.3	4.6	4.6	4.8	5.6
Temporary Layoff	0.6	0.5	0.5	0.6	0.7	1.7	1.9	1.7	2.0	2.9
Permanent Separation	1.0	1.0	1.2	1.3	1.4	2.2	2.2	2.3	2.3	2.3
Re-entrant	1.2	1.3	1.3	1.4	1.4	1.2	1.4	1.2	1.3	1.3
New entrant	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3
Job Leaver	0.6	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.5
See also:										
Employed, Not at Work	4.7	3.0	2.9	3.2	3.1	3.5	3.5	3.1	3.0	3.3

Source: Bureau of Labor Statistics; Author

Duration of unemployment

US unemployment benefits are available for a relatively short duration, compared with other advanced countries. Therefore, the long-term unemployed risk running out of unemployment benefits, causing a sharp reduction in income. Additionally, long periods of unemployment can make re-entering the labor market more challenging.

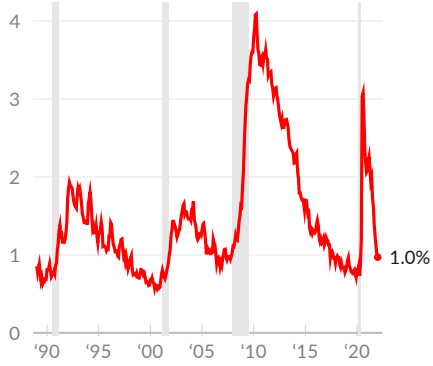
As of January 2022, BLS reports that 0.65 percent of the age 16+ population have been unemployed for 27 weeks or longer, compared to 1.56 percent in January 2021 (see —). This measure of long-term unemployment peaked at 2.96 percent of the population in April 2010, but had fallen to 0.36 percent in April 2020.

In January 2022, 0.97 percent of the age 16+ population have been unemployed for at least 15 weeks (see —), following 1.00 percent in December 2021, and 1.12 percent in November 2021.

Long-term Unemployed
unemployed 27+ weeks, share of population

Source: Bureau of Labor Statistics

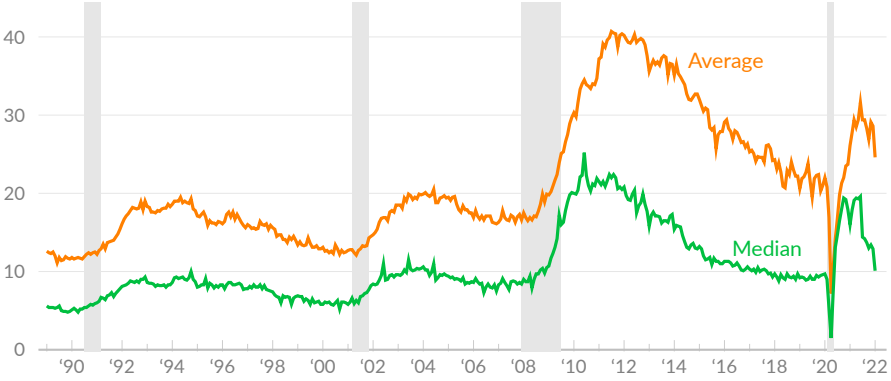
Long-term Unemployed
unemployed 15+ weeks, share of population



Source: Bureau of Labor Statistics

Among those who are unemployed, the average (mean) duration of unemployment is 24.6 weeks (see —), and the typical (median) duration of unemployment is 10.1 weeks (see —), as of January 2022. Over the year prior to COVID-19, ending February 2020, the average duration of unemployment was 21.7 weeks and the typical duration was 9.3 weeks.

Duration of Unemployment
in weeks

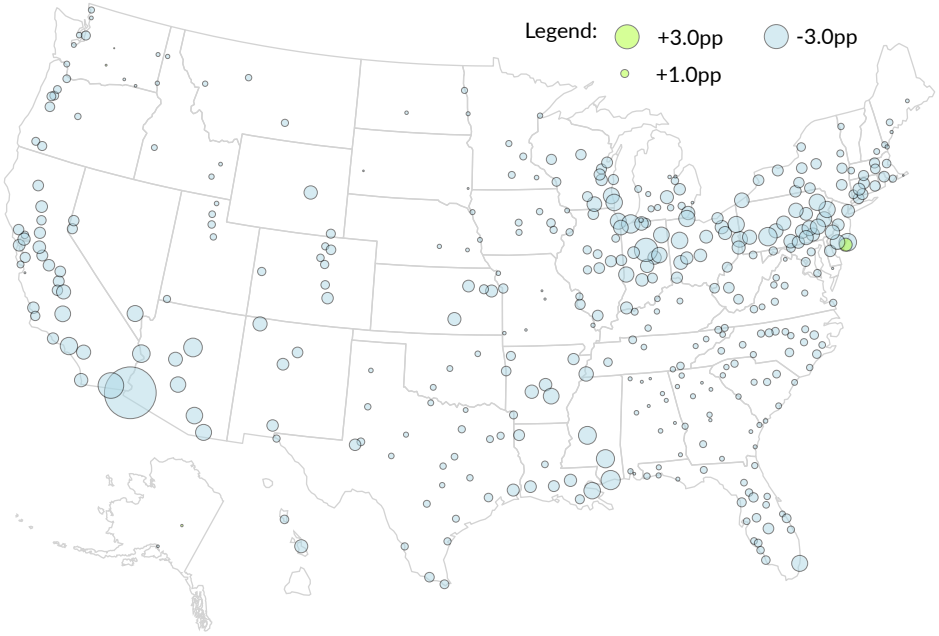


Source: Bureau of Labor Statistics

Unemployment by metro area

The Bureau of Labor Statistics produce local area estimates of unemployment, including the **unemployment rate for metro areas**. BLS report the share of the local area labor force that is unemployed in the largest 300 or so metropolitan areas. The following map captures recent changes by displaying the difference between the average unemployment rate over the past three months and the previous three months. A positive change indicates that the unemployment rate increased.

Change in Unemployment Rate by Metro Area
most recent three months change from previous three months
in percentage points, latest three months end December 2021



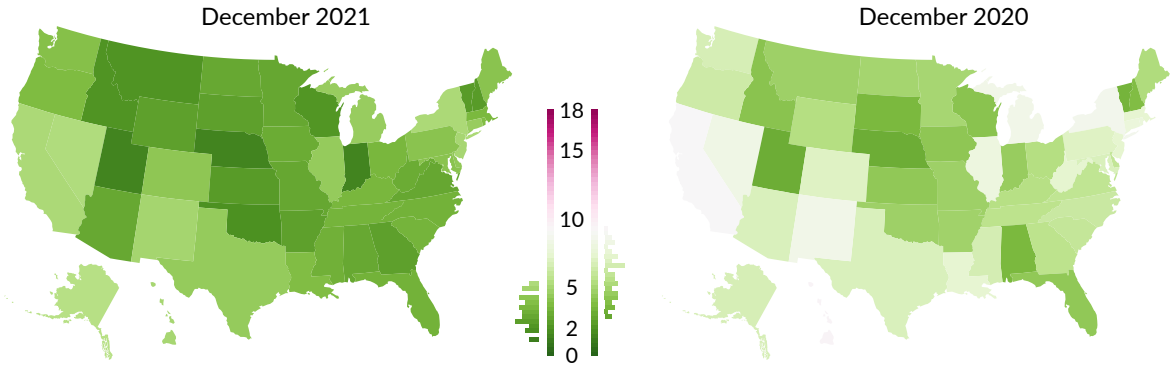
Source: Bureau of Labor Statistics

Unemployment by state

The Bureau of Labor Statistics report the state unemployment rate–unemployed people as a share of the state labor force–each month, around two weeks after reporting the national unemployment rate. In December 2021, no states had an unemployment rate above eight percent, compared to 49 states in April 2020. One year prior, in December 2020, seven states had an unemployment rate above eight percent and 33 states had an unemployment rate above five percent. In December 2021, three states have an unemployment rate above five percent.

The states with the highest unemployment rates in December 2021 are Alaska (5.4%), Nevada (5.2%), and District of Columbia (5.1%). The states with the lowest unemployment rates are Utah (1.3%), Nebraska (1.3%), and Indiana (1.3%).

Unemployment Rate by State
unemployed share of labor force, percent



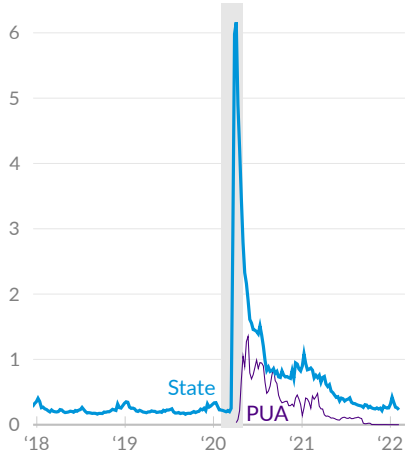
Source: Bureau of Labor Statistics

Jobless Claims

The Department of Labor report 228,909 actual new claims for unemployment insurance (UI) under state programs (see —) during the week ending February 5, 2022, a one-week decrease of 28,700. Over the past four weeks, new claims have averaged 274,000 per week. During the same four-week period last year, there were an average of 873,900 new claims per week.

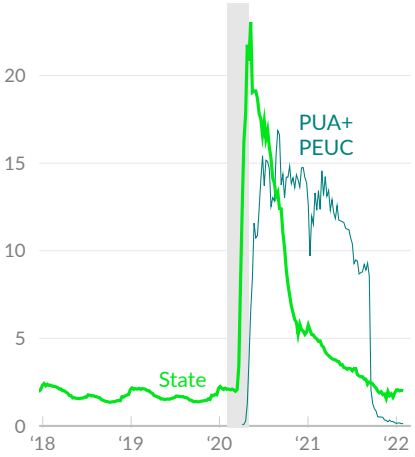
For the week ending January 29, 2022, the Department of Labor reports 2,000,770 continued claims for unemployment insurance (insured unemployed) under state programs (see —), a one-week decrease of 33,800. One year prior, during the week of January 30, 2021, there were an average of 5,038,700 insured unemployed.

New UI Claims
initial claims per week, in millions, not seasonally adjusted



Source: Department of Labor

Continued UI Claims
insured unemployed, in millions, not seasonally adjusted



Source: Department of Labor

In response to the COVID-19 pandemic, traditional state-run unemployment insurance was temporarily boosted by federal programs that expanded eligibility for benefits and increased the amount of benefit payments. These programs were ended on September 6, 2020, reducing the income of millions of families.

Labor Force Participation

Those who are either employed or unemployed are considered to be in the labor force. Over the long term, the share of the US population that is in the labor force, called the labor force participation rate, has been falling because of the aging of the population (because labor force participation rates are lower among the elderly and an increasing share of the overall population are elderly). However, participation in the labor force is also cyclical and affected by economic conditions. For example, during a downturn people become discouraged by their labor force prospects and stop looking for work, removing them from the labor force.

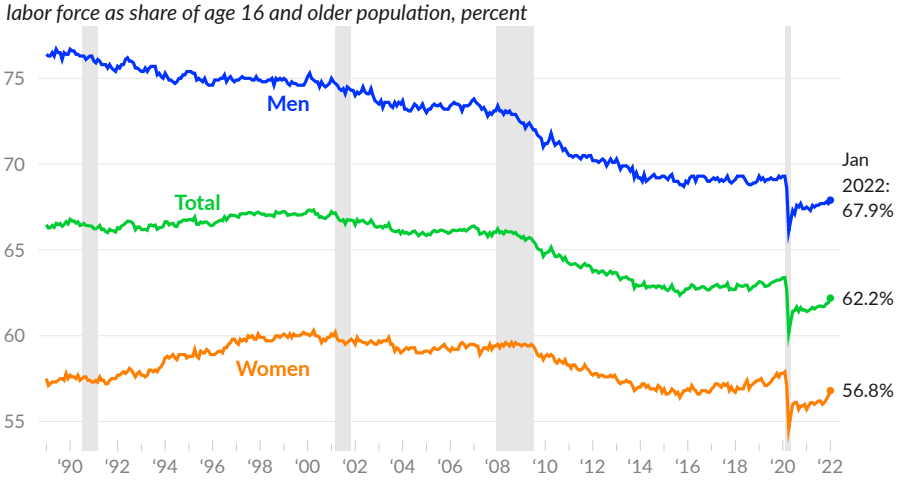
Age is not the only demographic factor affecting labor force participation. The US population has become much more educated over the past 30 years, putting upward pressure on labor force participation, as participation rates tend to increase with education. Additionally, women were participating in the labor force at increasing rate in the US until the 2000s while men were not.

