US Chartbook

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Open source notes on the United States economy

Warning

Early-stage draft!
This early draft contains many errors!

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About the Chartbook

I like a place with a lot of items on a menu. Because you know they do them all beautifully.
-Will Ferrell

This chartbook offers a big menu of US economic and social indicators. To keep the data fresh and cover a wide-variety of topics, shortcuts are made on the back end. Most of the text is generated by simple scripts. Likewise, the charts are standardized with each other in ways that reduce how well they represent a topic.

As a result of these shortcuts, the chartbook is neither a source of reliable economic analysis nor a substitute for careful research. Instead, the chartbook curates samples from a variety of sources and provides links to the related data and source code. The goal is to inspire and facilitate further exploration.

Version 0.1 release planned for mid November 2023

Contents

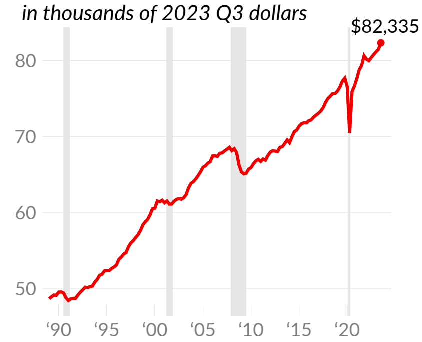
Overall Economic Activity

This analysis of the United States economy begins with the most popular measure of overall economic activity, gross domestic product (GDP). GDP is the value of goods and services produced in the US in a given time period. According to the Bureau of Economic Analysis, the seasonally-adjusted annualized US GDP was $27,623 billion in the third quarter of 2023, compared to an inflation-adjusted equivalent of $25,731 billion in 2019 Q4, and $11,504 billion in the first quarter of 1989.

The US population is growing by about half a percent per year. GDP per capita (see —), adjusted for inflation to 2023 Q3 dollars, had increased to $77,690 in 2019 Q4 from $47,111 in 1989 Q1, and is currently $82,335, as of the third quarter of 2023.

GDP per capita

in thousands of 2023 Q3 dollars



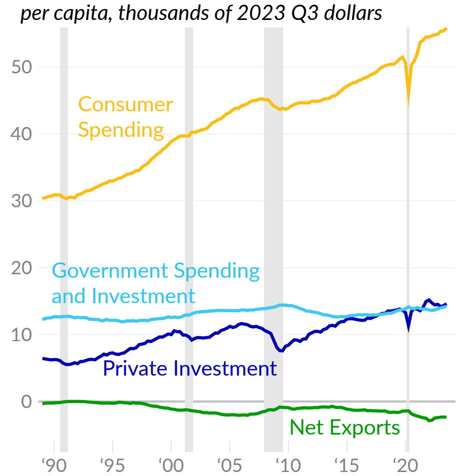
Source: Bureau of Economic Analysis

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.

Expenditures, by Type

per capita, thousands of 2023 Q3 dollars



Source: Bureau of Economic Analysis

Much of the increase in GDP over the past 30 years comes from consumer spending. Consumer spending (see —) is equivalent to $55,840 per person in 2023 Q3, a price-adjusted increase of $25,483 since 1989.

Gross private domestic investment (see —) is equivalent to $14,603 per person in 2023 Q3. Government spending and investment (see —) totals $14,231 per person. The trade deficit, equivalent to $2,339 per person, is subtracted, to capture only domestic production (see —).

Each of these categories of spending is discussed in more detail in subsequent sections of the chartbook.

Expenditures, by Type

per capita, seasonally-adjusted annualized rate, 2023 Q3 dollars

	2023 Q3	2023 Q2	2019 Q4	2000 Q1	1989 Q1
— Gross Domestic Product	$82,335	81,478	77,690	60,592	48,695
— Consumer Spending	55,840	55,376	51,451	38,855	30,357
— Gross Private Domestic Investment	14,603	14,331	13,626	9,997	6,435
— Government Spending & Investment	14,231	14,092	13,736	12,541	12,248
— Net Exports	-2,339	-2,318	-1,427	-1,133	-324
Exports	9,052	8,928	9,061	5,526	2,885
Less: Imports	11,390	11,251	10,189	6,563	3,071

Source: Bureau of Economic Analysis

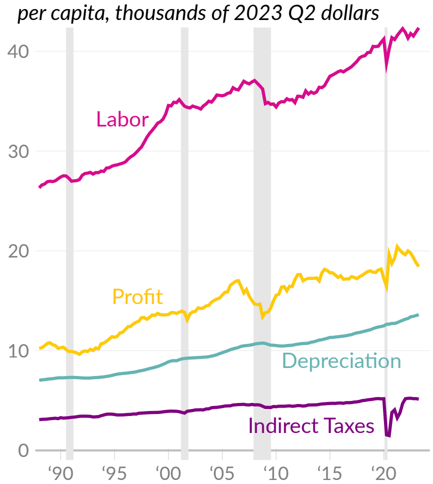
The **income approach** calculates total economic activity as the sum of production income and certain production expenses. Production income is the payment for labor and capital. Labor income, or "compensation of employees" in the national accounts, includes wages and salaries as well supplements such as employer-paid health insurance premiums and retirement account contributions. Capital income, or profit, is listed as the "net operating surplus" in national accounts and includes interest payments, rental profits, business proprietor profits, and corporate profits.

Not all revenue from production provides income directly to people. Tariffs, sales tax, property tax, and licensing fees are indirect business taxes that are not levied directly on income but considered part of the cost of production. Government subsidies, which are income payments for production that did not occur, are subtracted from income measures of production. Lastly, replacing and maintaining buildings and equipment is a growing portion of production costs. This depreciation expense is recorded as "consumption of fixed capital" in national accounts.

The Bureau of Economic Analysis report seasonally-adjusted annualized gross domestic income (GDI) of $26,643 billion in 2023 Q2, which is $79,528 per capita. Net domestic income (NDI), equal to GDI less depreciation, is $22,086 billion in 2023 Q2, or $65,926 per capita.

Income, by Type

per capita, thousands of 2023 Q2 dollars



Source: Bureau of Economic Analysis

Labor receives 64.2 percent of NDI in 2023 Q2. Gross labor income per capita is $42,354 in 2023 Q2 (see —) and $40,899 in 2019 Q4, on an annualized, seasonally-adjusted, and inflation-adjusted basis.

Profits comprise 28.0 percent of NDI in 2023 Q2. Profits per person total $18,433 in 2023 Q2 (see —) and $18,175 in 2023 Q1, following the same adjustments. Indirect taxes less subsidies per capita total $5,139 in 2023 Q2 (see —) and $5,174 in 2023 Q1.

Lastly, depreciation per capita is $13,602 in 2023 Q2 (see —) and $12,418 in 2023 Q1. Depreciation makes up 17.1 percent of GDI in 2023 Q2.

Income, by Type

per capita, seasonally-adjusted annualized rate, 2023 Q2 dollars

	2023 Q2	2023 Q1	2019 Q4	2012 Q1	2000 Q1	1989 Q1
Gross Domestic Income	$79,528	79,476	76,665	68,252	60,998	48,126
— Labor	42,354	41,955	40,899	35,497	34,573	26,982
Wages and Salaries	35,124	34,754	33,368	28,703	28,581	22,267
Supplements	7,229	7,201	7,531	6,794	5,992	4,715
— Profit	18,433	18,805	18,175	17,613	13,617	10,795
— Indirect Taxes	5,139	5,190	5,174	4,498	3,925	3,180
Taxes on Production & Imports	5,437	5,495	5,464	4,743	4,196	3,425
Less: Subsidies	298	304	291	245	271	245
— Depreciation	13,602	13,526	12,418	10,645	8,883	7,169

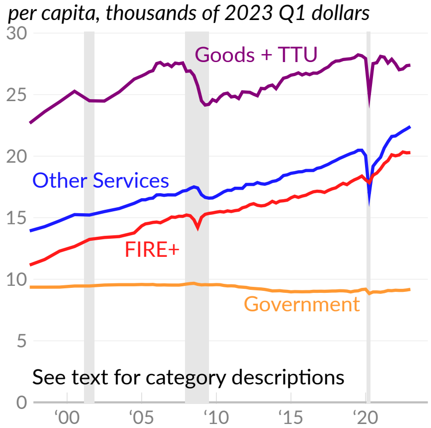
Source: Bureau of Economic Analysis

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 2023 Q1); mining (1.5 percent of GDP); construction (4.0 percent); and manufacturing (10.9 percent), with trade, transportation, and utilities (TTU, combined 17.0 percent of GDP). The second category is finance, insurance, and real estate (FIRE, 20.1 percent of GDP in 2023 Q1) combined with the information industry (5.5 percent of GDP), labeled as FIRE+.

The remaining private services-providing industries include: professional and business services (13.2 percent of GDP in 2023 Q1); education, health care, and social services (8.5 percent of GDP); and arts, entertainment, and recreation (4.4 percent). Separately, public-sector value added in production, at the federal, state, and local levels, is captured by the government category (11.6 percent of GDP).

Production, by Type
per capita, thousands of 2023 Q1 dollars



Source: Bureau of Economic Analysis

In 2023 Q1, private goods-producing industries and the trade, transportation, and utilities industries add $27,397 per person in domestic production, on an annualized basis, compared to $28,156 in 2019 Q4 (see —). Private finance, insurance, real estate, and information industry services add $20,293 in combined value, per capita in 2023 Q1 and $18,386 in 2019 Q4 (see —).

All other private services-producing industries combined value added per person is $22,408 in 2023 Q1 and $20,484 in 2019 Q4 (see —). Government value added is $9,180 per person in 2023 Q1 and $9,165 in 2019 Q4 (see —).

Production, by Type
per capita, annualized, 2023 Q1 dollars

	2023 Q1	2022 Q4	2019 Q4	2005 Q1	1997 (A)
— Goods and TTU	$27,397	27,353	28,156	26,522	22,681
Manufacturing	8,679	8,809	8,742	8,157	6,722
Construction	3,174	3,167	3,784	5,016	4,711
Retail Trade	4,609	4,503	4,661	4,453	3,506
— FIRE+	20,293	20,270	18,386	14,337	11,158
Finance & Insurance	6,022	6,114	5,813	5,159	3,820
Information	4,388	4,345	3,404	1,793	1,129
— Other Services	22,408	22,218	20,484	16,457	13,930
Education & Healthcare	6,770	6,657	6,313	4,858	4,176
Professional & Business	10,443	10,423	8,773	6,397	5,191
— Government	9,180	9,129	9,165	9,578	9,359

Source: Bureau of Economic Analysis

Household Inputs to Production

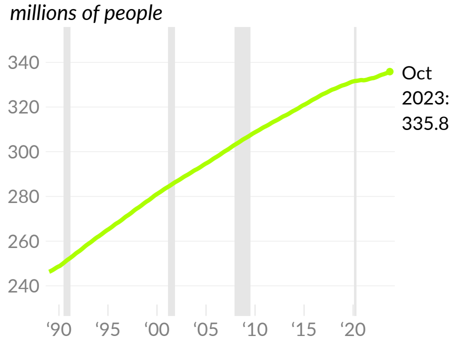
It's useful to consider household inputs when analyzing economic output. For example, is the population growing? Are more people working? Are people working more hours? Is the economy more productive in its use of labor? These household inputs are summarized below and covered in more depth in subsequent chartbook sections.

First, the US **population** is nearly 336 million, as of October 2023 (see —), an increase of almost 90 million since 1989. Since 1989, the population has grown at an average annual rate of 0.9 percent; the current rate is around 0.6 percent. To maintain a constant standard of living, real GDP would need to increase by the same amount.

Next, the **employment rate** (see —) measures the share of the population that is working. The rate climbs during economic expansions and falls during recessions. Separately, population aging has gradually reduced the potential employment rate. The current rate is 1.1 percentage points above the 30-year average.

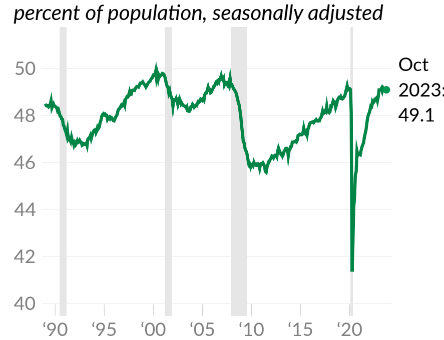
Trends in the length of the **average workweek** (see —) are more complicated. Economic output is typically correlated with work hours. However, as workers become more productive, they may increase their leisure time, resulting in shorter workweeks. In October 2023, the average workweek is 37.0 hours.