In the latest data, covering January 2022, 62.2 percent of people age 16 and older are in the labor force (see —), compared to 61.9 percent in December 2021 and 61.9 percent in November 2021. In February 2020, when US confirmed cases of COVID-19 were still low, this labor force participation rate was 63.4 percent.

In January 2022, 67.9 percent of men age 16+ are in the labor force (see —), compared to 56.8 percent of women (see —). Since February 2020, labor force participation has decreased 1.4 percentage points among men, and decreased one percentage point among women.

Labor Force Participation Rate

labor force as share of age 16 and older population, percent

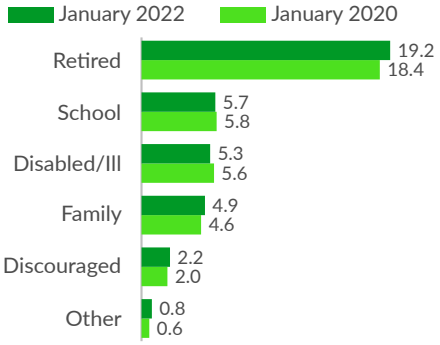


Source: Bureau of Labor Statistics

Reasons for labor force non-participation

The Current Population Survey (CPS) asks those who are not employed or looking for work about their major activities and reasons for not participating in the labor market. Answers vary by age in intuitive ways, and are influenced by labor market conditions.

Labor Force Non-Participation
share of age 15+ population, percent



Source: Author's calculations from CPS

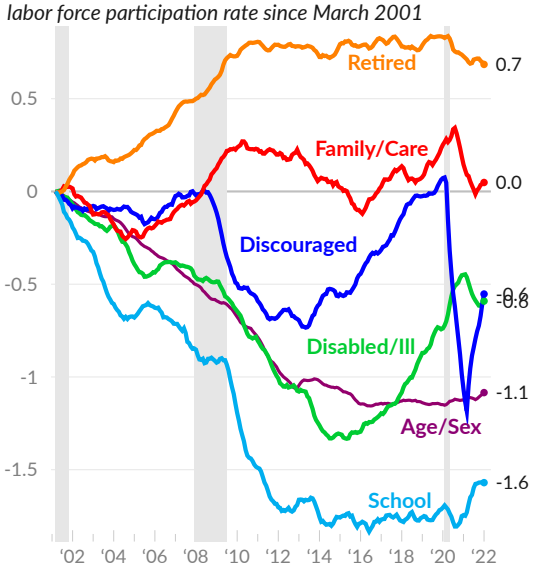
These labor force non-participants, which do not include those under the age of 16, total 100.4 million in January 2022, or 38.1 percent of the age 16 or older population, compared to 37.0 percent in January 2020. Slightly less than half of non-participants, and 19.2 percent of population, are retirees in January 2022 (see ■). A total of 13.9 million people, or 5.3 percent of the age 15 or older population, are out of the labor force due to disability or illness; 5.7 percent were out of the labor force for school, and 4.9 percent for family or caregiving reasons.

While the recession of 2001 appears mild in measures of expenditure, it was followed by a substantial reduction in the share of the population receiving labor income. The economy was losing jobs at an alarming rate long after the 2001 recession had officially ended, though labor market weakness was partially masked by a major housing bubble. Seven years after the recession of 2001, the housing bubble collapsed, causing the great recession, which pushed many more people out of the labor force.

From March 2001 to the latest available twelve months of data, ending January 2022, an additional 3.3 percent of the age 18–64 population left the labor force. Changes in the demographic composition of the population affect the rate of participation. For example, the larger-than-normal population cohort born after World War II is reaching retirement age in this period. Changes in the age and sex distribution within the age group explain 1.1 percentage points of the cumulative decrease in participation since March 2001 (see —).

Additionally, young people are staying in school longer, on average, reducing the age 18–64 labor force by 1.6 percent (see —). Disability and illness reduce the labor force by another 0.6 percent (see —). Less retirement among those age 18–64 increases the labor force by 0.7 percent, over the period (see —).

Contribution to Labor Force Participation
cumulative percentage point contribution to age 18-64 labor force participation rate since March 2001



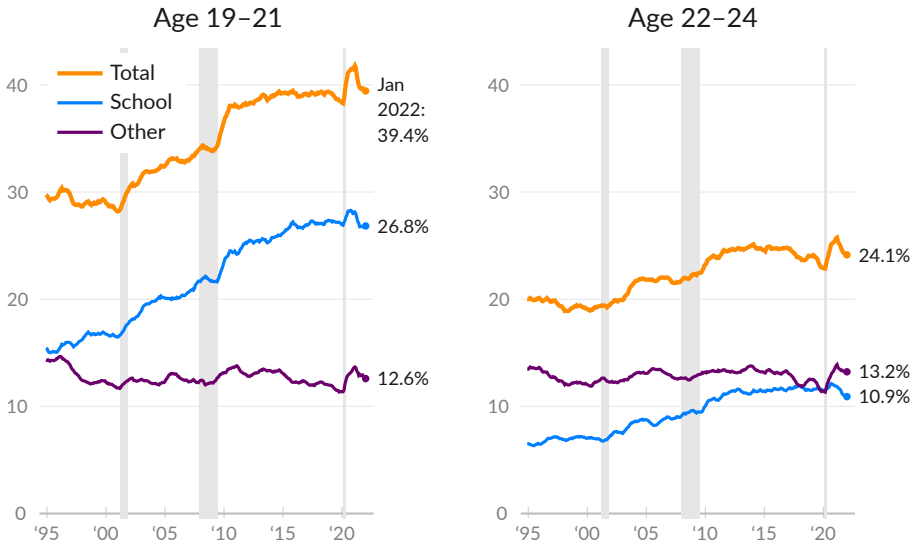
Source: Author's Calculations from CPS

Series in the chart are adjusted so that the distribution of the age 18–64 population by age and sex is constant and equal to its March 2001 value. The total effect of this adjustment on labor force participation is included separately in the chart, as **Age/Sex**.

Young people's participation in the labor market, by working or looking for work, is affected by trends in educational attainment and by economic conditions. From 1994 to 2000, labor force participation among young people increased slightly. Following the recession of 2001, and carrying through the great recession, participation rates dropped sharply. From 2000 to 2014, annual labor force non-participation increased from 28.2 percent to 39.3 percent for 19 to 21 year olds and from 19.3 percent to 24.6 percent for 22 to 24 year olds (see —). The overall increase is nearly entirely accounted for by increased college enrollment (see —).

By February 2020, the labor market had improved and the annual non-participation rate was 38.3 percent for 19 to 21 year olds and 22.9 percent for 22 to 24 year olds. In the latest data, covering the 12 months ending January 2022, the rate of non-participation is 39.4 percent for 19 to 21 year olds and 24.1 percent for 22 to 24 year olds.

Reason for Labor Force Non-participation, by Age
share of age group population, percent, 12-month moving average



Source: Author's Calculations from CPS

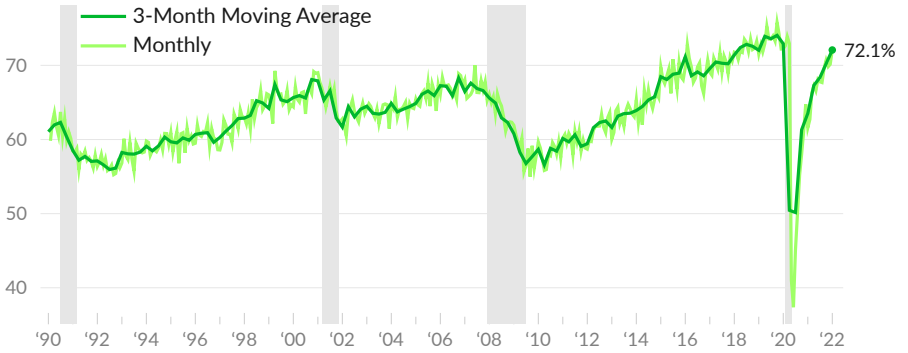
Labor Force Flows

The current population survey interviews households up to eight times over 16 months, allowing insight into the labor force status of the same individual over time, and in particular, into flows between different employment, unemployment, and other categories. The Bureau of Labor Statistics publish many monthly indicators based on labor force flows, and others can be calculated directly from the public use data.

Among newly-employed workers, some were looking for work or otherwise considered unemployed the prior month, while others were not in the labor force. In January 2022, 6.7 million people were newly employed (on a gross basis). Of these, 72.1 percent were not looking for work in the prior month (see —). Over the past three months, an average of 72.1 percent of the newly employed were not looking for work the month prior (see —). When unemployment is low, the newly employed are more likely to come from outside of the labor force. Three years ago, in January 2019, 71.5 percent of the newly employed had not looked for work the previous month.

Newly Employed, Not Previously Looking For Work

share of newly employed that were not looking for work in the prior month



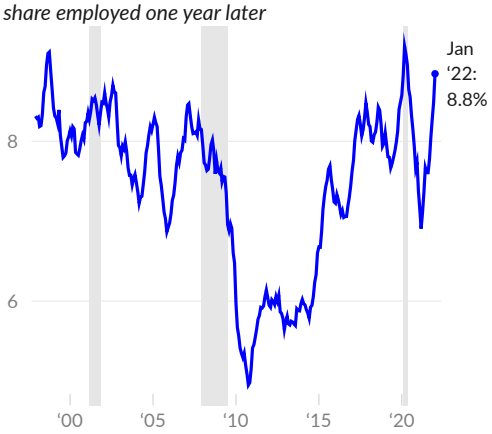
Source: Bureau of Labor Statistics

The great recession worsened job-finding prospects for those not in the labor force (NILF) due to disability or illness. As a result, the flow into employment for people age 25 to 54 who are out of the labor force due to a disability or illness slowed considerably. These prospects first recovered to pre-recession levels around 2017.

Over the year ending January 2022, 8.8 percent of people age 25–54 who were out of the labor force due to disability or illness in the prior year are now employed (see —). This one-year rate of job-finding has increased substantially from its 2010–2013 average of 5.8 percent.

Flow, Disability to Work

NILF disability/illness, age 25 to 54, share employed one year later



Source: Author's Calculations from CPS

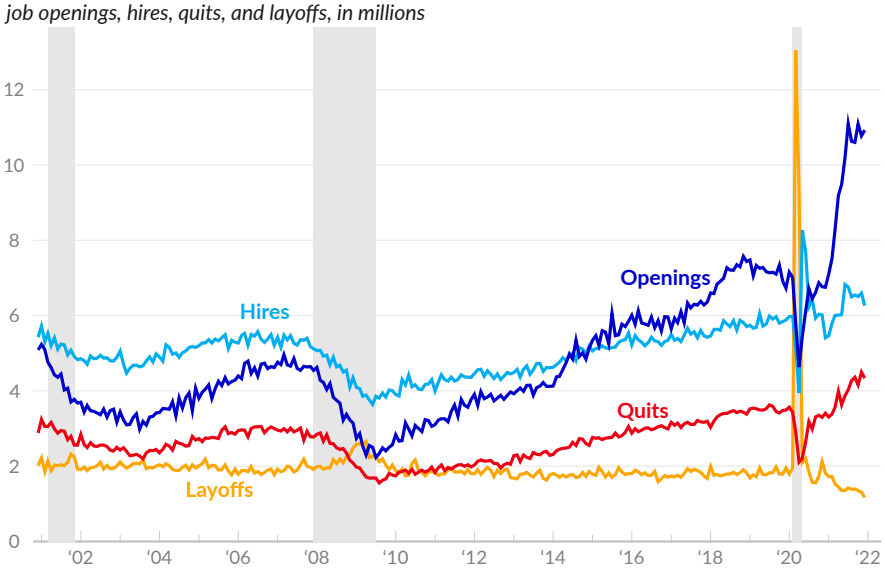
Job Openings and Labor Turnover Survey

Some types of **turnover** in the labor market are healthy and mean people are better able find a new job if they do not like the one they have. Additionally, the job prospects outside of a firm affect the bargaining power of the workers inside of the firm. The Bureau of Labor Statistics report the number of job openings, hires, and separations in several industry groups on a monthly basis. Separations include layoffs, voluntarily leaving a job (*quits*), and other separations such as retirements, transfers to other locations, or separations due to death or disability.

In December 2021, there were 10.9 million total nonfarm job openings (see —) and 6.3 million hires completed (see —). In the same month, there were 5.9 million nonfarm separations, including 1.2 million layoffs (see —), 4.3 million quits (see —), and 392,000 other separations. In 2019, there were an average of 5.8 million hires completed and 5.7 million total separations, per month.