Population
millions of people



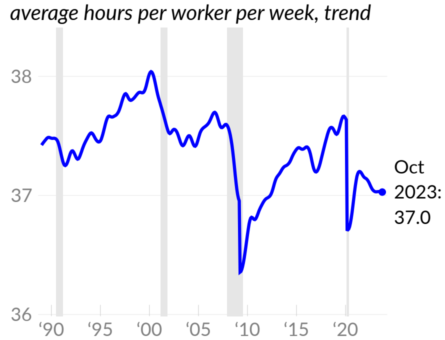
Source: BEA, Census

Employment Rate
percent of population, seasonally adjusted



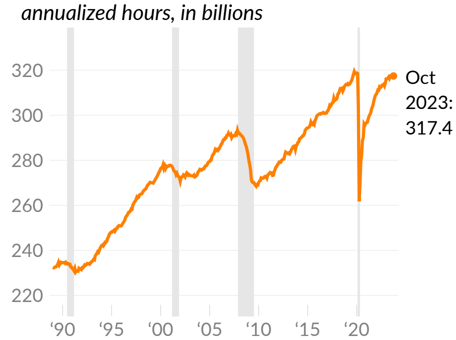
Source: CPS Microdata

Average Workweek
average hours per worker per week, trend



Source: CPS Microdata

Total Hours Worked
annualized hours, in billions



Source: Author's Calculations

Combining the population, employment rate, and average workweek, we can estimate the **total hours worked** (see —). Total hours worked represent all households' labor dedicated to production; the total hours of labor that create GDP. Since 1989, total hours worked have increased at an average annualized rate of 1.3 percent. Since the pre-pandemic peak in October 2019, hours worked have decreased by a total of 0.6 percent.

After estimating household inputs to production as the total hours worked, we can calculate the **productivity of labor**. The productivity of labor is the relationship between household inputs to production (labor, or hours of work) and economic output (GDP). Specifically, labor productivity is calculated as real GDP divided by hours of work.

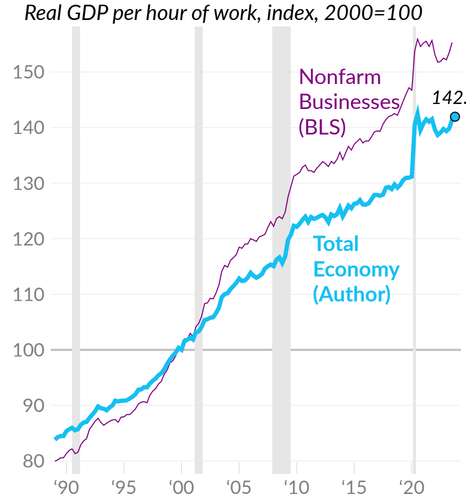
An increase in labor productivity means more output is produced per hour of work. As such, labor productivity is major determinant of income levels and quality of life. Labor productivity is discussed in more depth in the labor markets section, but this subsection provides an estimate that is useful for examining the conceptual connection between GDP and labor.

Dividing GDP by the previously calculated total hours worked yields an estimate for labor productivity (see —) for the entire economy that is reasonably methodologically consistent with the official estimate of nonfarm business labor productivity (see —). Nonfarm businesses are about three-quarters of the economy and exclude general government, non-profits, and household sectors.

Labor productivity has increased substantially over the long term. From 1989 to 1999, labor productivity for the total economy increased 17.2 percent. From 1999 to 2009, labor productivity increased 18.9 percent, and from 2009 to 2019, labor productivity increased 11.0 percent.

From 1989 to 2019, total economy productivity growth averaged 1.5 percent per year; GDP growth averaged 2.5 percent per year and work hours increased one percent per year. Since 2019, total economy labor productivity growth averages 2.1 percent per year, with average GDP growth of 1.9 percent and an average decrease of 0.2 percent in work hours.

Labor Productivity
Real GDP per hour of work, index, 2000=100



Source: BLS, Author's Calculations

More-recent data show annualized total economy productivity growth of 4.5 percent in 2023 Q3. The estimate for 2023 Q4 (see ●), based on the Federal Reserve Bank of Atlanta GDPNow, suggests annualized productivity growth of 1.6 percent.

Household Inputs to Production
index, January 2000=100, or as noted

	2023 Q4 Est.	2023 Q3	2023 Q2	2022 Q4	2019 Q4	2014	1989
— Labor Productivity (index)	*142.0*	141.4	139.8	139.7	131.0	125.1	84.3
Real GDP (index)	*162.9*	162.1	160.1	158.5	151.0	131.6	71.1
Total Hours Worked (index)	*114.7*	114.6	114.5	113.4	115.3	105.2	84.4
Population (millions)	*335.9*	335.5	335.0	334.3	331.2	319.6	247.4
Employment Rate (percent)	*49.1*	49.1	49.1	48.7	49.2	46.9	48.4
Average Workweek (hours)	*37.0*	37.0	37.0	37.0	37.7	37.3	37.5
Labor Productivity Growth (percent)	*1.6*	4.5	1.4	1.9	0.0	0.0	1.1

Source: Bureau of Economic Analysis, Federal Reserve Bank of Atlanta, and Author's Calculations. Growth is the quarterly annualized rate.

Economic Growth

Economists are particularly concerned with economic growth, measured as changes in the level of economic activity. This subsection discusses economic growth, recessions, and their contributors.

Real GDP Growth

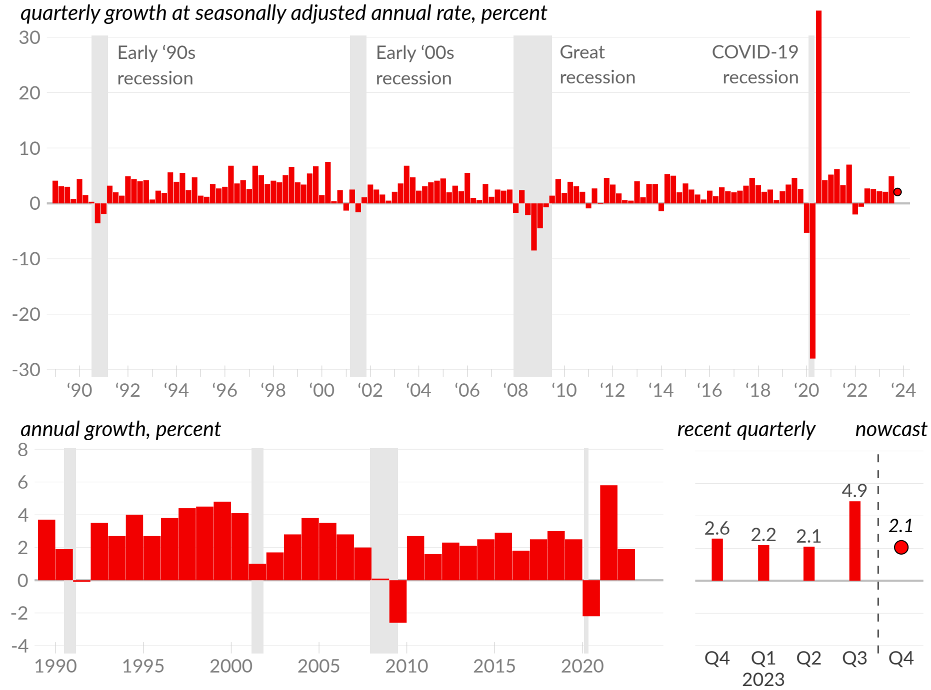
Real GDP growth measures changes in economic activity. As seen in the previous subsection, real GDP has increased steadily over the long-term. Since 1989, growth averaged 2.6 percent per year (see ■). Growth rates were relatively high during the mid- to late-1990s, averaging 3.8 percent from 1993 to 2000.

In the 2000s, the housing bubble boosted GDP but then collapsed, leading to average growth of only 1.9 percent from 2001 to 2013. Growth was slightly stronger from 2014 to 2019, averaging 2.6 percent per year.

In 2020, COVID-19 caused an economic shutdown, followed by monetary and fiscal stimulus, resulting in large swings in GDP. Annualized real GDP decreased 28.0 percent in Q2, and increased by 34.8 percent in Q3, by far the largest changes in recent history. Since 2019 Q4, real GDP has grown at an average annual rate of 1.9 percent.

Real Gross Domestic Product Growth

quarterly growth at seasonally adjusted annual rate, percent



Source: Bureau of Economic Analysis, Federal Reserve Bank of Atlanta

The bottom-left chart shows annual growth, to make trends more visible. The bottom-right chart shows the most-recent four quarters and the estimate for the current quarter. In the **latest data**, covering the third quarter of 2023, real GDP increased at an annual rate of 4.9 percent, compared to an increase of 2.1 percent in Q2, and an increase of 2.2 percent in Q1.

The Federal Reserve Bank of Atlanta uses available economic indicators to **nowcast** the current growth rate. The latest nowcast for 2023 Q4 is 2.1 percent, as of November 8, 2023 (see ●).

Recessions

The long-term pattern in economic growth is often described as the business cycle. Typically, periods of economic growth lasting 7–12 years are interrupted by an **economic recession**, a period where economic activity decreases. The National Bureau of Economic Research (NBER) identifies four recessions since 1989.

During the early 1990s recession, output contracted for eight months and unemployment was higher than its pre-recession average for 63 months. The drop in output was smaller during the early 2000s recession, but unemployment rates took almost 16 years to recover.

The 2008–2009 great recession, caused by the collapse of a housing bubble, was very severe. The recession lasted 18 months, with higher rates of unemployment lasting 89 months. The most-recent COVID-19 recession was extremely severe and also extremely short-lived, lasting only two months, but with output reduced 9.1 percent.

US Recessions since 1989

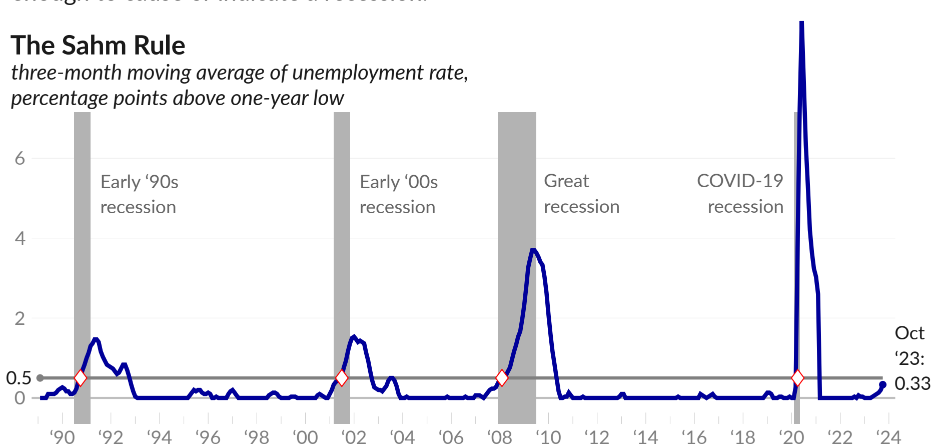
	Start Month	End Month	Recession Duration, Months	GDP Percent Change	Unemp. Rate Change*	Unemp. Rate Recovery, Months**
Early '90s Recession	Aug 1990	Mar 1991	8	-1.4	+2.4	63
Early '00s Recession	Apr 2001	Nov 2001	8	-0.1	+2.1	191
Great Recession	Jan 2008	Jun 2009	18	-3.8	+5.2	89
COVID-19 Recession	Mar 2020	Apr 2020	2	-9.1	+10.8	20

Sources: NBER, BEA, BLS
*Percentage point change from average unemployment rate during three years prior to recession to peak unemployment rate. **Months from recession start until unemployment rate returns to pre-recession three-year average.

The most-reliable indication that the US has entered a recession (see) was identified by Claudia Sahm, and is called the **Sahm rule**. The Sahm rule indicates the start of a recession (see) when the three-month moving average unemployment rate rises by half a percentage point or more above its low during the previous twelve months (see –). In effect, the Sahm rule identifies increases in unemployment that are significant enough to cause or indicate a recession.

The Sahm Rule

three-month moving average of unemployment rate, percentage points above one-year low



Source: Claudia Sahm

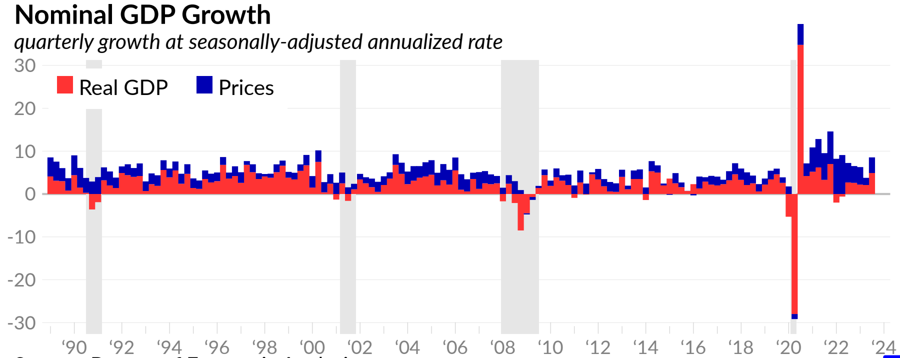
Nominal GDP

Thus far, the chartbook has used *real* GDP, to distinguish changes in activity from changes in prices. There are, however, instances where **nominal GDP** is useful.

Nominal GDP growth serves as a barometer for overall demand. For example, if demand for goods and services increases and supply is able to keep up, both real and nominal GDP will increase. If supply is not able to keep up with higher demand, prices will rise, increasing nominal GDP without increasing real GDP.

In the third quarter of 2023, nominal GDP increased at an annual rate of 8.5 percent, following an increase of 3.8 percent in 2023 Q2, and a 6.3 percent increase in 2023 Q1. From 1989 to 2019 Q4, nominal GDP increased at an annual rate of 4.6 percent. Since 2019 Q4, the annualized growth rate is 6.4 percent.

Nominal GDP Growth
quarterly growth at seasonally-adjusted annualized rate



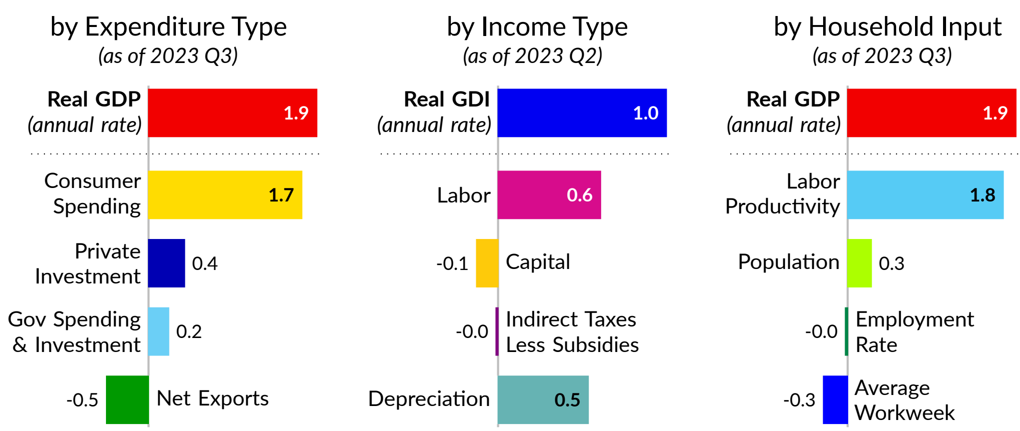
Source: Bureau of Economic Analysis

Components of Growth

This subsection examines how different activities contribute to economic growth. The percent change in real GDP is decomposed, using the categories from previous subsections, to show each category's importance to the overall increase or decrease.

First, an overview of contributions to economic growth since 2019. This is followed by an examination of longer-term trends and recent developments for each approach to calculating overall economic activity. Subsequent sections of the chartbook dig deeper into the contributions from subcategories, such as consumer spending on goods.

Contribution to Growth Since 2019 Q4
percentage point contribution to annualized cumulative growth rate

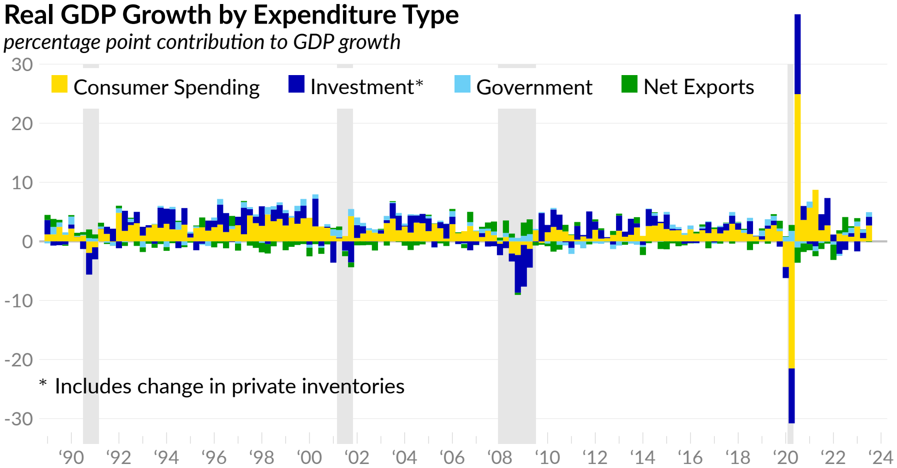


Source: BEA, Author's Calculations

The **expenditure approach** also gives insight into the sources of changes in overall economic activity. In the third quarter of 2023, consumer spending (see) contributed 2.69 percentage points to overall real GDP growth. Private domestic investment (see) contributed 1.47 percentage points to real GDP growth, government spending and investment (see) contributed 0.79 percentage point, and net exports (see) did not contribute.

Real GDP Growth by Expenditure Type

percentage point contribution to GDP growth



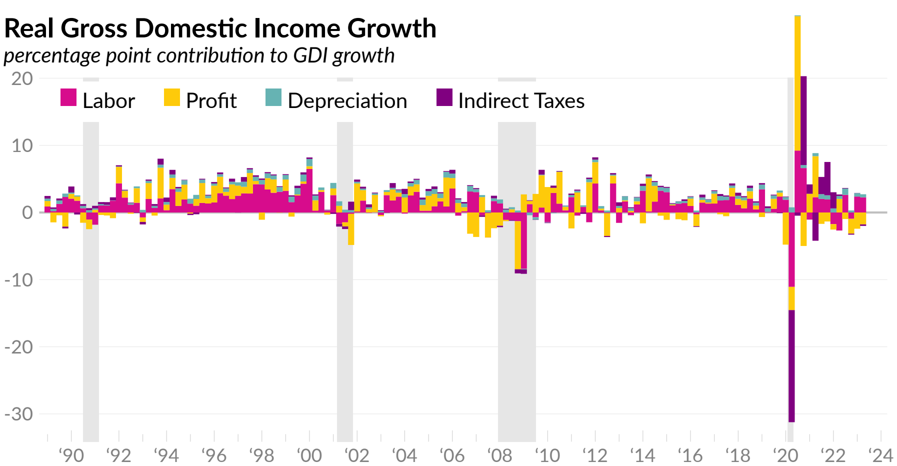
Source: Bureau of Economic Analysis

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 second quarter of 2023, gross domestic income increased at an annual rate of 0.7 percent, following an increase of 0.5 percent in 2023 Q1 and a decrease of three percent in 2022 Q4. In the latest quarter, labor income contributed 2.25 percentage points to overall growth, following a contribution of 2.37 percentage points in 2023 Q1. Profit income subtracted 1.77 percentage points in the second quarter of 2023 and subtracted 2.42 percentage points in 2023 Q1. Changes in indirect tax revenue and surpluses subtracted 0.23 percentage point from aggregate income growth in the latest quarter and contributed 0.03 percentage point in 2023 Q1.

Real Gross Domestic Income Growth

percentage point contribution to GDI growth



Source: Bureau of Economic Analysis

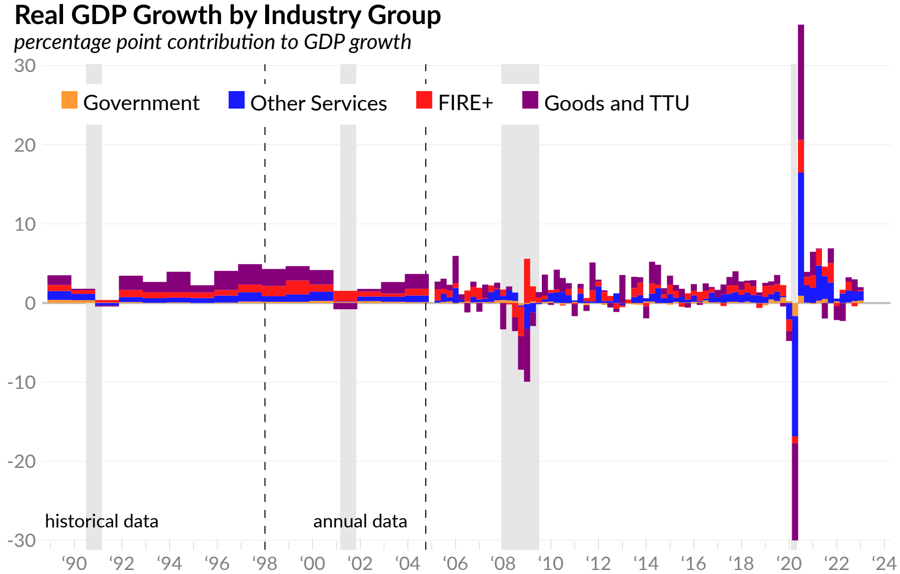
The **production approach** calculates GDP as the sum of value added–gross output minus intermediate inputs–in each sector. The broad groupings discussed above are used to identify contributions from: goods-producing sectors combined with trade, transportation, and utilities (see ■), finance, insurance,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

In 2023 Q1, the combined contribution to GDP growth from private goods-producing industries and trade, transportation, and utilities is 0.4 percentage points, following a contribution of 1.6 percentage points in 2022 Q4, and compared to a subtraction of 0.4 percentage point in 2019 Q4. The group of private service-providing industries that include finance, insurance, real estate, as well as the information industry, contributed 0.1 percentage point in 2023 Q1, subtracted 0.4 percentage point in 2022 Q4, and contributed 1.4 percentage points in 2019 Q4.

Other private services-providing industries, which are wide-ranging and described above, contributed 1.2 percentage points to real GDP growth in 2023 Q1, following a contribution of 1.2 percentage points in 2022 Q4, and compared to a contribution of 0.2 percentage point in 2019 Q4. Combined federal, state, and local government contributed 0.3 percentage point in 2023 Q1, contributed 0.2 percentage point the prior quarter, and contributed 0.7 percentage point in 2019 Q4, prior to the pandemic.