Job Turnover

job openings, hires, quits, and layoffs, in millions

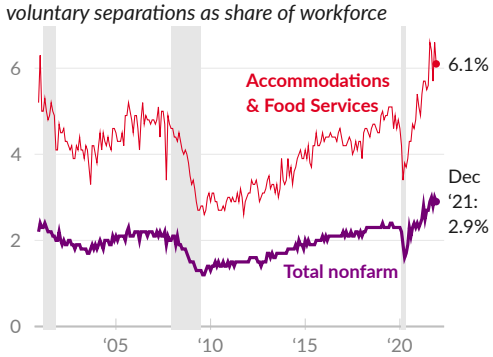


Source: Bureau of Labor Statistics

The number of people who voluntarily separate (quit) a job in a given month, divided by the total number employed is the *quits rate*. The rate typically increases when workers are confident enough to leave one job for another one, and a high quits rate, particularly in low-paying industries, can be a sign of a tight labor market.

Quits Rate

voluntary separations as share of workforce



Source: Bureau of Labor Statistics

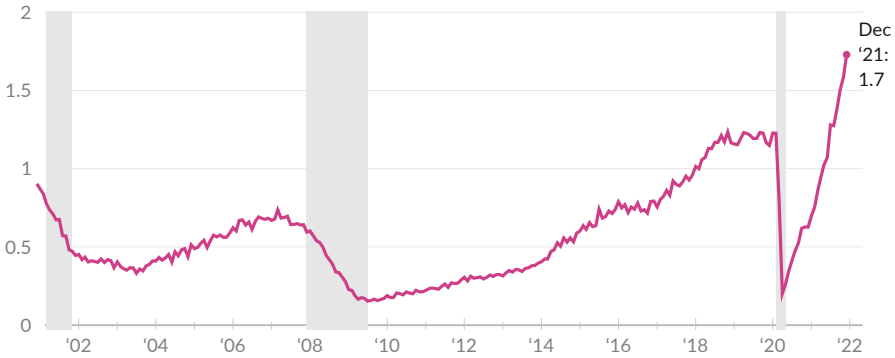
The quits rate is cyclical within the accommodations and food services industries (which includes restaurants), and tends to rise when a tight labor market pulls people out of restaurant jobs and into higher paying jobs in other industries.

In December 2021, the total quits rate in all industries was 2.9 percent (see —). The accommodations and food services quits rate was 6.1 percent (see —); the series high for the industry group was 6.6 percent in August 2021.

In December 2021, there were 6.3 million unemployed people and 10.9 million job openings, therefore the ratio of job openings per unemployed person was 1.7 (see —). In November 2021 the ratio was 1.6, and during 2019 the average ratio was 1.2.

Job Openings Per Unemployed Person

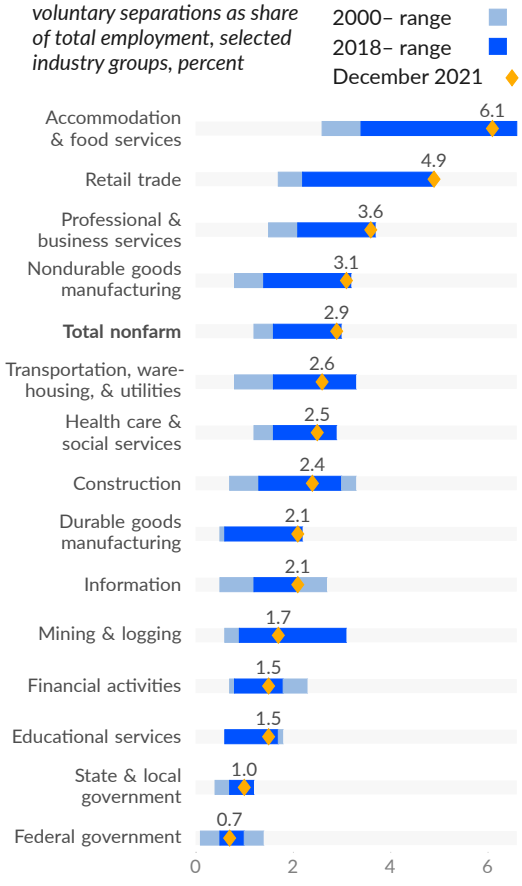
job openings divided by total unemployment



Source: Bureau of Labor Statistics

Quits Rate by Industry

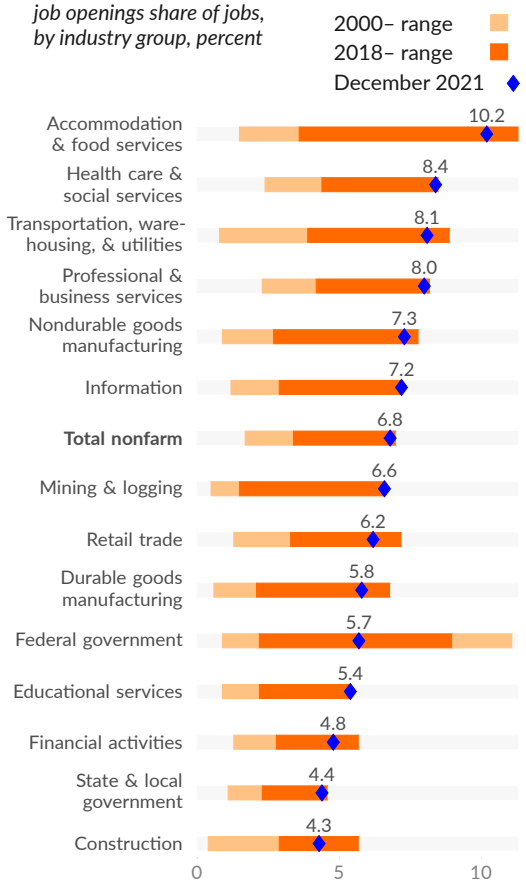
voluntary separations as share of total employment, selected industry groups, percent



Source: Bureau of Labor Statistics

Job Openings Rate

job openings share of jobs, by industry group, percent



Source: Bureau of Labor Statistics

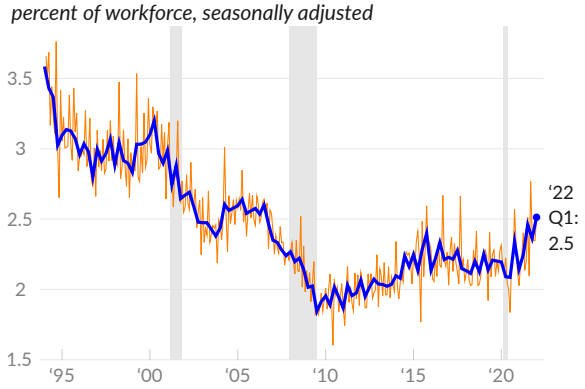
Job Switching

Job switching is important for getting people into the jobs where they are most productive. Switching to a more productive industry or moving from a less-productive firm to a more-productive firm, both boost labor productivity.

The current population survey asks whether individuals have the same employer as they did the previous month. The rate at which people say they have changed employers had fallen to below two percent after the great recession, from an average of around three percent during the late 1990s.

New Employer

percent of workforce, seasonally adjusted



Source: Author's calculations from CPS

More recent data show a slight increase in job switching rates. In January 2022, 2.5 percent of the workforce had a different employer than the previous month, after seasonal adjustment (see —). Smoothed data show 2.5 percent of the workforce with a new employer during the first quarter of 2022 (see —). Prior to COVID-19, in 2019 Q4, 2.2 percent of the workforce switched jobs.

Hours Worked

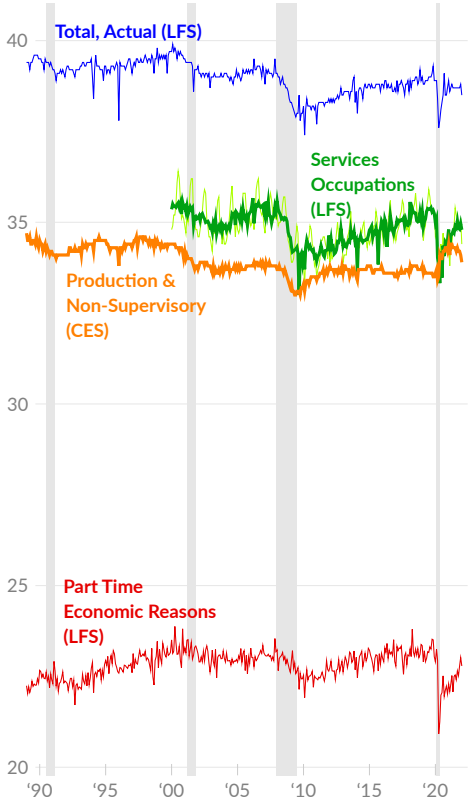
The Bureau of Labor Statistics (BLS) report hours worked per week in both Current Employment Statistics (CES) and Labor Force Statistics (LFS).

Actual hours worked by people at work in all industries during the survey reference week average 38.5 in January 2022 (see —) slightly below the 38.9 average actual hours worked in February 2020. Average actual hours for this group average 39.6 from 1998 through 2000, and fell to a great recession low of 37.4 in February 2010.

Those in service occupations (see —) work fewer hours on average, with 34.8 average weekly hours in January 2022, slightly below the 35.1 average in February 2020. Those part-time for economic reasons (see —) work an average of 22.8 hours per week in January 2022.

In January 2022, production and non-supervisory workers (see —), about four of every five employees, worked 33.9 hours per week on average, in line with the 33.7 average weekly hours in February 2020 and slightly below the 1998–2000 average of 34.4 hours.

Hours Worked
average hours per week



Source: BLS

Hours Worked, Various Measures
average hours per week, seasonally adjusted

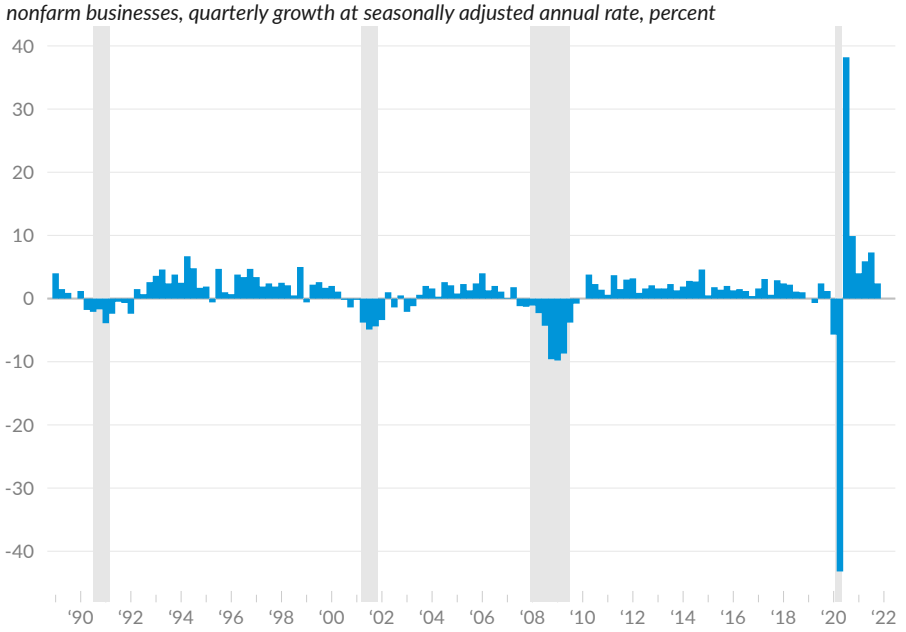
	Jan '22	Dec '21	Nov '21	Jan '21	Dec '20	Nov '20	Jan '20
Total Actual, CES	34.5	34.7	34.8	35.0	34.7	34.8	34.3
Total Actual, LFS (—)	38.5	38.8	38.7	38.9	38.7	38.5	38.9
Total Usual, CPS	38.7	38.7	38.7	38.8	38.7	38.7	38.7
Production & Non-Supervisory, CES (—)	33.9	34.1	34.2	34.4	34.2	34.3	33.6
Services Occupations, LFS (—)	34.8	35.0	34.8	34.8	34.5	34.4	35.0
Part-time for Economic Reasons, LFS (—)	22.8	23.0	22.8	22.3	22.0	22.2	22.9

Source: Bureau of Labor Statistics; Author

BLS also report a quarterly index tracking aggregate hours worked in nonfarm businesses (see ■). Total hours worked in nonfarm businesses increased at an annual rate of 2.4 percent in 2021 Q4, following an increase of 7.3 percent in 2021 Q3. From 2017 through 2019, total hours worked increased at an average rate of 1.5 percent. Since 2019, hours worked have decreased by a total of 0.4 percent.