Real GDP Growth by Industry Group

percentage point contribution to GDP growth



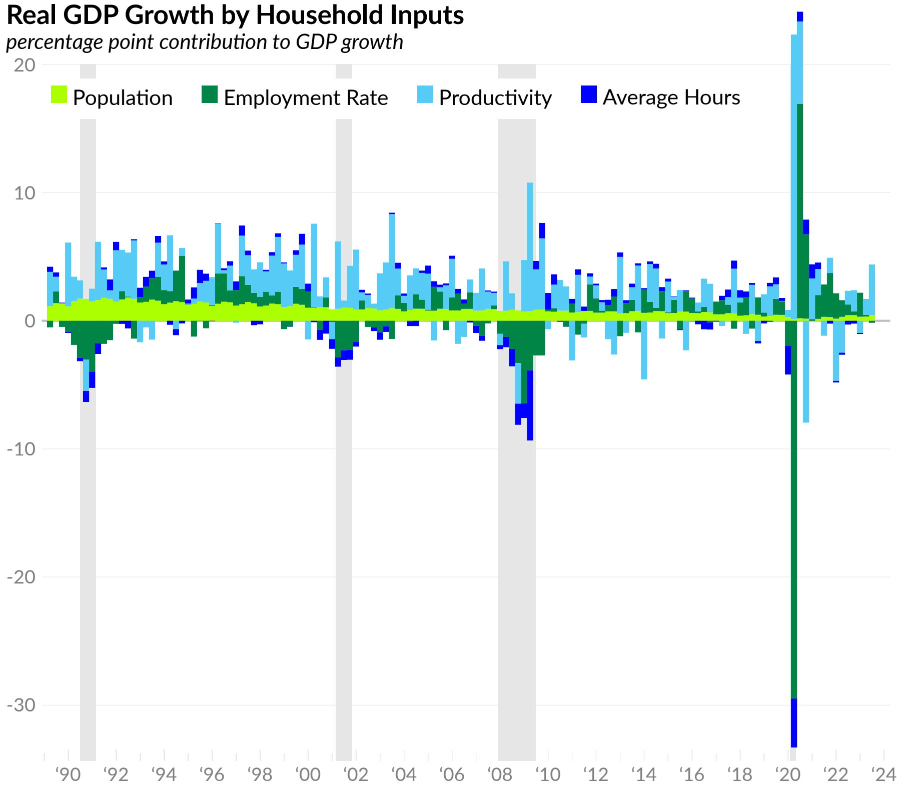
Source: Bureau of Economic Analysis

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 2023 Q3, population growth contributed 0.44 percentage point to annualized GDP growth, and, for comparison, added 0.46 percentage point in 2019 Q4. Changes in the employed share of the population subtracted 0.15 percentage point in the latest quarter, and added 1.07 percentage points in the fourth quarter of 2019. Changes in average hours worked did not add to GDP growth in the latest quarter and added 0.23 percentage point in 2019 Q4. Lastly, productivity contributed 3.96 percentage points to GDP growth in 2023 Q3, compared to an addition of 0.02 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

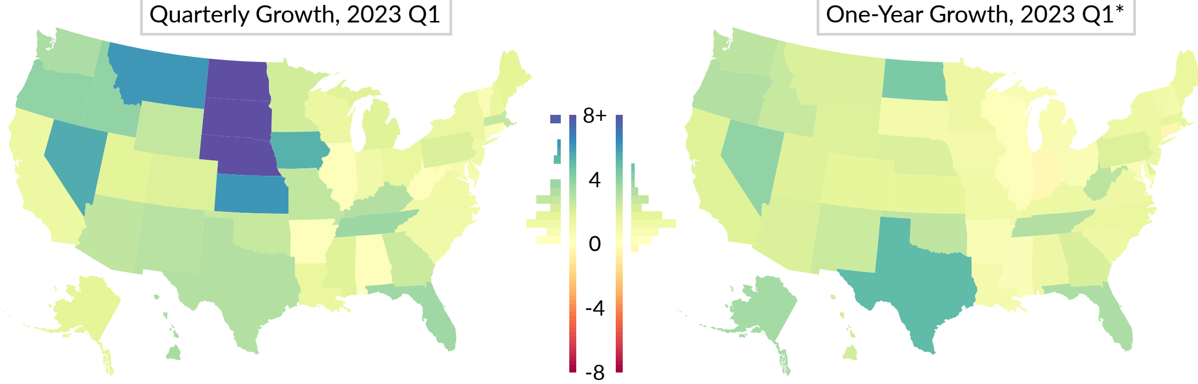
annualized percentage point contribution to real GDP/GDI growth *moving averages*

	2023 Q3	2023 Q2	2023 Q1	2022 Q4	2022 Q3	3-year	10-year	30-year
Gross Domestic Product	4.9	2.1	2.2	2.6	2.7	5.6	2.6	2.6
Consumer Spending	2.69	0.55	2.54	0.79	1.05	4.35	1.90	1.87
Durable Goods	0.60	-0.03	1.07	-0.08	0.08	0.77	0.49	0.48
Non-Durable Goods	0.48	0.14	0.07	0.07	-0.26	0.67	0.46	0.38
Services	1.62	0.44	1.40	0.80	1.23	2.92	0.95	1.02
Gross Investment	1.47	0.90	-1.69	0.62	-1.45	1.60	0.71	0.69
Non-Residential	0.00	0.98	0.76	0.24	0.62	0.87	0.55	0.59
Residential	0.15	-0.09	-0.22	-1.23	-1.41	-0.00	0.07	0.04
Change in Inventories	1.32	0.00	-2.22	1.61	-0.66	0.73	0.09	0.07
Government	0.79	0.57	0.82	0.90	0.49	0.10	0.27	0.25
Federal	0.39	0.07	0.33	0.59	0.07	-0.01	0.09	0.10
State and Local	0.40	0.50	0.49	0.31	0.41	0.11	0.18	0.15
Net Exports	-0.08	0.04	0.58	0.26	2.58	-0.46	-0.25	-0.19
Exports	0.68	-1.09	0.76	-0.41	1.80	0.97	0.22	0.44
Imports	-0.75	1.13	-0.18	0.66	0.77	-1.43	-0.47	-0.64
Goods and TTU	–	–	0.38	1.57	0.56	0.24	0.65	0.84
Manufacturing	–	–	-0.60	0.49	0.06	0.11	0.21	0.36
Construction	–	–	0.05	-0.14	-0.77	-0.18	0.01	-0.01
Retail Trade	–	–	0.57	0.46	0.39	0.08	0.14	0.18
FIRE+	–	–	0.12	-0.41	1.10	0.85	0.73	0.77
Other Services	–	–	1.19	1.18	1.51	1.37	0.95	0.76
Education & Healthcare	–	–	0.61	0.40	0.45	0.34	0.25	0.22
Professional & Business	–	–	0.16	0.80	0.72	0.82	0.57	0.43
Information	–	–	0.24	0.34	0.88	0.48	0.41	0.29
Government	–	–	0.31	0.24	0.08	0.08	0.08	0.10
Population	0.44	0.34	0.32	0.44	0.44	0.27	0.47	0.82
Employment Rate	-0.14	0.16	1.91	0.21	0.83	2.89	0.54	0.21
Average Hours	0.20	0.12	-0.08	-0.25	-0.30	0.21	0.01	-0.00
Productivity	3.65	1.01	-1.01	1.80	1.09	0.24	1.13	1.51
Gross Domestic Income	–	0.7	0.5	-3.0	2.7	2.5	2.3	2.7
Labor	–	2.25	2.37	-0.94	2.62	0.91	1.29	1.29
Profit	–	-1.77	-2.42	-2.21	-0.97	0.87	0.40	0.73
Depreciation	–	0.46	0.52	0.31	0.95	0.49	0.47	0.45
Indirect Taxes	–	-0.23	0.03	-0.16	0.08	0.24	0.19	0.18

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

Over the year ending 2023 Q1, no states had real GDP growth of more than ten percent, one state (Texas) had real GDP growth between five and ten percent, 47 states and the District of Columbia had growth between zero and five percent, and two states had negative GDP growth.

Real GDP Growth by State

quarterly growth at seasonally adjusted annualized rate — *total growth, 2023 Q1*

	2023 Q1	2022 Q4	2022 Q3	2022 Q2	2022 Q1	1-year*	3-year	10-year
United States	2.0	2.6	3.2	-0.6	-1.6	1.8	5.6	24.4
Pacific	1.7	2.8	3.9	-0.4	-8.3	2.0	5.8	36.5
Washington	3.2	3.7	3.5	0.6	-4.8	2.7	9.6	48.8
Oregon	3.8	5.6	4.1	-1.6	-0.4	3.0	8.1	39.9
California	1.2	2.4	3.8	-0.5	-9.5	1.7	5.3	36.3
Hawaii	3.2	1.2	3.3	0.6	-4.5	2.1	-3.7	6.4
Alaska	1.6	4.1	8.7	-0.9	-15.3	3.3	-5.4	-11.8
Mountain	2.8	3.6	3.5	-1.5	-0.5	2.1	7.9	34.3
Utah	1.7	4.2	2.5	-1.1	-0.6	1.8	11.7	49.8
Idaho	3.8	3.6	3.3	-0.8	3.5	2.5	14.1	47.5
Colorado	1.9	2.7	3.5	-2.0	2.9	1.5	7.3	40.2
Arizona	2.7	3.2	3.9	-1.9	-2.2	1.9	9.5	33.4
Nevada	5.4	5.3	3.6	1.0	-3.3	3.8	6.8	32.8
Montana	6.0	1.3	1.5	-1.1	-2.0	1.9	7.4	19.6
New Mexico	2.9	4.8	4.3	-2.3	-5.1	2.4	-0.1	11.6
Wyoming	2.5	4.5	5.3	-4.8	-1.4	1.8	-4.9	-2.8
South Atlantic	1.9	2.8	2.7	0.0	-0.8	1.9	7.2	27.3
Florida	3.5	3.7	3.8	1.6	-1.5	3.1	12.1	40.3
Georgia	2.4	3.4	2.9	-0.7	1.7	2.0	6.8	34.2
South Carolina	1.0	1.8	2.3	-0.5	2.0	1.1	5.6	29.5
North Carolina	1.0	3.2	1.9	-0.7	1.6	1.3	8.9	27.8

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	2023 Q1	2022 Q4	2022 Q3	2022 Q2	2022 Q1	1-year*	3-year	10-year
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District of Columbia	1.4	1.6	1.0	-0.9	1.0	0.8	3.5	16.3
Virginia	1.0	2.1	2.2	-0.9	-3.3	1.1	4.8	16.2
Maryland	0.7	0.3	1.8	-0.9	-4.1	0.5	0.1	12.2
Delaware	1.0	2.7	1.9	1.2	-1.7	1.7	2.3	9.7
West Virginia	0.2	5.2	4.1	1.4	-5.6	2.7	0.4	5.2
West South Central	2.6	6.2	7.1	0.9	-0.7	4.2	4.7	26.3
Texas	3.0	7.0	8.2	1.8	0.5	5.0	6.9	33.6
Arkansas	0.2	3.2	1.3	-3.0	6.5	0.4	7.8	18.3
Oklahoma	2.5	4.3	5.5	-1.6	-6.7	2.7	-3.4	11.2
Louisiana	1.4	2.2	2.5	-3.0	-8.9	0.7	-7.2	-4.9
East South Central	2.4	3.4	2.1	-0.6	2.1	1.8	7.7	19.9
Tennessee	3.5	4.3	3.9	0.3	3.7	3.0	12.9	30.9
Kentucky	3.0	2.2	1.3	-1.8	2.1	1.2	4.3	15.4
Alabama	0.1	3.9	1.2	-0.9	-0.4	1.1	5.2	14.4
Mississippi	1.7	1.5	-0.7	-1.1	1.3	0.4	2.6	6.6
New England	1.6	2.0	2.7	-2.8	-0.6	0.9	5.1	17.6
Massachusetts	2.5	2.9	3.2	-2.6	-0.9	1.5	6.5	24.5
Maine	1.6	2.3	2.8	-1.2	-0.5	1.4	8.2	24.3
New Hampshire	1.3	2.5	1.8	-2.5	-14.1	0.8	9.2	20.9
Vermont	0.5	2.2	1.3	-0.2	2.6	1.0	5.0	10.2
Rhode Island	0.1	0.4	1.8	0.6	-4.6	0.7	3.9	8.5
Connecticut	0.3	0.1	2.5	-4.7	5.5	-0.5	0.5	5.1
West North Central	5.0	0.3	1.7	-1.6	1.6	1.3	3.3	16.3
Nebraska	12.3	-3.4	1.2	-1.7	5.0	1.9	4.7	23.2
Kansas	6.0	0.7	1.9	-2.5	2.7	1.5	4.7	21.2
Minnesota	2.2	1.3	2.3	-1.3	-0.7	1.1	3.1	18.7
South Dakota	10.1	-4.3	-0.5	-1.7	1.7	0.8	7.2	14.7
Iowa	5.2	-1.2	0.3	-0.8	2.5	0.9	0.9	14.5
Missouri	2.6	1.9	1.7	-2.0	3.3	1.1	4.0	12.4
North Dakota	12.4	0.7	5.2	-0.7	-5.3	4.3	-2.2	3.3
Middle Atlantic	1.4	1.0	3.0	-0.0	-0.2	1.3	3.9	15.5
New York	1.3	0.0	2.5	0.7	-0.5	1.1	4.4	16.7
Pennsylvania	1.9	3.2	3.2	-0.9	-1.1	1.8	2.4	14.2
New Jersey	1.0	1.1	3.9	-1.0	1.7	1.2	4.3	14.2
East North Central	1.0	0.7	1.3	-2.0	1.3	0.2	3.8	15.2
Indiana	1.0	1.4	-0.3	-3.3	4.0	-0.3	4.2	19.1
Ohio	1.3	0.4	1.2	-1.1	-1.7	0.4	3.8	18.2
Michigan	1.7	0.3	1.7	-1.7	2.5	0.5	5.2	16.8
Wisconsin	1.2	1.1	0.6	-1.9	0.3	0.2	2.4	13.8
Illinois	0.2	0.7	2.2	-2.5	2.4	0.1	3.3	11.1

Source: Bureau of Economic Analysis

Financial Accounts

Economists are concerned with the level of assets and liabilities, at a given point in time, along with associated activities like lending, borrowing, saving, and investing. Data on financing and investing activities provide insight into current economic conditions and future prospects. This section provides a high-level overview of the US **financial accounts**, including liabilities, sectoral balances, wealth, and investment dynamics.

Liabilities

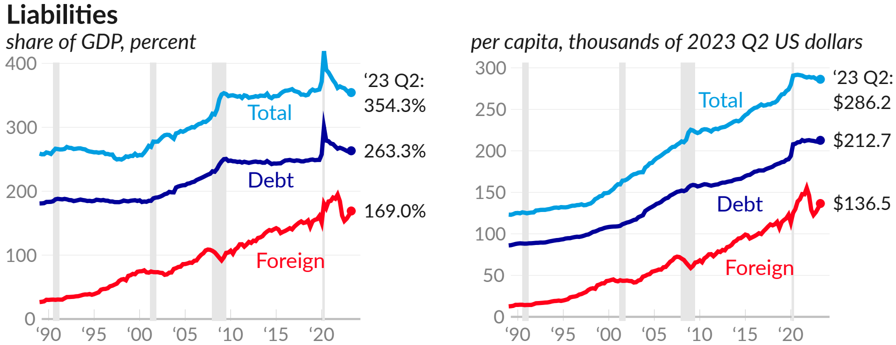
The Federal Reserve US Financial Accounts cover **liabilities**, both in levels and transactions. Using these accounts, we can summarize US financial obligations to others in a few different ways.

The first and most-common approach to analyzing US liabilities looks at **debt**, encompassing loans and debt securities like bonds. This approach aggregates the debt across all nonfinancial sectors—households, businesses, and government. As of the second quarter of 2023, the total debt for the sectors stands at $71.2 trillion, which is 263.3 percent of GDP, or $212,668 per capita.

The second approach considers **total liabilities**, which extend beyond debt to encompass all financial commitments, such as accounts payable, tax obligations, pensions, intercompany debts, and various other liabilities. The aggregate liabilities for nonfinancial sectors reach $95.9 trillion in 2023 Q2, or 354.3 percent of GDP.

The last approach looks at **foreign financial claims** on the US. From a net US wealth perspective, domestic liabilities to domestic creditors net out. It is therefore of interest to look what is owed to foreign creditors. Foreign financial claims on the US total $45.7 trillion in 2023 Q2, translating to 169.0 percent of GDP, or $136,550 per capita.

Liabilities



share of GDP, percent

	2023 Q2	'23 Q1	'22 Q2	'19 Q4	2010	1989
Total Liabilities (—)	354.3	354.3	362.2	359.1	349.2	258.8
Debt (—)	263.3	261.6	266.7	248.9	246.8	181.6
Debt Securities	143.8	142.1	145.1	132.3	114.5	81.6
Loans	118.3	119.6	120.5	116.7	131.8	99.5
Foreign Financial Claims (—)	169.0	162.6	161.8	161.2	107.4	27.8

Source: Federal Reserve, Bureau of Economic Analysis
Note: Domestic figures are for nonfinancial sectors and foreign financial claims on the US do not include US claims on the rest of the world.

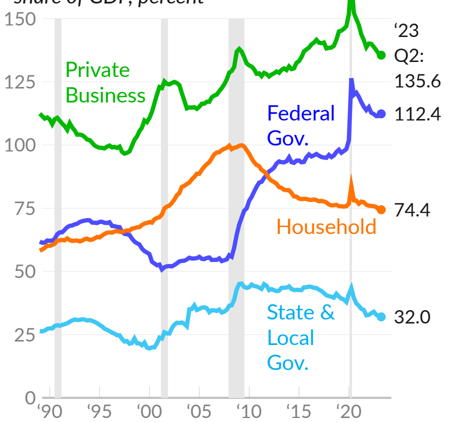
Liabilities vary **by sector** and vary over time within sectors. Households and nonprofits (see —) have $19.6 trillion in debt in 2023 Q2, equivalent to 72.6 percent of GDP. During the collapse of the housing bubble, in 2010, household and nonprofit debt was equivalent to 92.3 percent of GDP.

In 2023 Q2, Private nonfinancial businesses (see —), corporate and noncorporate, have total liabilities of $36.7 trillion and debt of $20.3 trillion. In 2023 Q2, nonfinancial business debt is equivalent to 75.1 percent of GDP, in line with the pre-COVID ratio of 73.8 percent. Nonfinancial corporations have $25.9 trillion in total liabilities and $13.0 trillion in debt.

Federal government debt (see —) is equivalent to 103.5 percent of GDP in the latest data and 86.9 percent in 2019 Q4. Federal government debt has increased substantially since the great recession. State and local government debt (see —) is equivalent to 12.0 percent of GDP in 2023 Q2 and 21.1 percent of GDP in 2010. Total liabilities for the sector, which include pensions, are 32.0 percent of GDP in the latest data and 44.2 percent in 2010.

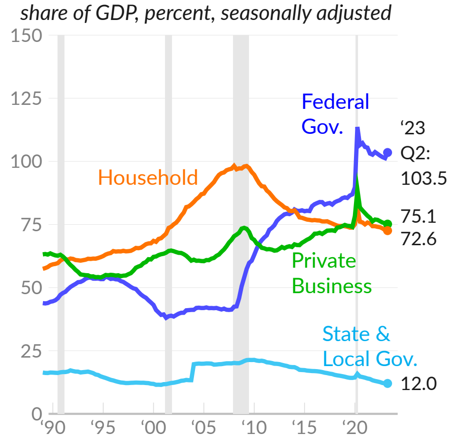
Total Liabilities by Sector

share of GDP, percent



Debt by Sector

share of GDP, percent, seasonally adjusted



Debt by Sector

share of GDP, percent

	2023 Q2	'23 Q1	'22 Q2	'19 Q4	2010	1989
Debt of Nonfinancial Sectors	263.3	261.6	266.7	248.9	246.8	181.6
Households & Nonprofits (—)	72.6	72.8	74.1	73.8	92.3	58.1
Home Mortgages	49.0	49.1	49.9	49.5	69.0	39.7
Consumer Credit	18.3	18.2	18.4	19.1	16.8	13.8
Nonfinancial Businesses (—)	75.1	75.5	76.8	74.0	67.3	63.3
Corporate	48.1	48.3	49.3	46.7	40.7	42.3
Debt Securities	28.5	28.7	29.6	30.2	25.9	20.4
Loans	19.5	19.6	19.8	16.5	14.8	22.0
Noncorporate	27.1	27.2	27.5	27.3	26.6	20.9
Commercial Mortgages	7.8	7.8	8.0	8.4	9.6	8.6
Government	115.5	113.3	115.8	101.2	87.3	60.2
State & Local (—)	12.0	12.1	12.8	14.2	21.1	16.3
Federal (—)	103.5	101.3	103.0	86.9	66.2	44.0

Source: Federal Reserve, Bureau of Economic Analysis

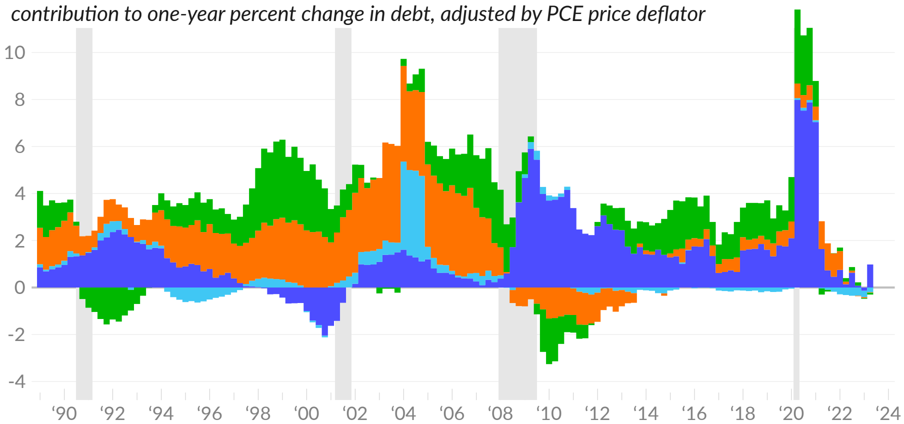
Higher rates of **real debt growth** may highlight economic risks. For example, the tech bubble that popped in 2001 shows up as an increase in corporate borrowing, and the housing bubble that popped in 2008 shows up as an increase in mortgage debt.

Since the second quarter of 2019, inflation-adjusted US debt has increased at an annualized rate of 3.7 percent, in line with the long-term rate of 3.8 percent. Over this four-year period, growth is relatively broad-based. The main contribution is an increase in federal government debt. Federal government debt contributed 2.6 percentage points to annualized growth, and nonfinancial business debt contributed 0.7 percentage point.

Over the year ending 2022 Q2, real debt increased 0.7 percent, far below the long-term average. Federal government borrowing (see ■) contributed one percentage point to the overall change, while the state and local government subtracted 0.2 percentage point (see ■). Households and nonprofits did not contribute (see ■), and nonfinancial businesses did not contribute (see ■).

Real Debt Growth

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



Real Debt Growth by Sector

contribution to one-year real growth, percentage points | *long-term, annualized*

	2023 Q2	'23 Q1	'22 Q4	'22 Q3	'22 Q2	4-year	10-year	30-year
Total Real Debt Growth	0.67	-0.48	-0.15	0.52	0.08	3.68	3.26	3.77
■ Household & Nonprofit	-0.02	-0.04	-0.02	0.09	0.11	0.54	0.42	0.95
Home Mortgages	0.06	0.11	0.08	0.12	0.14	0.39	0.18	0.61
Consumer Credit	0.10	0.11	0.11	0.05	0.02	0.11	0.21	0.27
■ Business	-0.08	-0.03	0.14	0.15	0.15	0.73	1.10	1.06
Corporate Business	-0.12	-0.09	0.08	0.12	0.22	0.55	0.74	0.65
Debt Securities	-0.17	-0.38	-0.56	-0.66	-0.60	0.06	0.32	0.40
Loans	0.05	0.29	0.64	0.78	0.82	0.49	0.42	0.25
Noncorporate Business	0.03	0.06	0.06	0.03	-0.07	0.18	0.36	0.41
Commercial Mortgages	-0.02	-0.03	-0.04	-0.05	-0.04	-0.04	0.05	0.10
■ State & Local Government	-0.20	-0.27	-0.35	-0.35	-0.32	-0.15	-0.13	0.09
■ Federal Government	0.98	-0.14	0.08	0.63	0.14	2.55	1.87	1.67

Source: Federal Reserve, Bureau of Economic Analysis

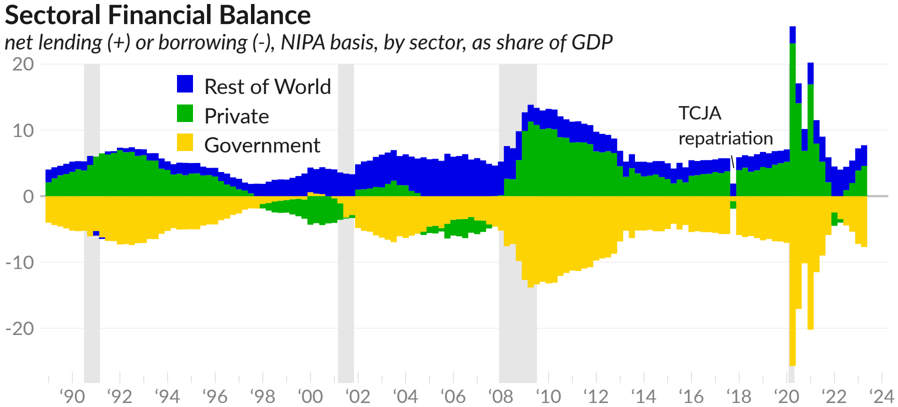
Sectoral Balances

The **sectoral financial balances** provide a high-level summary of US financial activities, by dividing the world into three sectors: the US private sector (see ■), the US government (see ■), and the rest of the world (see ■). This framework analyzes the net lending and borrowing among these sectors. Since one sector's borrowing is another's lending, the sum of all sectors' balances is always zero.