Aggregate Hours Worked

nonfarm businesses, quarterly growth at seasonally adjusted annual rate, percent



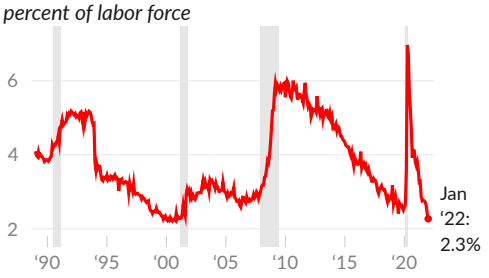
Source: Bureau of Labor Statistics

Part-time Work

Part-time workers who would prefer full-time work are referred to as involuntary part time or part time for economic reasons in the labor force statistics produced by the Bureau of Labor Statistics. This group is comprised of people who don't have enough hours because of slack business conditions or who are unable to find full-time work.

Part Time, Economic Reasons

percent of labor force



Source: Bureau of Labor Statistics

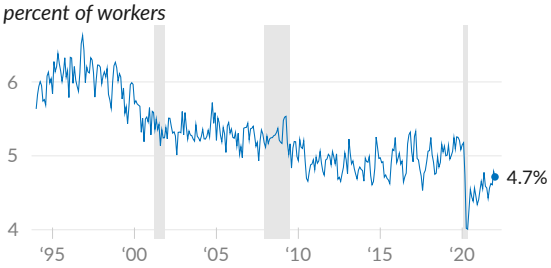
As of January 2022, 3,717,000 people are working part time because of economic reasons, equivalent to 2.3 percent of the labor force (see —), the lowest level since December 2000 and slightly below the February 2020 rate of 2.7 percent. During the great recession, the involuntary part-time share of the labor force peaked at 6.0 percent in September 2010.

More Than One Job

Multiple jobholding rates were fairly stable from 2000 to 2019. The household survey used to identify people with more than one job asks about a specific reference week. As a result, the multiple jobholding rate is not intending to capture people who rely on a patchwork of multiple jobs over time, but work at one job in the survey reference week.

Multiple Jobholders

percent of workers



Source: Bureau of Labor Statistics

In January 2022, 7,337,000 people are working more than one job, equivalent to 4.7 percent of workers (see —), the lowest level since November 2021 and substantially below the February 2020 rate of 5.2 percent. The multiple jobholder share of workers peaked at 6.6 percent in November 1996.

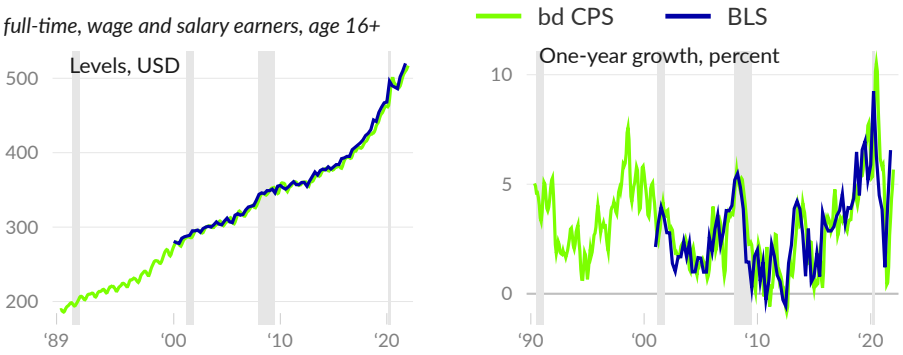
Wage Growth

The **usual wages of full-time workers** can be measured at various points in the income distribution using the Current Population Survey. BLS report these data by decile and quartile, with the most commonly used measure being the median usual weekly earnings.

BLS calculations (see —) for 2021 Q4 show nominal first decile usual weekly earnings of $520.00, compared to $488.00 in 2020 Q4, resulting in one-year growth of 6.6 percent. In the previous quarter, 2021 Q3, first decile usual weekly earnings grew by 4.1 percent over the year. Author's calculations from the CPS (see —) show three-month moving average first decile usual weekly earnings of $520.00 in January 2022, $517.00 in December 2021, and $488.00 in January 2021. One-year growth was 6.0 percent for the three months ending January 2022, 5.0 percent for the three months ending December 2021, and 4.0 percent for the three months ending November 2021.

Weekly Earnings, First Decile

full-time, wage and salary earners, age 16+



Source: Bureau of Labor Statistics, Author's Calculations

Usual Weekly Earnings

full-time, wage and salary earners, age 16+, nominal USD

	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2019 Q4	2018 Q4	2017 Q4	2016 Q4
First decile	520	510	502	486	488	467	444	417	404
First quartile	697	683	665	657	654	623	601	580	558
Median	1010	1001	990	989	984	936	900	857	849
Third quartile	1578	1577	1557	1563	1539	1488	1437	1372	1351
Ninth decile	2444	2412	2405	2424	2321	2280	2213	2097	2067

Source: Bureau of Labor Statistics

Weekly Earnings Growth

full-time, wage and salary earners, age 16+, one-year growth, percent

	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2019 Q4	2018 Q4	2017 Q4	2016 Q4
First decile	6.6	4.1	1.2	3.8	4.5	5.2	6.5	3.2	3.1
First quartile	6.6	2.4	-0.7	4.3	5.0	3.7	3.6	3.9	3.5
Median	2.6	0.7	-1.2	3.3	5.1	4.0	5.0	0.9	2.9
Third quartile	2.5	0.1	0.4	3.3	3.4	3.5	4.7	1.6	1.6
Ninth decile	5.3	1.2	0.9	4.5	1.8	3.0	5.5	1.5	3.7

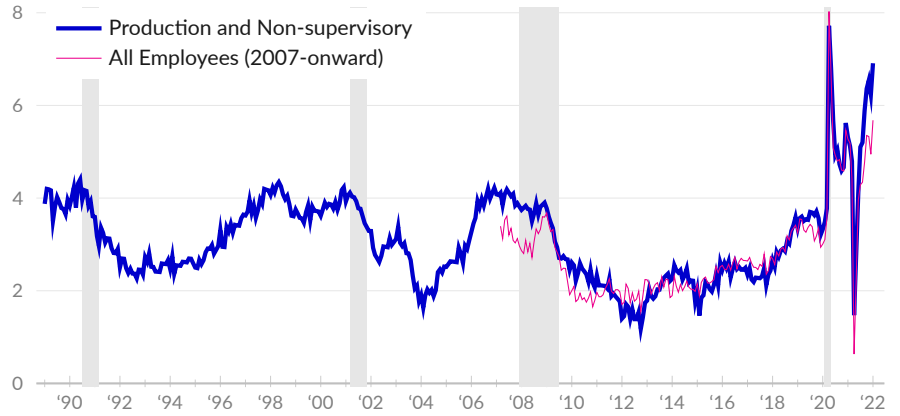
Source: Bureau of Labor Statistics

Nominal Hourly Wages

Over the year ending January 2022, nominal wages increased by 5.7 percent for all employees (see —) and increased by 6.9 percent for production and non-supervisory workers (see —), according to the Bureau of Labor Statistics. Comparing the latest three months to the previous three months, nominal wages increased at an annual rate of 6.5 percent for all employees and increased at an annual rate of 7.5 percent for production and non-supervisory employees.

Average Hourly Earnings

nominal one-year growth, percent

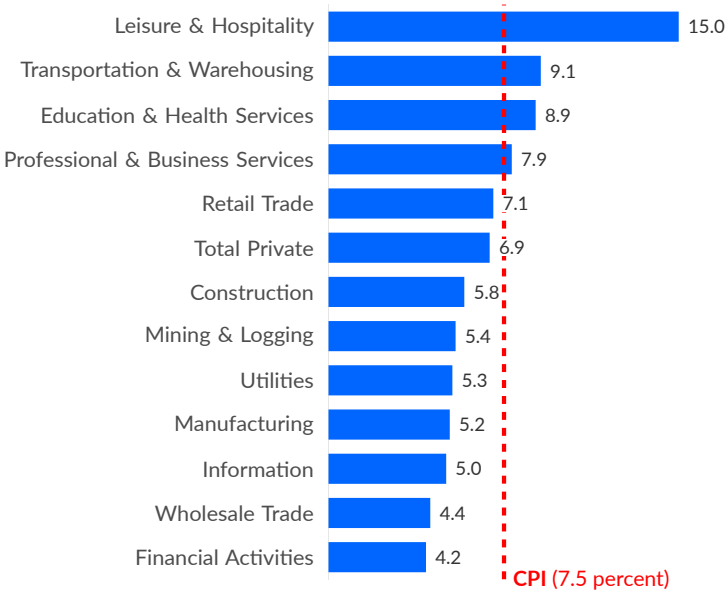


Source: Bureau of Labor Statistics

By industry, 4 of 12 groups experienced real wage growth (wage growth above the increase in prices indicated by the consumer price index). The leisure & hospitality industry had the fastest nominal growth rate, at 15.0 percent, followed by 9.1 percent in transportation & warehousing and 8.9 percent in education & health services.

Average Hourly Earnings Growth by Industry

production and non-supervisory workers, as of January 2022
one-year growth, percent



Source: Bureau of Labor Statistics

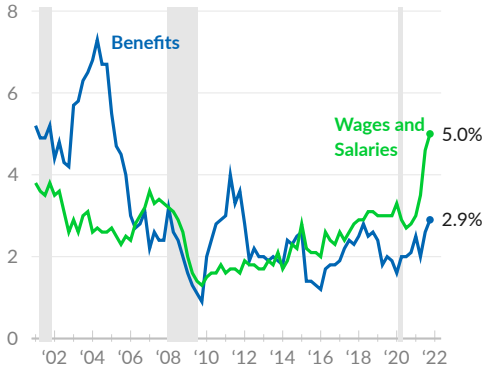
Employment Cost Index

The Bureau of Labor Statistics report the overall hourly labor costs faced by employers, using an index that is not influenced by short-term changes in the industry and occupation composition of the US workforce. Employer costs are reported separately for total compensation, wages and salaries, and benefits.

Benefits include health insurance, retirement, vacation, sick leave, and transportation benefits. Benefits access and participation vary, even within the same firm. The benefits costs in the index are averages computed across all workers, including the workers who do not have benefits.

Employment Cost Growth

private industry wage and salary workers, 12-month percent change



Source: Bureau of Labor Statistics

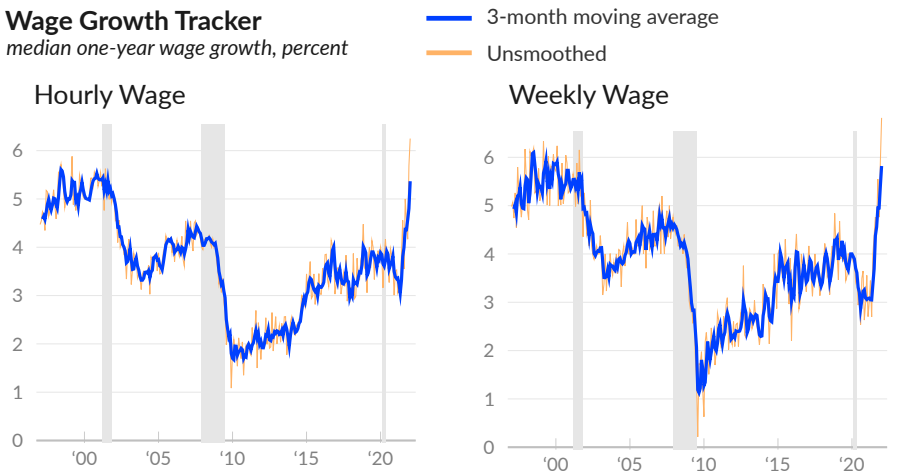
In the fourth quarter of 2021, private industry wage and salary costs increased by five percent (one-year percent change, see —), following an increase of 4.6 percent in 2021 Q3, and an increase of 3.5 percent in 2021 Q2. In 2019, private wages and salaries costs increased by three percent, on average.

The cost of private sector benefits increased by 2.9 percent (see —) over the year ending 2021 Q4, following an increase of 2.6 percent in 2021 Q3. In 2019, private-sector benefits costs increased by two percent, on average

Wage Growth Tracker

The Federal Reserve Bank of Atlanta publish a wage growth tracker that captures the distribution of changes in nominal hourly wages of the same people over one year. This approach avoids some of the compositional changes that affect aggregate wage growth measures, though the sample used to calculate the data is affected by changes to respondents' employment status, and by survey response rates.

Replication of the wage growth tracker using the bd CPS shows matched-observation hourly wage growth of 6.2 percent in January 2022 (see —), and average wage growth of 5.4 percent over the three months ending January 2022 (see —). One year prior, in January 2021, three-month moving average wage growth was 3.4 percent.



Source: Author's Calculations

By observing the same person's wage at two points, one year apart, we see how many people do not receive a wage increase. The Atlanta Fed measures this as the share of individuals who have one-year hourly wage growth of between -0.5 and 0.5 percent. The Atlanta Fed approach is replicated using the bd CPS, and smoothed with a 3-month moving average.

In January 2022, 12.3 percent of individuals had no hourly wage growth, compared to 12.9 in December 2021 (see —). One year prior, in January 2021, 14.4 percent of individuals had no wage growth.

Source: Author's Calculations

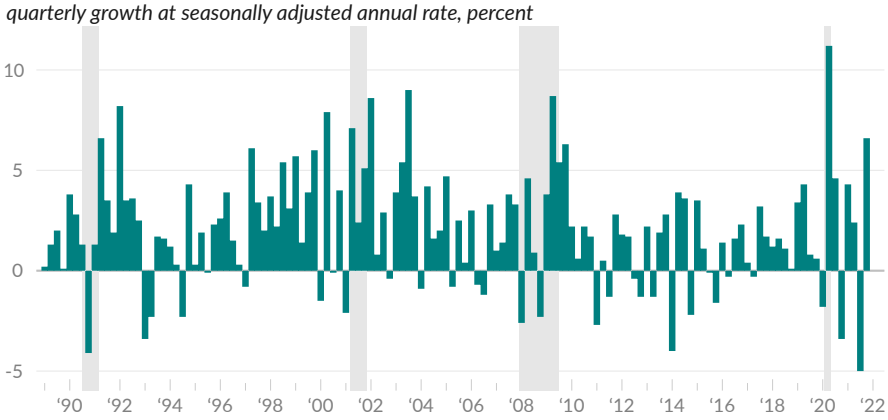
Labor Productivity

Labor productivity is reported by the Bureau of Labor Statistics and measured as **real output per hour of work** in the nonfarm business sector. Economic theory suggests that labor productivity is particularly important for long-term real economic growth. The measure captures the rate at which people, with all of the resources and equipment and infrastructure available to them, are able to produce goods and services with their work. An increase in labor productivity means real wages can increase without putting upward pressure on inflation. Alternatively, an increase in productivity means a society can meet its material needs with less work.

In 2021 Q4, labor productivity increased at an annual rate of 6.6 percent (see ■), as the result of an increase of 9.2 percent in real ouput and an increase of 2.4 percent in hours worked. In the prior quarter, 2021 Q3, labor productivity decreased at an annual rate of five percent, as real output increased two percent and hours of work increased 7.3 percent. Over the past five years, labor productivity growth has averaged 1.8 percent, slightly below the 1989-onward average of 2.0 percent.

Labor Productivity Growth

quarterly growth at seasonally adjusted annual rate, percent



Source: Bureau of Labor Statistics

In the short-term, productivity growth is heavily affected by changes in the composition of the workforce, and by and volatility in both the number of hours worked and in production. In the longer-term, the level of business net investment in equipment and other capital goods, particularly relative to the size of the workforce, affects productivity growth. Such investment allows more goods and services to be produced by the same hours of work. Yet efforts to stimulate business investment directly through reducing corporate income taxes do not seem to have worked.

One theory of what drives long-term trends, sometimes called the *Kaldor-Verdoorn Law*, states that demand, and the capacity to meet that demand, determine productivity growth. An economy facing real resource constraints, where demand for goods and services exceeds the capacity to provide these services, is more likely to find ways to produce goods and services more efficiently. As one example, businesses invest more in labor-saving technologies when faced with a tight labor market.

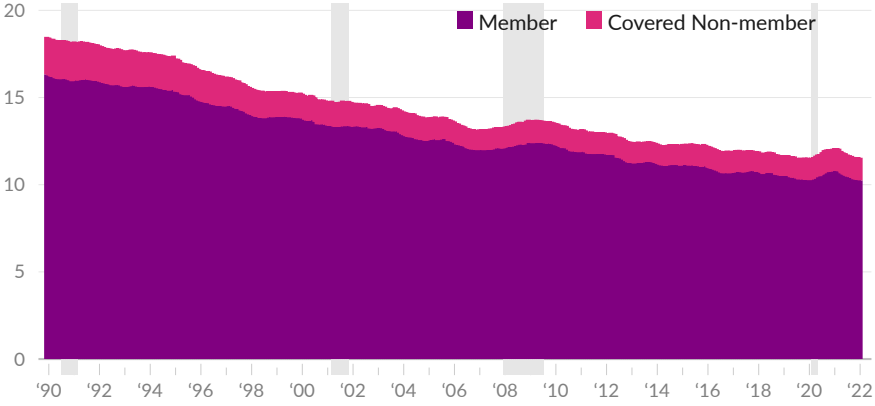
Union Membership

Membership in **unions and employee associations** has diminished in the United States over the past fifty years. Unionized jobs typically offer higher wages and better benefits and union membership tends to increase wages and benefits even in nonunion jobs. Many researchers argue that lower union membership increases income inequality.

Over the 12 months ending January 2022, the share of jobs held by union and employee association members averaged 10.2 percent. In levels, there were 14.0 million union jobs, and 122.9 million nonunion jobs, on average over the period. This union membership rate averaged 10.8 percent during the 12 months ending January 2021, and 10.3 percent during the 12 months ending January 2020. Union jobs decreased by 164,000 from January 2021 to January 2022, while nonunion jobs increased by 5,611,000.

Union Membership and Coverage

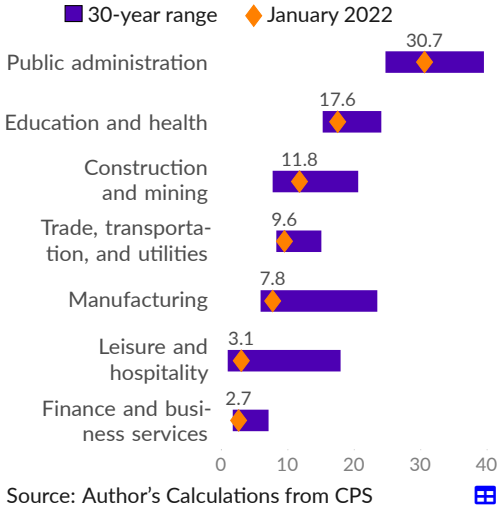
union or employee association share of jobs, percent



Source: Author's Calculations from Current Population Survey

Union Membership Rate by Industry

union or employee association member, percent



Source: Author's Calculations from CPS

Union membership rates vary substantially by industry. Public administration has the highest union membership rate, at 30.7 percent as of January 2022, followed by education and health with 17.6 percent, and construction and mining with 11.8 percent. The manufacturing industry experienced the largest overall percentage point decrease in union membership rates over the past 30 years, and is currently 15.7 percentage points below its February 1989 rate of 23.5 percent. The lowest union membership rate is in finance and business services (2.7 percent). The union membership rate of the industry was 7.2 percent at its 30-year peak in March 1992.

Financial Markets

The US equity and capital markets and provide funding for borrowers' activities and provide additional income to lenders.

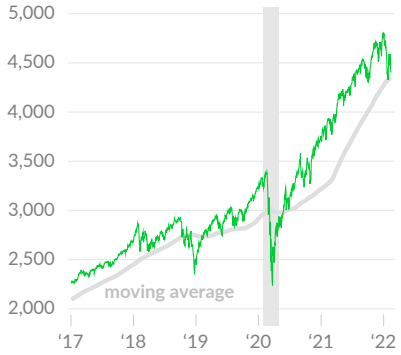
Equity Markets

The S&P 500 (see —) is a market-cap-weighted stock market index based on 500 large companies listed on US exchanges. The index is a broad measure of price levels in US equity markets. The S&P 500 closed at 4,402 on February 14, 2022. The index is currently 8.7 percent below its one-year high of 4,819 on January 4, 2022, and 18.2 percent above its one-year low of 3,723 on March 4, 2021. The average over the past year is 4,358; the index is one percent above its one-year moving average (see —).

S&P 500

index

...recent data in detail

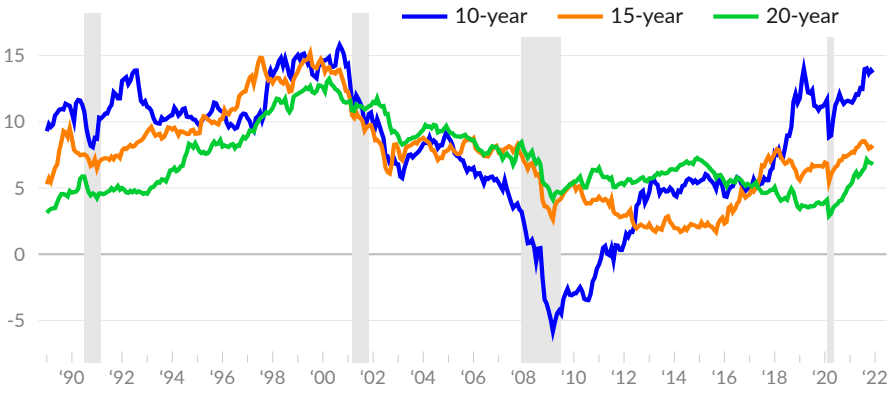


Source: Yahoo! Finance

According to historical stock market data from Robert Shiller, the inflation-adjusted trailing twenty-year annual rate of return of the S&P 500 was 6.8 percent as of December 2021. Long-term real returns are currently low relative to the average trailing twenty year real annual return of 10.1 percent during 1995–2005.

S&P 500 Real Return

trailing period annualized real return

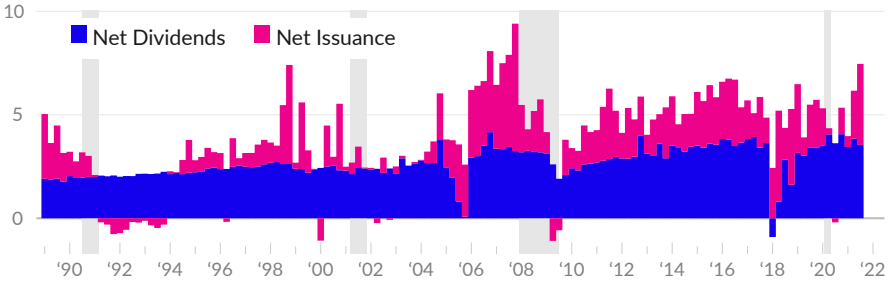


Source: Shiller, Baker, Author's Calculations

The total return on corporate equities includes both dividends and stock buybacks. US nonfinancial corporations have used stock buybacks to return money to investors, often at the expense of domestic fixed investment. To the extent that markets respond rationally, however, buybacks are no different from dividends.

Corporate Equity Payout

nonfinancial corporation net dividends paid and net issuance of equities, percent of GDP



Source: Federal Reserve, Bureau of Economic Analysis

Valuation

The cyclically-adjusted price to earnings ratio (CAPE) compares the current price of the S&P 500 to the previous ten-years of total S&P 500 returns, including dividends and buybacks (treated as dividends). Valuations often use recent or forecasted earnings. Robert Shiller's CAPE covers a normal business cycle so that valuations are less-affected by the idiosyncrasies of current economic conditions.

Price to Earnings Ratio

10-year total return PE ratio

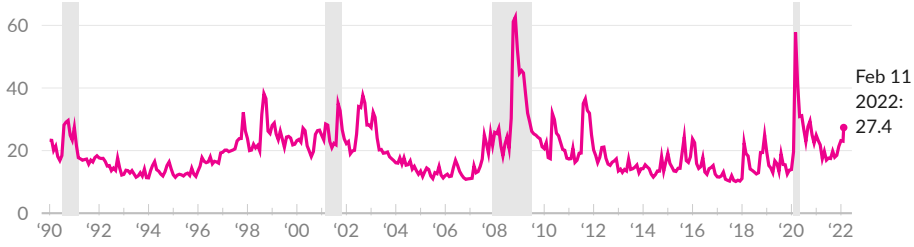
Source: Shiller

Volatility

The Chicago Board Options Exchange uses S&P 500 options data to identify expectations of future volatility. This volatility measure, the VIX index (see —), was 27.4 on February 11, 2022, slightly above the average index value of 21.9 over the past three years. The VIX increased by 4.1 points over the past week.