A sector runs a surplus for a given accounting period when its income exceeds its expenditures, allowing it to lend out the resulting savings. Conversely, a sector that spends more than its income must borrow to cover the shortfall. For instance, when the public sector incurs a deficit, it becomes a net borrower, effectively generating a surplus for other sectors by spending beyond its tax revenues.

Sectoral Financial Balance

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



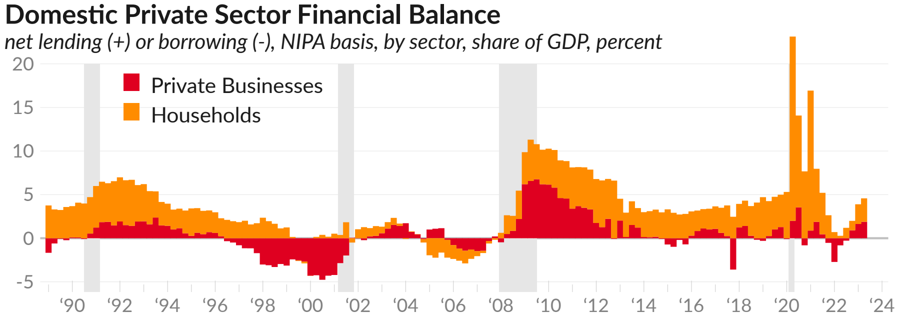
Source: Bureau of Economic Analysis

In 2023 Q2, the US private sector was a net lender (running a surplus) of the equivalent of 4.6 percent of GDP, in line with the 4.6 percent surplus in 2019. The rest of the world was a net lender to the US to the equivalent of 3.1 percent of GDP in 2023 Q2, compared to 2.1 percent in 2019. Balancing these transactions, the government (federal, state, and local combined) was a net borrower (running a deficit) of the equivalent of 7.7 percent of GDP in 2023 Q2, compared to 6.7 percent in 2019.

Breaking out the two main categories in the private sector, households were net lenders (ran a surplus) of the equivalent of 2.7 percent of GDP in 2023 Q2 (see ■), while private businesses–corporate and noncorporate–were net lenders of the equivalent of 1.9 percent of GDP (see ■). In 2019, households were net lenders of 4.0 percent, and private businesses were net lenders of 0.6 percent.

Domestic Private Sector Financial Balance

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



Source: Bureau of Economic Analysis

Wealth

Wealth or **net worth** 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 $142.7 trillion in 2023 Q2, equivalent to $426,000 per capita, or 5.27 years of GDP (527.3 percent of GDP.)

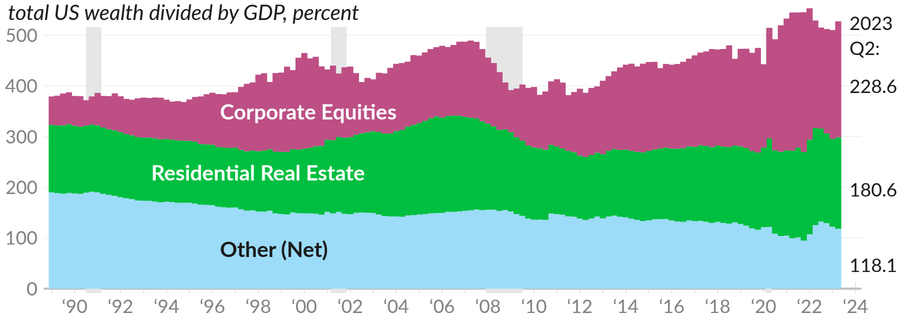
The ratio of US wealth to GDP has increased 144.2 percentage points since 1989, driven largely by increases in the market value of corporate equities and residential real estate. The market value of corporate equities was equivalent to 228.6 percent of GDP in 2023 Q2, compared to 170.0 percent in 1999–2000, during the tech bubble, and to 60.1 percent in 1989 (see ■).

The market value of domestic residential real estate was equivalent to 180.6 percent of GDP in 2023 Q2, compared to 185.1 percent in 2005–2007, during the housing bubble, and 134.2 percent in 1989 (see ■).

On a net basis, all other US wealth is equivalent to 118.1 percent of GDP in 2023 Q2 and 188.8 percent 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.

Wealth to GDP Ratio

total US wealth divided by GDP, percent



Source: Federal Reserve

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

Derivation of US Wealth

share of GDP, percentage points

	2023 Q2	'23 Q1	'22 Q4	'22 Q2	2019	2005 –'07	1989
US Net Wealth	527.3	510.2	512.2	529.1	471.7	478.0	383.1
Households & Nonprofits	212.6	205.0	209.1	223.9	182.1	217.9	169.2
Noncorporate Businesses	74.5	74.4	76.0	78.3	68.3	72.9	71.1
Domestic Corporations	228.4	213.5	208.0	212.5	198.9	129.8	74.4
Federal Government	16.5	16.6	16.6	16.7	16.6	18.3	25.7
State & Local Government	60.1	60.4	60.5	59.9	55.4	48.8	41.9
Net Claims on ROW	-64.8	-59.7	-58.0	-62.2	-49.6	-9.7	0.8
US Claims on ROW	104.2	102.9	99.0	99.6	106.8	86.6	28.6
Less: ROW Claims on US	169.0	162.6	157.0	161.8	156.4	96.3	27.8

Source: Federal Reserve, Bureau of Economic Analysis

Investment

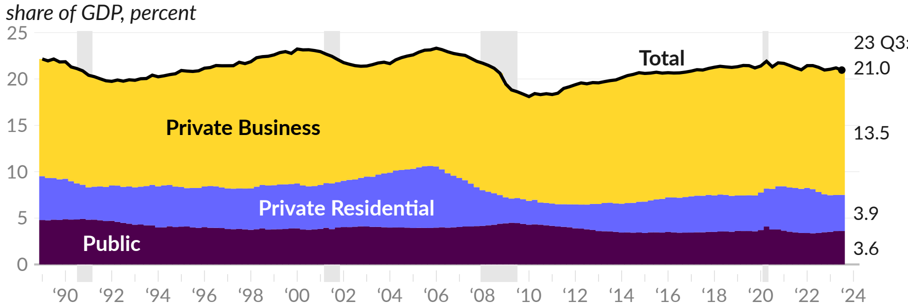
Investment is the process through which tangible (nonfinancial) domestic fixed assets are created and improved. In the national accounts, investment assets have a useful life of more than one year and do not include consumer durable goods such as cars, furniture, or appliances. As such, investment is considered an exchange of assets, and distinguished from consumer spending.

In the third quarter of 2023, annualized US **gross fixed investment**, both public and private, totals $5.8 trillion, or 21.0 percent of GDP (see —). Gross fixed investment is equivalent to 21.3 percent of GDP one year prior, in 2022 Q3, and averages 21.4 percent of GDP in 2019.

In 2023 Q3, private nonresidential (business) fixed investment comprises 64 percent of the total and translates to 13.5 percent of GDP (see ■). Private residential makes up 19 percent of the total and 3.9 percent of GDP (see ■). Public investment is 17 percent of the total and 3.6 percent of GDP (see ■).

Gross Domestic Fixed Investment

share of GDP, percent



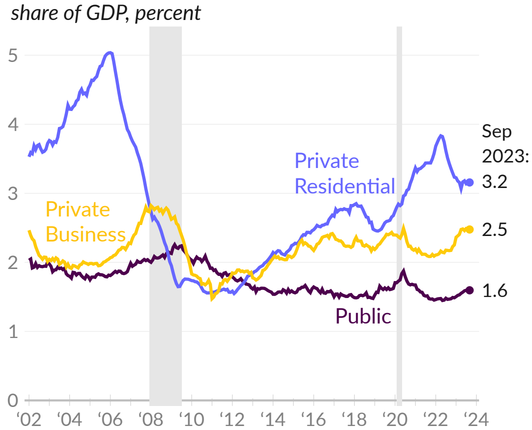
Source: Bureau of Economic Analysis

Construction Spending

Traditionally, **construction spending** makes up a large portion of fixed investment, and a substantial portion of GDP. Each month, the Census Bureau report the dollar value of construction work done in the US. In September 2023, the annualized value of construction put-in-place is $2.0 trillion, equivalent to 7.2 percent of GDP.

Construction Spending

share of GDP, percent



Source: Census, BEA, FRB Atlanta

By sector, private residential construction is 3.2 percent of GDP (see —) in September 2023, private nonresidential construction is 2.5 percent (see —), and government construction is 1.6 percent (see —).

Over the past year, construction spending contributed 0.61 percentage point to nominal GDP growth. Private residential construction subtracted 0.08 percentage point, private nonresidential contributed 0.46 point, and public construction added 0.23 point.

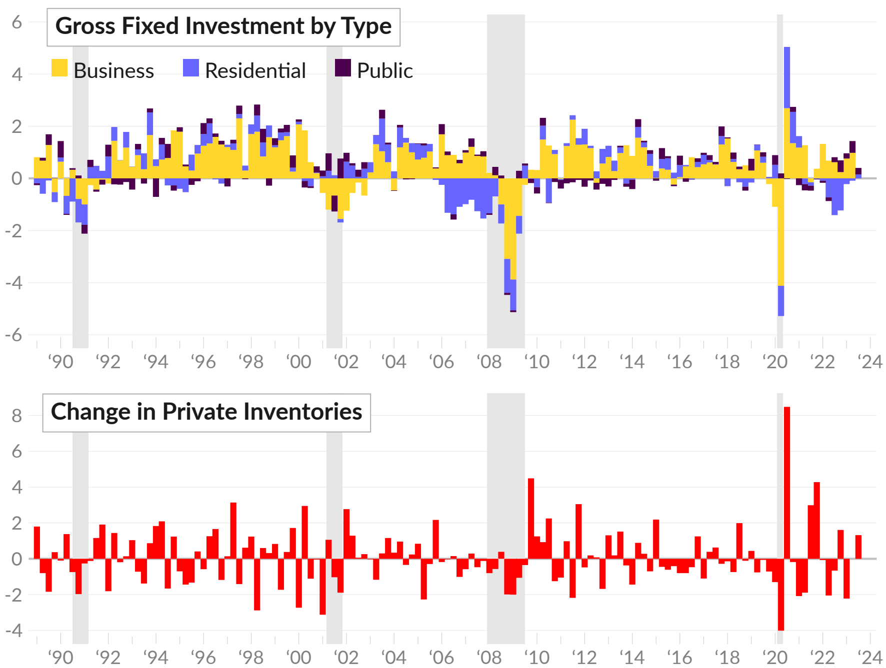
Investment Contribution to Growth

As gross investment usually represents a fifth of GDP or more, investment tends to also represent a sizable **contribution to GDP growth**. During periods of particularly strong investment, the category explains nearly half of overall economic growth. For example, from 1996 to 1999, gross domestic fixed investment added an average of 1.75 percentage points to annual real GDP growth.

In the third quarter of 2023, gross domestic fixed investment contributed 0.40 percentage point to annualized real GDP growth, following a contribution of 1.35 points in the second quarter. Over the past year, gross fixed investment contributed 1.02 percentage point to real GDP growth.

In 2023 Q3, by type of gross fixed investment, private nonresidential did not contribute to annualized real GDP growth (see ■), private residential contributed 0.15 percentage point (see ■), and public contributed 0.25 percentage point (see ■). Over the past year, nonresidential or business gross fixed investment contributed 0.87 percentage point, residential subtracted 0.28 point, and public contributed 0.44 point.

Domestic Investment Contribution to Growth
percentage point contribution to real GDP growth



Source: Bureau of Economic Analysis

Gross domestic investment includes fixed investment, discussed above, and also the **change in private inventories**. Inventories are goods that were produced but not sold. While periods with low inventories balance out periods of overstock in the long-term, changes in private inventories can swing GDP growth in a given quarter.

In 2023 Q3, changes in private inventories contributed 1.32 percentage points to annualized real GDP growth (see ■), following virtually no contribution in 2023 Q2. Over the past year, changes in private inventories contributed 0.09 percentage point from real GDP growth.