S&P 500 Volatility Index

index, monthly average shown



Source: Chicago Board Options Exchange

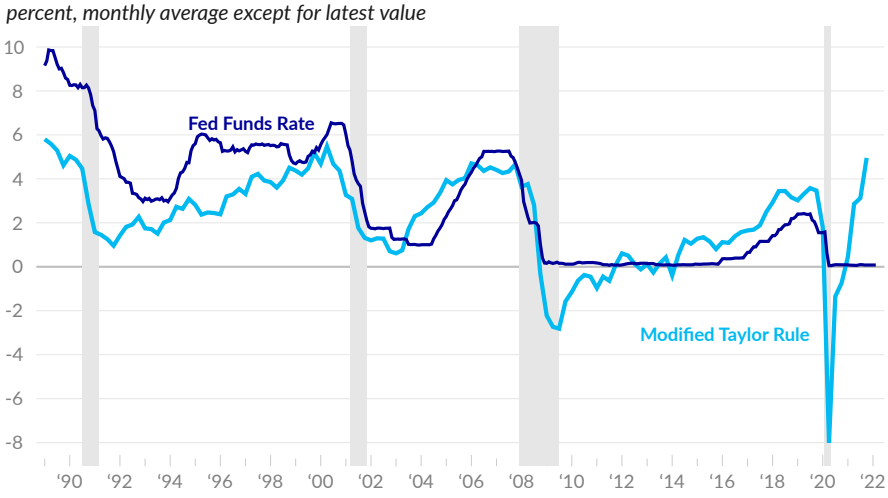
Interest Rates

The US Federal Reserve System (Fed) has a congressional mandate to promote price stability and maximum employment. In practice, a Fed committee (the FOMC) determines the federal funds rate, which aims to influence interest rates in the broader economy. There are several channels through which interest rates affect broader economic activity, for example, lower interest rates stimulate investment in capital goods and the production of these capital goods employs people, who in turn spend their wages on other goods and services. In other words, the Fed's monetary policy can aim to be neutral or to stimulate or slow the economy.

The effective fed funds rate is 0.08 percent, as of February 11, 2022 (see —). The FOMC cut interest rates three times in 2019, for a total reduction of 75 basis points. Responding to the economic shock of the coronavirus, the FOMC cut rates twice in March 2020, by 150 basis points, bringing the lower bound of the federal funds rate range to zero. With rates near zero, the Fed has adopted several additional measures to increase liquidity in the global financial system.

Effective Fed Funds Rate

percent, monthly average except for latest value



Source: Federal Reserve, Author's Calculations

Economist John Taylor described a rule for determining the Fed Funds rate based on inflation and output. Versions of this Taylor Rule track the actual Fed Funds rate fairly closely during the 1990s and 2000s. Former Fed Chair Ben Bernanke described a modified Taylor rule based on core PCE inflation and a stronger response to the output gap (see —).

Real Interest Rates

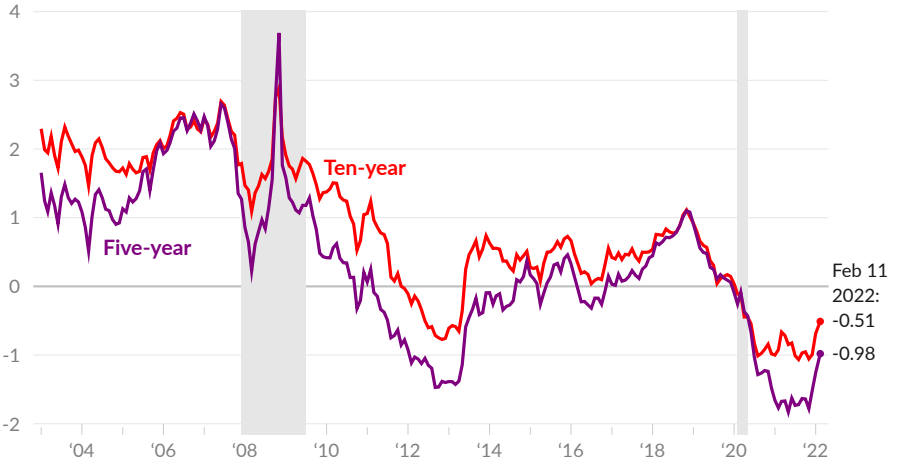
Since the purchasing power of the dollar changes over time, inflation is important to money markets. A lender expecting the future purchasing power of the principal to be below its current purchasing power will charge a higher interest rate to make up for the difference. Interest rates that have been adjusted for expected inflation are referred to as real interest rates, and can offer insight into economic and financial conditions. Low real interest rates encourage borrowing and consumption and increased economic activity while high real interest rates discourage borrowing and encourage saving.

US Treasury inflation-indexed securities are used to measure real interest rates. Treasury yields in general are a good proxy for low-risk rates, and the treasury offers specific securities that have interest payments indexed to the consumer price index (CPI) rate of inflation.

The real yield for such treasuries with 10 years to maturity is -0.51 percent, as of February 11, 2022 (see —), compared to -0.74 percent one month prior, on January 12. For five-year treasuries, the real yield is -0.98 percent in the latest data (see —), compared to -1.32 percent a month prior. Over the past year, the real yield on 10-year treasuries has increased by 0.53 percentage point, and the real yield on five-year treasuries has increased by 0.88 percentage point.

Real Interest Rates

yield, inflation-indexed treasuries, percent



Source: Federal Reserve

Government Bonds

United States Treasury securities, or treasuries, are the asset created by federal government borrowing. The treasuries market is traditionally considered both very low risk and fairly liquid. The yield on these securities has fallen over time, from an average 10-year treasury bond annual yield of 8.5 percent in 1989 to an average of 0.62 percent in July 2020. As of February 11, 2022, the constant maturity yield for 10-year treasury bonds is 1.92 percent (see —), compared to 1.20 percent one year prior.

Yields have also fallen since 1989 for shorter-duration treasuries, though shorter-duration treasuries are more acutely affected by changes in the key interest rate set by the Federal Reserve. Over the past year, yields on two-year treasuries have increased by 1.4 percentage points, as the Federal Reserve is expected to raise interest rates. As of February 11, 2022, the annual yield on two-year treasuries is 1.5 percent (see —).

Treasury Constant Maturity Yields

percent, monthly average shown except for latest value

Source: Federal Reserve

Selected US Treasury Rates

constant maturity yield, percent

	Feb 11, 2022	Feb 10, 2022	Feb 7, 2022	Jan 12, 2022	Nov 10, 2021	Aug 11, 2021	Feb 12, 2021	Feb 14, 2017
Three-month	0.36	0.40	0.27	0.12	0.05	0.05	0.04	0.54
Two-year	1.50	1.61	1.30	0.92	0.51	0.23	0.11	1.25
Five-year	1.84	1.96	1.76	1.50	1.23	0.81	0.50	1.98
Ten-year	1.92	2.03	1.92	1.74	1.56	1.35	1.20	2.47
Thirty-year	2.24	2.30	2.22	2.08	1.92	1.99	2.01	3.07

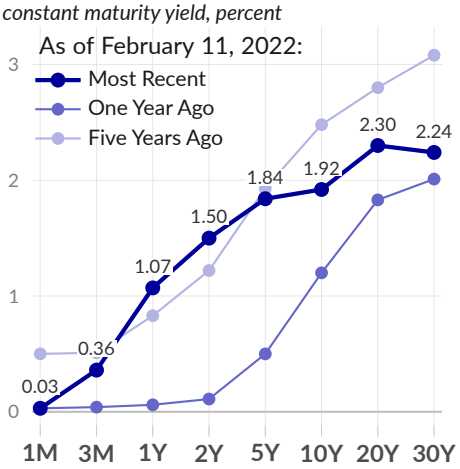
Source: Federal Reserve

The **Treasury yield curve** shows the interest rates on different maturities of US Treasury bonds and bills, at a given point in time. The yield curve summarizes the term structure of interest rates, how much it costs to borrow for different periods of time, and has traditionally been considered an indicator of how markets view short-term economic conditions relative to longer-term conditions.

The yield curve is normally upward sloping as investors expect to be compensated for lending for a longer period of time. The shape of the yield curve changes over time and is affected by several factors, including the term premium, the monetary policy of the Federal Reserve, and expectations about future inflation. The curve can become steeper, for example, if interest rates or inflation is expected to be higher in the future.

Treasury Yield Curve

constant maturity yield, percent



Source: Federal Reserve

The yield curve can also become *inverted* when yields on shorter-term debt are higher than yields on longer-term debt. An inverted yield curve can be a sign of worsening economic conditions. For example, short term rates may exceed longer-term rates if the Federal Reserve cutting is expected to lower interest rates in the future, or if inflation is expected to fall due to weakened economic conditions.

Since 1989, the US has entered into four recessions and the 10-year to 2-year segment of the yield curve has newly inverted five times. The most recent such inversion started on March 22, 2019.

Another measure of the term structure of interest rates is the *spread* between treasuries with different maturities. This measure can be used to track changes in the term structure over time.

As of February 11, 2022, the spread between a 10-year treasury bond and a three-month treasury bill is 1.56 percentage points (see —), compared to 1.16 percentage points one year prior. The spread between 10-year and 2-year treasuries (see —) is 0.42 percentage point on February 11, 2022, and 1.09 percentage points one year prior.

Treasury Yield Spreads

percentage points

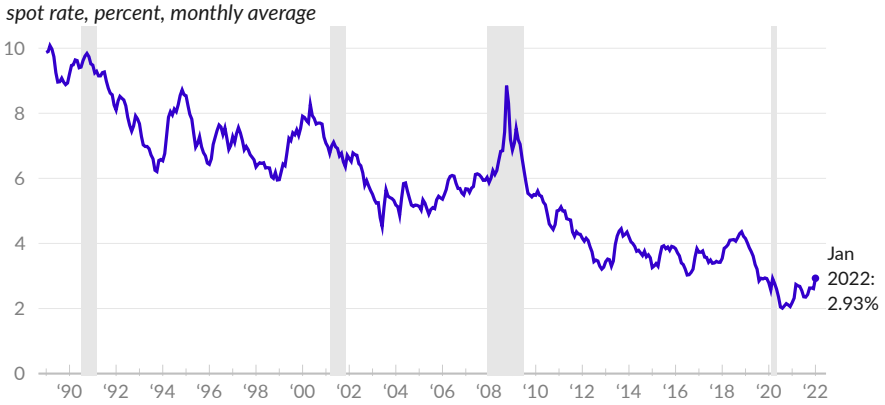
Source: Federal Reserve

Corporate Bonds

The US Treasury publish a yield curve for corporate bonds based on the market-weighted average of bonds rated AAA, AA, and A. The yield on high-quality corporate bonds with a maturity of 10 years is 2.93 percent in January 2022, following 2.61 percent in December 2021. One year prior, in January 2021, this spot rate was 2.18 percent, and two years prior, in January 2020, it was 2.79 percent.

High Quality Corporate Bonds, 10-Year

spot rate, percent, monthly average



Source: Treasury

Money and Monetary Policy

The Federal Reserve publish data on the **money supply**. A broad measure of the amount of money, called M2, includes cash and deposits such as savings accounts and checking accounts, as well as time deposits smaller than $100,000, and retail accounts in money market funds. As of December 2021, the M2 money stock totals $21.8 trillion.

A large increase in the amount of money held by individuals and institutions can be the result of a higher rate of saving, a larger government sector financial deficit, an increase in the money supply, a change in preferences for liquidity, or something else. The M2 money stock increased 12.9 percent over the past year (ending December 2021), compared to an increase of 12.7 percent over the year ending November 2021. The M2 money stock has increased 41.1 percent, in total, over the past two years.

M2 money stock

one-year percent change

Source: Federal Reserve

Fed Asset Purchases

During periods where the Fed funds rate is at or near zero the Fed has engaged in large scale asset purchases in an effort to further improve financial market conditions. These asset purchases show up on the Fed balance sheet, which is reported weekly.

In response to the collapse of the housing bubble, the Fed purchased U.S. Treasury bonds and mortgage-backed securities. Total assets held by the Federal Reserve (see —) increased from $0.9 trillion in August 2008 to $2.2 trillion in November 2008. Additional rounds of asset purchases, referred to as quantitative easing, increased the balance sheet to $4.5 trillion by January 2014. As bonds mature they were replaced until October 2017, when the Fed allowed the size of its balance sheet to normalize. Total assets fell below $3.8 trillion in August 2019.

Balance sheet normalization ended in September 2019 when the Fed increased operations in overnight and term repurchase agreement (repo) markets, following a sharp increase in rates in these markets. The Fed balance sheet increased to $4.1 trillion by December 2019.

Federal Reserve Balance Sheet
total assets, trillion of USD

Source: Federal Reserve

During the COVID-19 pandemic, the Fed offered lending to businesses and currency swaps to major US trading partners, began to purchase commercial bonds, and expanded purchases of treasuries and mortgage-backed securities.

The Fed balance sheet increased from $4.2 trillion in February 2020 to $8.9 trillion, as of the latest data, covering February 9, 2022. The Fed currently holds $5.7 trillion in Treasuries and $2.7 trillion in mortgage-backed securities.

Federal Reserve Assets
billions of US dollars

	Feb 9, 2022	Feb 2, 2022	Jan 12, 2022	Feb 10, 2021	Feb 12, 2020
Total (see —)	8,878.0	8,873.2	8,788.3	7,442.2	4,182.7
U.S. Treasury securities	5,731.9	5,728.1	5,684.7	4,798.9	2,442.6
Mortgage-backed securities	2,660.9	2,660.8	2,615.6	2,069.8	1,391.5
Central bank liquidity swaps	0.2	0.3	0.4	8.5	0.1
Repurchase agreements	0.0	0.0	0.0	0.8	164.4
Loans	28.5	29.6	32.7	52.4	0.0
Payroll Protection Program	28.1	29.4	32.3	48.5	0.0
Net unamortized premium	332.0	332.3	334.4	339.7	111.0
Other	96.5	92.7	88.2	123.7	73.1

Source: Federal Reserve

Prices

Changes in prices affect the amount of goods and services that can be purchased by a fixed income. When measuring changes in prices, researchers consider both the quantity that can be purchased by a unit of currency, and also changes in item quality. To understand the overall change in prices paid or charged by a certain group, such as consumers or manufacturers, researchers create a representative "basket" of the goods and services relevant to the group, and track the changes in the basket, and the price of the basket, over time. The end result of these methods is a price index.

Researchers can then use the price index to calculate the rate of inflation. Perhaps the most common way of measuring inflation is to calculate the 12-month percent change in the index values. This measures how prices in a given month compare to prices during the same month, one year prior.

Price Growth, Various Measures

12-month percent change

	Jan '22	Dec '21	Nov '21	Oct '21	Jan '21	Jan '20	'17–19 Avg.	'00–Avg.
CPI, All Items	7.5	7.0	6.8	6.2	1.4	2.5	2.1	2.3
CPI, ex. Food & Energy	6.0	5.5	4.9	4.6	1.4	2.3	2.1	2.1
PPI, All Commodities	–	20.2	22.6	22.4	2.8	0.1	2.6	2.9
Imports Price Index	–	10.4	11.7	11.0	1.0	0.5	1.6	1.8
Exports Price Index	–	14.7	18.2	18.3	2.5	0.4	1.6	1.7
PCE, All Items	–	5.8	5.7	5.1	1.4	1.9	1.8	1.9
PCE, ex. Food & Energy	–	4.9	4.7	4.2	1.5	1.8	1.8	1.8
PCE, Trimmed Mean	–	3.0	2.9	2.6	1.7	2.1	1.9	2.0

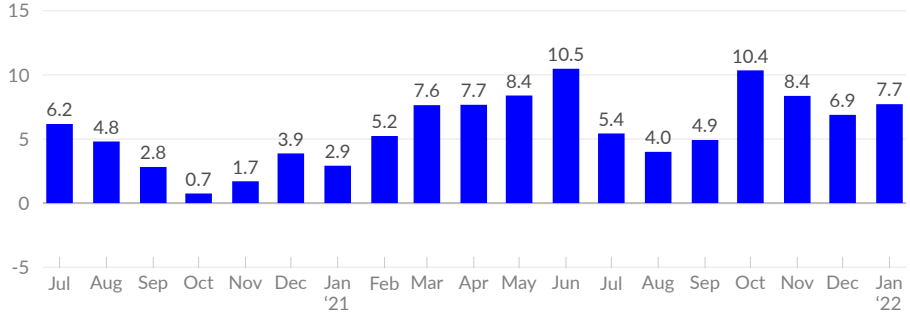
Source: BLS, BEA, Federal Reserve Bank of Dallas

The 12-month percent change in prices is affected not only by recent price changes, but also by price changes that happened over the past year. Results using the 12-month measure are smoothed by including a longer time interval.

While the chartbook uses less-volatile 12-month inflation rates in most cases, the one-month rate can be more useful for examining short-term trends, for example by eliminating the base effects from changes in prices a year ago. In January 2022, the annualized one-month change in the consumer price index was 7.7 percent (see ■), following 6.9 percent in December 2021.

CPI One-Month Change

monthly percent change, annualized

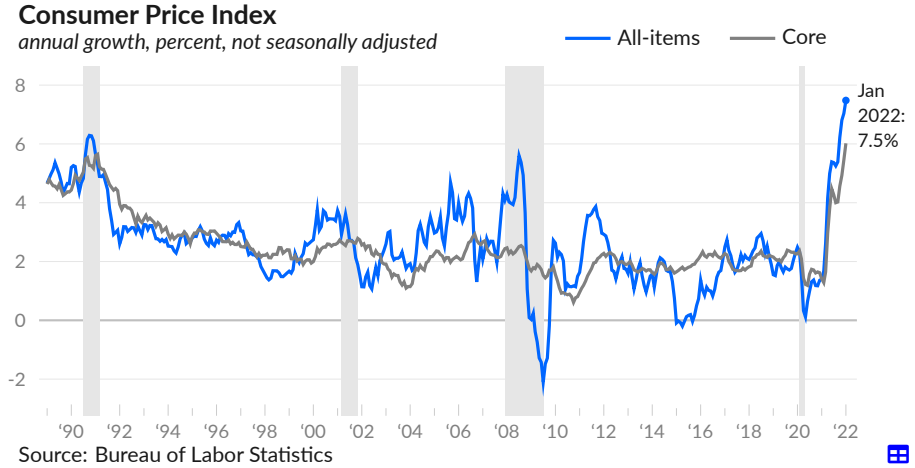


Source: Bureau of Labor Statistics

Consumer Price Index

Consumer prices increased 7.5 percent over the year ending January 2022 (see —), according to the Consumer Price Index for all urban consumers (CPI-U). The core CPI, which does not include the more-volatile food and energy prices, increased six percent over the same one-year period (see —).

Consumer Price Index
annual growth, percent, not seasonally adjusted



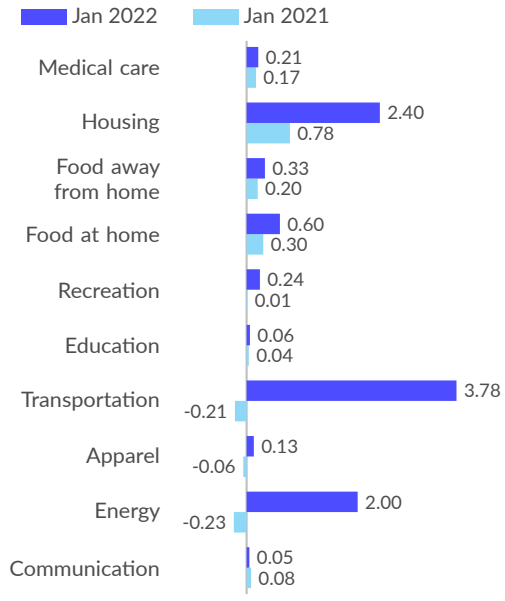
Source: Bureau of Labor Statistics

The prices of individual goods and services do not change at the same rate. A large change in the price of one category of goods or services is not likely to cause a large change in the overall price level, particularly if the category is a small portion of the consumption basket or if consumers are able to substitute or reduce consumption of the category. The contribution of a category to overall inflation is an important consideration, and reflects both price changes within a category and the relative importance of the category to the overall index (its share of the consumption basket).

In January 2022, medical care added 0.21 percentage point to overall CPI inflation, in line with the category's January 2021 contribution of 0.17 percentage point. Housing contributed 2.40 percentage points to inflation in January 2022 far above added 0.78 percentage point in January 2021. Food away from home contributed 0.33 percentage point to inflation, and added 0.20 percentage point one year prior.

Communication contributed 0.05 percentage point to inflation in January 2022, in line with the contribution of 0.08 percentage point during the same month one year prior. Energy added 2.00 percentage points in January 2022, far above the reduction of 0.23 percentage point in January 2021.

Consumer Price Index
contribution to annual growth, percentage points, not seasonally adjusted



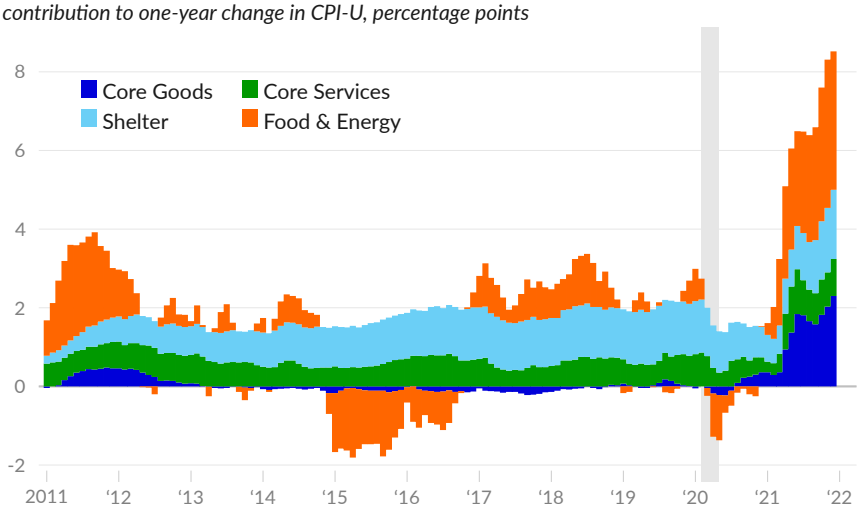
Source: Bureau of Labor Statistics

As mentioned, price indices are affected by changes in the prices of individual goods and services and by the re-weighting of the components used in the index, based on changes in consumption habits. By considering both sources of changes, we can decompose medium- or long-term trends based on the contribution to overall inflation from different categories of spending.

As of December 2021, core goods contributed 2.30 percentage points to the overall non-seasonally-adjusted CPI inflation rate of 8.49 percent, while core services excluding shelter contributed 0.94 percentage point. Shelter contributed 1.76 percentage points, and food and energy contributed 3.52 percentage points. One year prior, in December 2020, the corresponding CPI inflation rate was 1.62 percent; core goods contributed 0.36 percentage point, core services excluding shelter contributed 0.38 percentage point, shelter contributed 0.77 percentage point, and food and energy contributed 0.02 percentage point.

CPI Decomposition

contribution to one-year change in CPI-U, percentage points



Source: Bureau of Labor Statistics, Author's Calculations

Why isn't the CPI revised?

The consumer price index (CPI-U) is used in contracts that include cost adjustments. As a result, historical CPI-U data are not revised if there is a change to the way the CPI is calculated. For research purposes, however, it is ideal to have the most accurate measure of overall changes in prices faced by consumers. BLS also publish a research series, the CPI-U-RS, which adjusts the historical data of the CPI-U to be consistent with the current methods of producing it.

Relative Prices

While the previous section decomposes the overall change in prices to identify the contributions from categories of consumer spending, the next table instead shows the one-year percent change in prices for each category. Additionally, the weight that a category has in the overall index–the category share of the basket of goods and services–is included as the last column in the table.

Selected CPI Categories
one-year percent change

	Jan '22	Dec '21	Nov '21	Oct '21	Jan '21	Feb '20	Jan '20	Weight, Jan '22
All items	7.5	7.0	6.8	6.2	1.4	2.3	2.5	100.0
Housing	5.7	5.1	4.8	4.5	1.8	2.7	2.7	43.083
Owners' equivalent rent	4.1	3.8	3.5	3.1	2.0	3.3	3.3	23.640
Rent of primary residence	3.8	3.3	3.0	2.7	2.1	3.8	3.8	7.637
Household furnishings & ops.	9.0	7.4	6.5	6.2	2.9	0.7	0.7	4.757
Transportation	20.8	21.1	21.1	18.7	-1.3	1.7	2.8	16.166
New vehicles	12.2	11.8	11.1	9.8	1.4	0.4	0.1	3.922
Used cars and trucks	40.5	37.3	31.4	26.4	10.0	-1.3	-2.0	3.190
Medical care	2.5	2.2	1.7	1.3	1.9	4.6	4.5	8.911
Professional services	2.6	3.3	3.1	2.8	2.9	1.2	1.2	3.737
Hospital and related services	3.6	3.3	3.5	4.1	2.9	4.1	3.7	2.681
Health insurance	1.7	-1.2	-3.8	-6.4	2.9	20.7	20.5	0.866
Food at home	7.4	6.5	6.4	5.4	3.7	0.8	0.7	8.200
Food away from home	6.4	6.0	5.8	5.3	3.9	3.0	3.1	5.251
Energy	27.0	29.3	33.3	30.0	-3.6	2.8	6.2	6.275
Recreation	4.7	3.3	3.2	3.9	0.1	1.5	1.4	5.249
Communication	1.2	1.3	1.3	1.5	2.1	1.0	0.9	3.925
Education	2.1	2.0	2.1	2.0	1.3	2.2	2.2	2.795
Apparel	5.3	5.8	5.0	4.3	-2.5	-0.9	-1.3	2.549

Source: Bureau of Labor Statistics

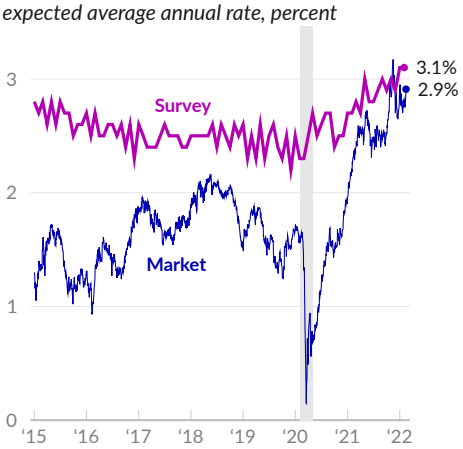
Housing prices increased 5.7 percent over the year ending January 2022, substantially above the pre-COVID rate of 2.7 percent (covering the year ending February 2020). Medical care prices increased 2.5 percent, these prices grew 4.6 percent over the year ending February 2020. In contrast, prices of food consumed at home (groceries) increased 7.4 percent in the year ending January 2022 compared to 0.8 percent over the year ending February 2020.