Each of these categories of investment is discussed further in the chartbook section for the relevant sector. The next subsection examines net fixed investment, which adjusts for the depreciation of assets over time, in order to capture new or expanded investment.

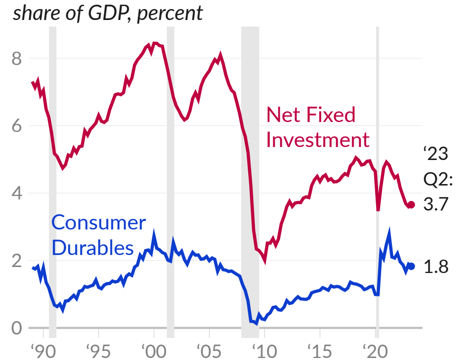
Net Fixed Investment

Gross investment covers both depreciation, the wearing down of existing assets, and new investment. Gross investment less depreciation is referred to as **net investment**, and represents new or expanded investment. The net investment figures below are derived from the financial accounts, rather than the national accounts.

In 2023 Q2, gross fixed investment was $5.5 trillion, depreciation was $4.6 trillion, and net fixed investment was $1.0 trillion, equivalent to 3.7 percent of GDP (see –). In 2019, net fixed investment was 4.9 percent of GDP.

The financial accounts also tabulate net spending on consumer durable goods, such as autos, furniture, and appliances. Net spending on consumer durables was $495 billion in 2023 Q2, or 1.8 percent of GDP (see –). Net consumer durable goods spending was 1.2 percent of GDP in 2019.

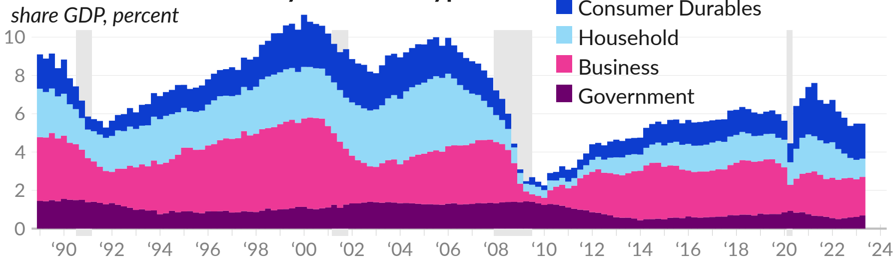
Net Fixed Investment
share of GDP, percent



Source: Federal Reserve, BEA

Levels of net fixed investment vary by sector and over time. In 2023 Q2, household sector net fixed investment, excluding consumer durables, was equivalent to 1.0 percent of GDP, compared to 1.3 percent in 2019 (see ■). From 2003 to 2006, during the housing bubble, household net fixed investment averaged 3.5 percent of GDP. Business sector net fixed investment is equivalent to 2.0 percent of GDP in 2023 Q2, and 2.8 percent in 2019 (see ■). Government net fixed investment is equivalent to 0.7 percent of GDP in 2023 Q2 and 0.8 percent in 2019 (see ■).

Net Fixed Investment by Sector or Type
share GDP, percent



Source: Federal Reserve, Bureau of Economic Analysis

	2023 Q2	'23 Q1	'22 Q4	'22 Q2	2019	2003 –'06	1999 –'01
– Net Fixed Investment	3.65	3.59	3.69	4.16	4.87	7.33	8.03
■ Business	2.01	1.96	2.07	2.05	2.78	2.55	4.27
Nonfin. Noncorp. Business	0.24	0.24	0.24	0.33	0.38	0.58	0.61
Nonfin. Corporations	1.68	1.64	1.73	1.64	2.13	1.74	3.17
■ Government	0.69	0.61	0.58	0.50	0.76	1.31	1.10
State & Local Gov.	0.56	0.50	0.46	0.39	0.64	1.08	1.13
Federal Gov.	0.13	0.11	0.12	0.11	0.12	0.23	-0.03
■ Household & Nonprofit	0.95	1.02	1.04	1.60	1.33	3.46	2.67
– / ■ Consumer Durables	1.83	1.89	1.67	1.96	1.19	1.97	2.27

Source: Federal Reserve, Bureau of Economic Analysis

Households

This section covers the household sector of the economy. Households are the source of labor for production and the source of saving for investment. Households are also the primary consumers in the economy. The core topics in the households section include demographics, personal and household income and outlays, consumer sentiment, residential investment, household balance sheets, home ownership, housing, and poverty.

Demographics

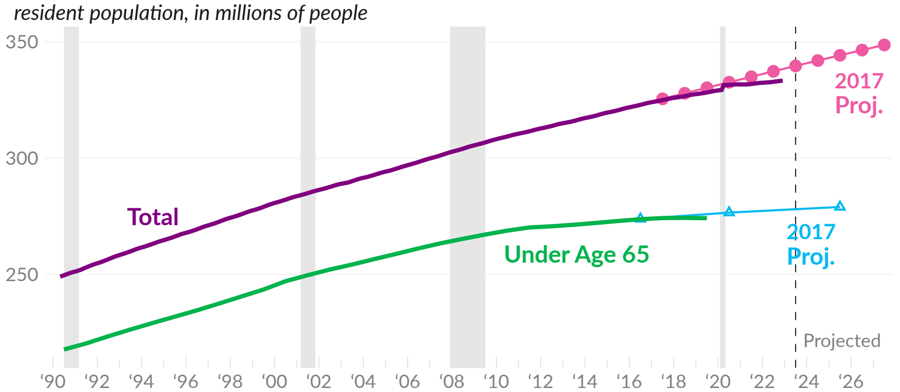
Demographics provide a foundation for examining the household sector. Demographics provide insight on the structure and characteristics of the population. The demographics subsection covers population, population growth, household formation and headship, age, life expectancy, and education.

Population

The Census Bureau provides estimates and projections of the **US population**. Population levels and growth rates affect the economy and are critical pieces of information in determining and evaluating economic policies and outcomes. Population projections are based on assumptions, for example about the future level of net migration to the US, but are useful for thinking about future US demographics.

The US resident population is 333.0 million in July 2023, from the latest population estimates, released on December 21, 2021 (see –). The 2017-based projections of the future US resident population show a 2025 population of 344.2 million people (see -●-). The resident population under age 65 was estimated to be 274.2 million in 2019 (see –) and is projected to be 279.0 million in 2025 (see -△-).

Population Estimates and Projections
resident population, in millions of people



Source: Census Bureau

Population Estimates and Projections
resident population, in millions of people

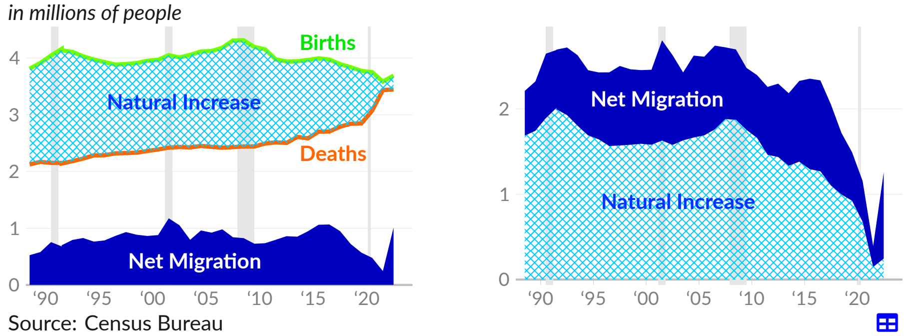
	Dec 2022	2019	2018	2010	2000	1990	Projected 2025
Total Resident Population	333.3	328.2	326.7	309.3	282.2	249.6	344.2
Under Age 65	–	274.2	274.3	268.8	247.1	217.7	279.0
Over Age 65	–	54.1	52.4	40.5	35.1	31.9	65.2

Source: Census Bureau

Population Growth

Population growth comes from two sources, natural increases (births minus deaths) and net migration. In the latest estimate, the US added 1,256,000 people over the year ending July 2022, a population growth rate of 0.1 percent. There were a total of 3.69 million births (see —), and 3.44 million deaths (see —), resulting in a natural increase of 245,100 people (see ▨). In the same period, net migration from abroad increased the resident population by 1,010,900 people (see ■). For comparison, in 1989, there were 3.91 million births, 2.17 million deaths, and 578,200 net migrants to the US.

Components of US Population Growth
in millions of people



Source: Census Bureau

Related Measures

There are multiple measures of population, based on different definitions. As of December 2022, the **resident** population is 331.8 million, while the more-comprehensive resident population **including armed forces overseas** is 332.0 million, and the more-narrow **civilian noninstitutionalized** population, which is used in labor statistics, is 327.0 million. The Bureau of Economic Analysis (BEA) use midyear resident population estimates from the Census Bureau for per capita measures. Chartbook measures that use both population and BEA data use the resident population, while chartbook measures based on the Current Population Survey use the civilian noninstitutionalized population.

The Census Bureau further divides the population into those living in households and those living in group quarters. As of December 2022, the **household** population is 324.0 million, or 97.7 percent of the total resident population. The **group quarters** population is measured in depth as part of the 2020 Census. The 2020 group quarters population is 8.2 million, of which 3.8 million are institutionalized. Of these, two million are in prisons and jails, and 1.6 million are in nursing and skilled-care facilities. An additional 2.8 million people live in dormitories or student housing, 328,000 live in barracks, and 1.4 million live in other noninstitutional facilities such as shelters and group homes.

Lastly, an important related concept, **households**, are measured as occupied housing units. The number of households varies over time, separately from the population, as people make changes in their living arrangements. Over the year ending 2023 Q3, there were an average of 129.8 million households, compared to 94.2 million in 1990.

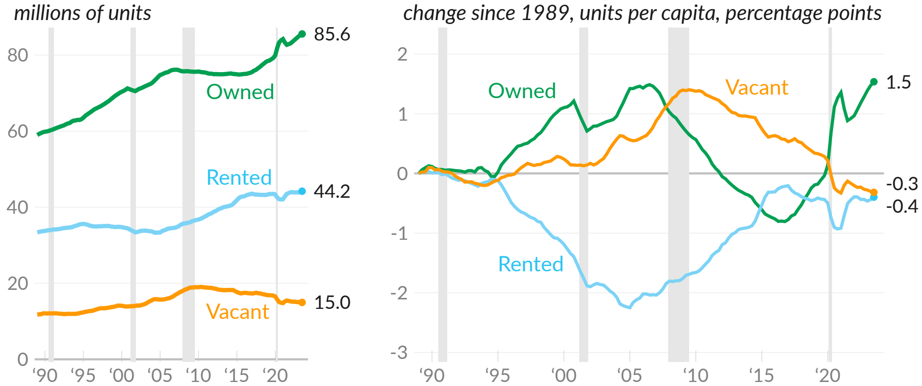
Household Formation

Households are measured as **occupied housing units**, whether occupied by the owner or rented. Over the year ending 2023 Q3, there were an average of 129.8 million total occupied housing units in the US, of which 44.2 million (34.1 percent) were rented, and 85.6 million (65.9 percent) were owner-occupied. Since 1989, the US has experienced the boom and bust of a major housing bubble. By 2016, the end result of the bubble bursting was a shortage of housing, as housing units per capita fell from 1995 to 2016.

Housing by Type

one-year moving averages

millions of units *change since 1989, units per capita, percentage points*



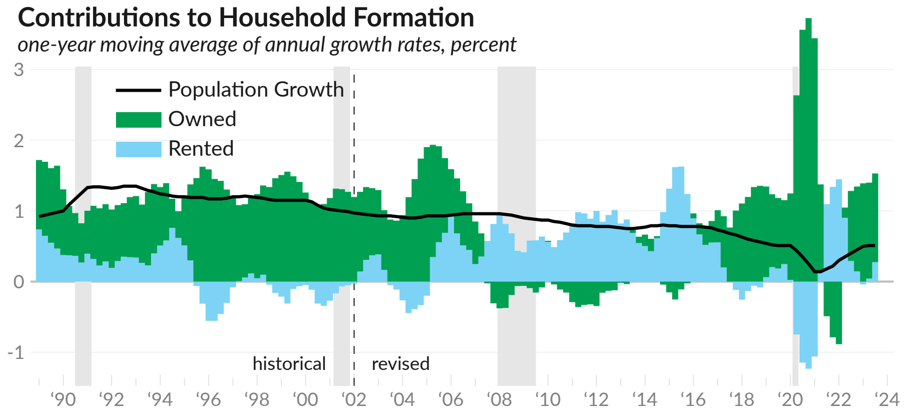
Source: Census Bureau

Household formation measures the change in occupied housing units. During the housing bubble, housing construction exceeded population growth and the homeownership rate increased. Following the collapse of the housing bubble, household formation was often below population growth and homeownership decreased as foreclosures converted homeowners into renters.