Transportation prices increased 20.8 percent over the year ending January 2022, far above the pre-COVID 1.7 percent increase. Energy prices increased 27.0 percent in the latest month, compared to a 2.8 percent increase in February 2020. Energy prices are historically more volatile than other categories.

Inflation Expectations

Researchers gain insight on expected changes in prices through regular **surveys of consumers** and through **market data**. One market-based measure is known as the inflation breakeven and is calculated as the difference between the yield on a nominal treasury bond and the yield on a treasury inflation-protected bond of the same maturity. This difference represents the amount of inflation markets have priced in, on average, for the maturity of the bond.

5-year Expected Average Inflation
expected average annual rate, percent



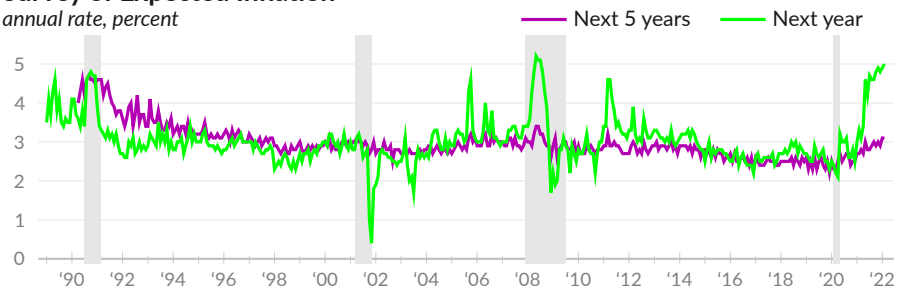
Source: FRED; U. of Michigan

As of February 2022, surveyed consumers expect an average inflation rate of 3.1 percent over the next five years, (see —), compared to an expected rate of 2.7 percent in February 2021. Consumers had expected inflation to average 2.5 percent over the past five years, while actual inflation over the period was 2.5 percent.

As of February 14, 2022, markets expect an average inflation rate of 2.9 percent over the next five years (see —), compared to an expected rate of 2.4 percent on February 16, 2021. Markets had expected inflation to average 1.9 percent per year over the past five years, five years ago.

Both survey- and market-based estimates of expected inflation offer techniques for distinguishing between near-term inflation and expected medium-term inflation. The survey-based measure asks about inflation over the next year. Respondents expect consumer prices to increase 5.0 percent over the year starting February 2022 (see —).

Survey of Expected Inflation
annual rate, percent



Source: University of Michigan

Market Expected Inflation
annual rate, percent

Source: FRED

The market-based measure can be used to calculate expected inflation over the five years starting five years from now. Over this five-year period, markets suggest 2.0 percent inflation per year. Inflation rates in the near-term are therefore expected to exceed inflation rates in the longer-term

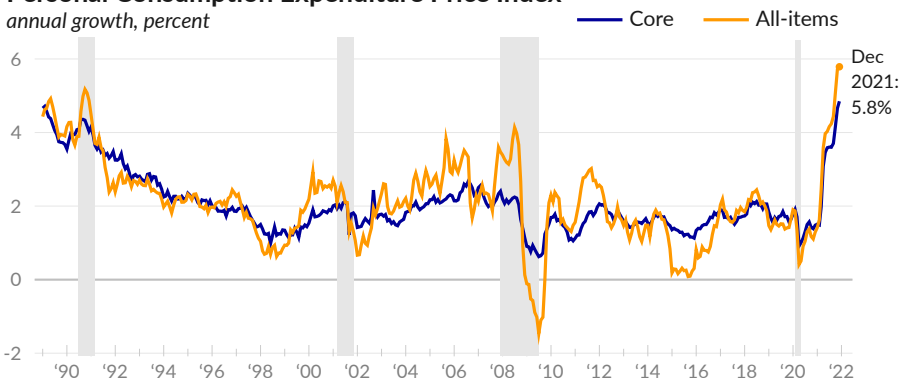
PCE Price Index

The Personal Consumption Expenditure (PCE) Price Index from the Bureau of Economic Analysis captures both changes in the price of goods and services as well as monthly changes in consumer behavior. The index is additionally updated over time to the latest methodology.

As of December 2021, PCE inflation, measured as the one-year percent change in the overall index, is 5.8 percent (see —), compared to 5.7 percent in November 2021, and 1.3 percent in December 2020. Core PCE inflation, which excludes food and energy, was 4.9 percent in December 2021 (see —), 4.7 percent in November 2021, and 1.5 percent in December 2020.

Personal Consumption Expenditure Price Index

annual growth, percent



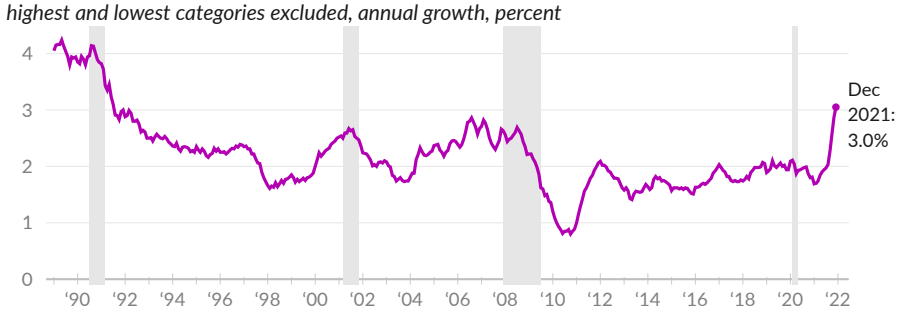
Source: Bureau of Economic Analysis

The Federal Reserve Bank of Dallas publish a variation of the PCE price index called the *trimmed-mean* index. The most volatile categories in the current month's index are removed to smooth the data. Trimming outliers reduces the influence that the most extreme categories have on price growth.

The trimmed-mean PCE price index increased three percent over the year ending December 2021 (see —). By excluding top and bottom categories, the trimmed-mean rate was 2.7 percentage points below the all-items PCE rate. In November 2021, the trimmed-mean rate was 2.9 percent, 2.9 percentage points below the all-items rate. From 2017–2019, the average trimmed-mean rate was 1.9 percent, 0.1 percentage point above the all-items rate.

Personal Consumption Expenditure Price Index, Trimmed Mean

highest and lowest categories excluded, annual growth, percent



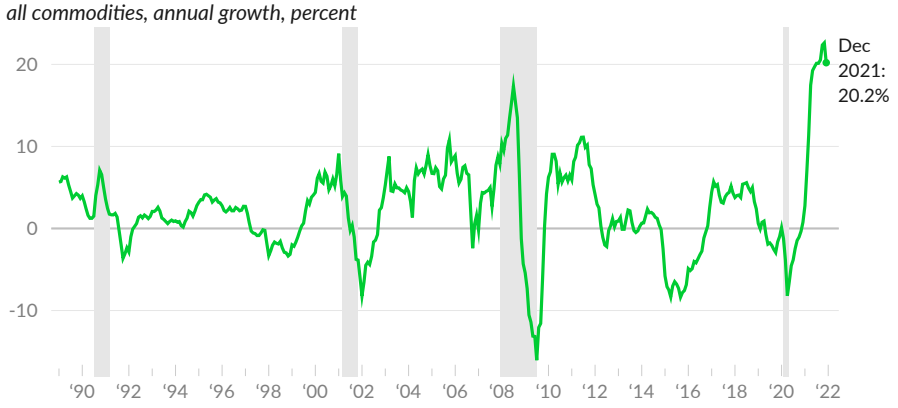
Source: Federal Reserve Bank of Dallas

Producer Prices

The Bureau of Labor Statistics report prices producers receive for the various goods and services they produce. The producer price index for all commodities (see —) increased 20.2 percent over the year ending December 2021, far above the 12-month growth rate of 0.8 percent in December 2020. Over the past three years, producer prices increased by 4.4 percent per year, on average.

Producer Price Index

all commodities, annual growth, percent



Source: Bureau of Labor Statistics

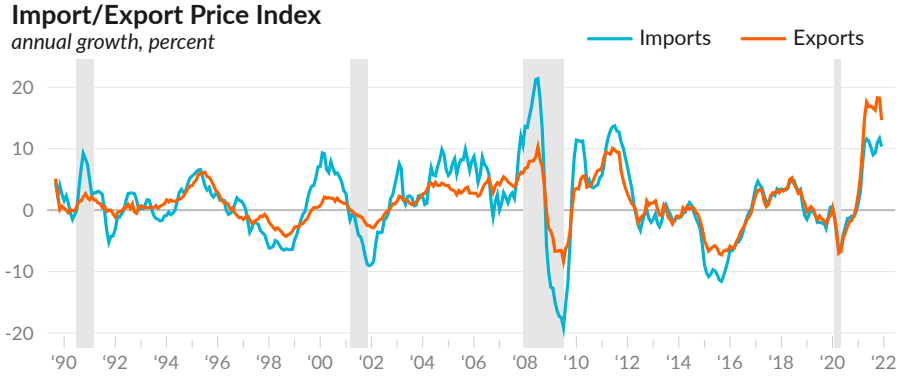
Import/Export Price Index

The Bureau of Labor Statistics report changes in the prices of imports and exports. Over the year ending December 2021, US import prices grew 10.4 percent (see —), following an increase of 11.7 percent in November and 11.0 percent in October. Excluding fuels, US import prices increased 6.4 percent in December 2021 and grew 6.3 percent in November. Over the three years ending February 2020, prior to the US COVID-19 pandemic, US import prices increased at an average rate of 1.3 percent. Excluding fuels, import prices increased at an average rate of 0.3 percent during the same three-year pre-COVID period.

Prices of US exports (see —) grew 14.7 percent over the year ending December 2021, compared to 18.2 percent in November, 18.3 percent in October, and 1.5 percent on average during the three years ending February 2020.

Import/Export Price Index

annual growth, percent



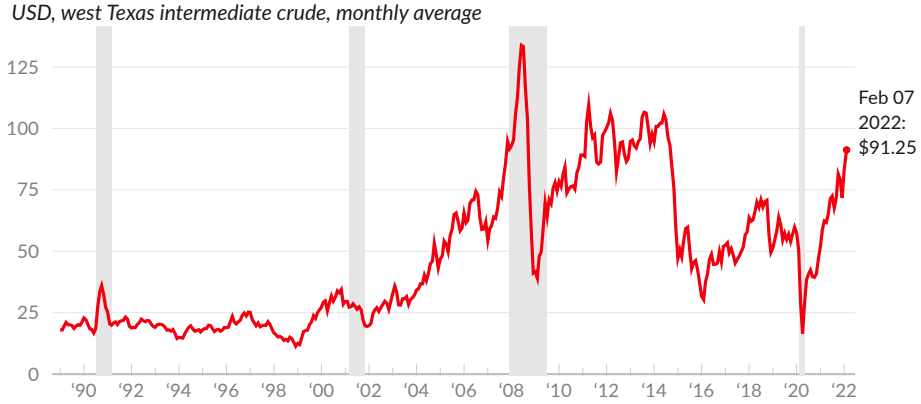
Source: Bureau of Labor Statistics

Commodity Prices

As of February 7, 2022, a barrel of west Texas intermediate (WTI) **crude oil** sells for $91.25 (see —). Over the past year, this measure of oil prices grew 54.5 percent. Over the past two years, the price increased 80.5 percent. Notably, the WTI price is currently $43 per barrel below its peak price of $134 per barrel in June 2008 (monthly average).

Oil Price

USD, west Texas intermediate crude, monthly average



Source: FRED

Gold Price

USD, monthly average and latest value

Source: FRED

London Bullion Market data on gold prices is available through FRED. As of January 28, 2022, one troy ounce of gold sells for $1,790.20 (see —), compared to an average of $1,869.67 per ounce during January 2021. Following the great recession, the monthly average price of gold reached $1,780.65 per ounce, in September 2011.

Acknowledgments

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