From 2019 Q4 to 2023 Q3, the average annual **household formation rate** was 1.4 percent, while annual population growth averaged 0.4 percent. Changes in the number of owner-occupied households contributed 1.3 percentage points on an average basis (see ■), and changes in rented households contributed 0.1 percentage point (see ■). Over the year ending 2023 Q3, the household formation rate averaged 1.5 percent, of which owner-occupied households contributed 1.3 percentage points, and rented households contributed 0.3 percentage point.

Contributions to Household Formation

one-year moving average of annual growth rates, percent



Source: Census Bureau, Housing Vacancies and Homeownership

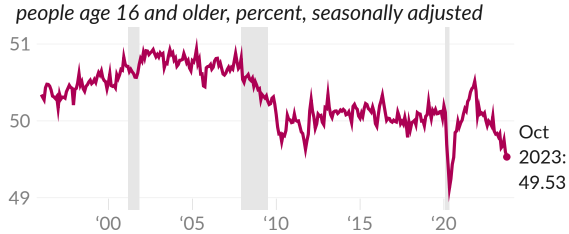
Headship Rate

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

The headship rate fell following the collapse of the housing bubble and during the COVID-19 pandemic, as more people moved in with family. The headship rate reached a low of 49.13 percent during May 2020, and is currently 49.53 percent, as of October 2023 (see —).

Aggregate Headship Rate

people age 16 and older, percent, seasonally adjusted



Source: Author's Calculations from CPS

[Living with Family, forthcoming]

Age

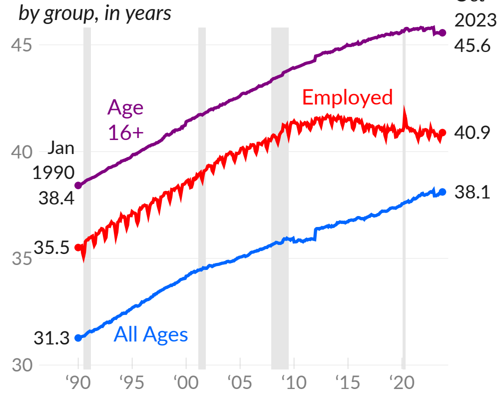
In discussions on demographics, **aging** is often described as a serious headwind to economic growth in major advanced economies. The increased share of many countries' population that is of retirement age means a smaller share are working and borrowing and a larger share are receiving pension benefits 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.

The **median age** is the midpoint for the age of a group; half of the group is older and half is younger. Tracking this point over time summarizes the age composition of the group. As a population ages, the median age will increase.

The median age of the overall civilian noninstitutionalized population, calculated from the Current Population Survey (CPS), is 38.1, as of October 2023, compared to 31.3 in January 1990 (see —). The median worker is 40.9 in October 2023, and 35.5 in January 1990 (see —).

Median Age

by group, in years

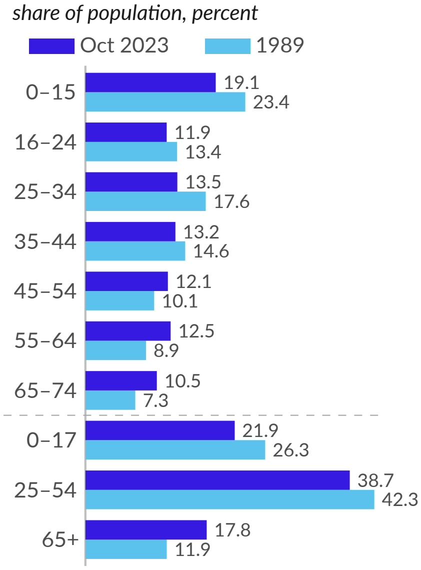


Source: Author's Calculations from CPS

Economic indicators are sometimes based on specific **age groups**. As examples, labor statistics often exclude those under age 16, the retirement-age population is above a certain age, such as 64, and a popular measure of labor market slack is the age 25 to 54 employment rate. It is therefore useful to know what share of the overall population is in each major age group, and how the current age distribution compares with the past.

Age Groups

share of population, percent



Source: Author's Calculations from CPS

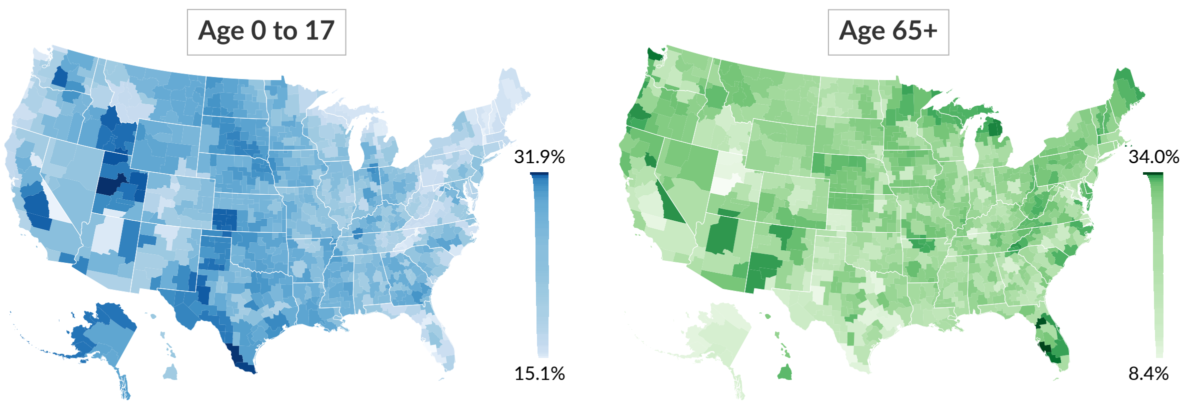
The noninstitutionalized civilian population used in most labor statistics totals 330.8 million in October 2023. Of this, 19.1 percent are under the working age of 16, equivalent to 63.2 million people. In 1989, the under-16 population was 23.4 percent of the total. The juvenile population, those under 18, is 72.4 million, equivalent to 21.9 percent of the population in October 2023, and compared to 26.3 percent in 1989.

Traditionally, the prime working age is between 25 and 54. In October 2023, 128.2 million people, 38.7 percent of the population, are age 25 to 54. In 1989, 42.3 percent of the population is age 25 to 54. The age 55 to 64 group is 12.5 percent of the population in the latest data and 8.9 percent in 1989. Those above the age of 65 comprise 17.8 percent in October 2023 and 11.9 percent in 1989.

Mapping American Community Survey data to commuter zones gives insight on the **age composition of local areas**. In 2021, 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 (31.9 percent), followed by Laredo, TX (31.5 percent), and Brownsville, TX (30.7 percent). The commuter zones with lowest share of the local population under 18 were Sarasota, FL (15.1 percent), Pittsfield, MA (16.4 percent), and Ocala, FL (16.7 percent).

The age 65 and older population is disproportionately concentrated in Florida. The commuter zone with the highest share of its population over 64 is Sarasota, FL (34.0 percent), followed by Ocala, FL (32.9 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 (10.4 percent), and Odessa, TX (10.6 percent).

Age Group Share of Commuter Zone Population, 2021

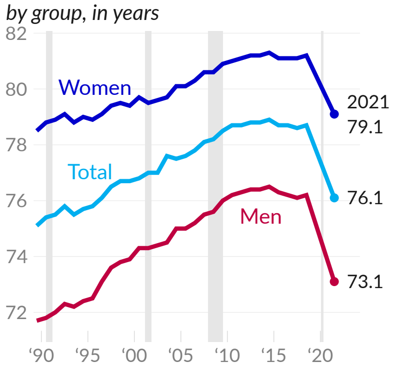


Source: American Community Survey, Dorn

Life expectancy

Life expectancy at birth summarizes the health and mortality of a population. The measure indicates the number of years a newborn is expected to live if mortality rates do not change. Life expectancy estimates are produced by the National Center for Health Statistics.

Life Expectancy at Birth
by group, in years



Source: NCHS

In 2021, US life expectancy at birth is 76.1 years (see —), a decrease of 2.8 years since 2014, but an increase of one year since 1989. Life expectancy for men is 73.1 years in 2021, compared to 76.5 years in 2014 and 71.7 years in 1989 (see —). Women born in 2021 are expected to live 79.1 years, based on current mortality rates, compared to estimates of 81.3 years for 2014 and 78.5 years for 1989 (see —).

Falling life expectancy from 2014 to 2018 is generally associated with increased overdose deaths and the opioid epidemic. Life expectancy fell further during the COVID-19 pandemic, according to early estimates.

Education

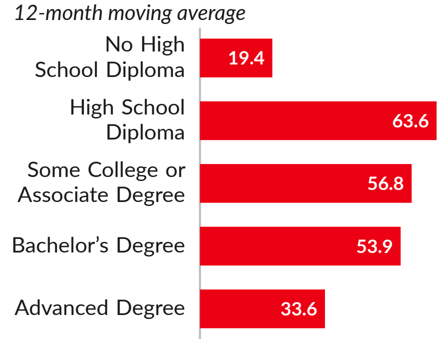
Education is central in many discussions of the future of the US economy. In recent decades, there has been a significant rise in both college tuition fees and enrollment rates. Households may be spending more on education as a response to changing job opportunities from globalization and other policy decisions. Consequently, the population is now more educated but also bears greater student debt burdens.

Over the year ending October 2023, 87.5 million people over the age of 25, or 38.5 percent of the total, have at least a bachelor's degree, with 33.6 million of those, or 14.8 percent of the total, holding an advanced degree such as a master's degree, medical or law degree, or PhD.

An additional 56.8 million people have some college coursework but no degree or have an associate degree. A total of 63.6 million have a high school diploma but no college, while 19.4 million have no high school diploma.

Highest Level of Education

millions of people, age 25+, October 2023
12-month moving average



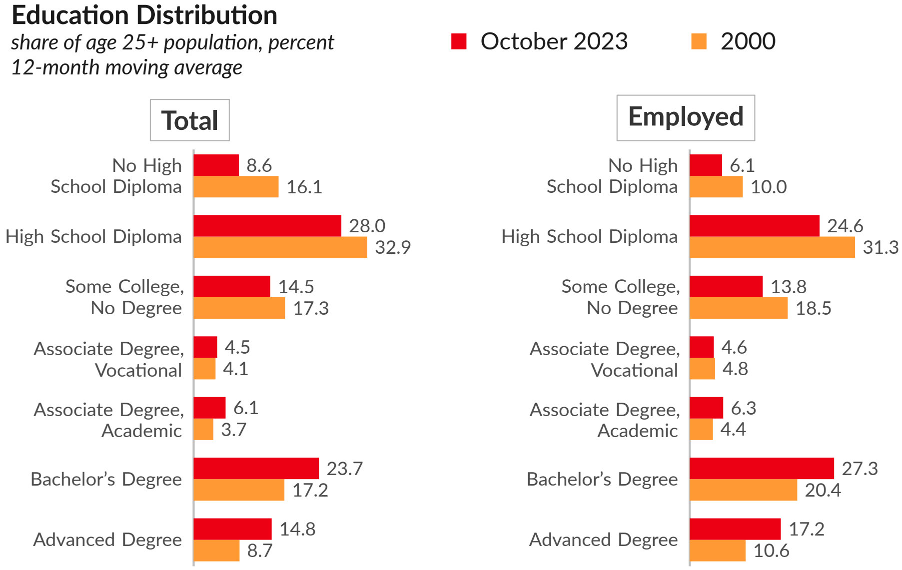
Source: Author's Calculations from CPS

The share of the population with a bachelor's degree or advanced degree increased by 12.6 percentage points since 2000. The increase is even more pronounced among those who are employed; 44.6 percent have a college degree or advanced degree during the year ending October 2023, an increase of 13.6 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
12-month moving average



Source: Author's Calculations from CPS

Income, Spending, and Saving

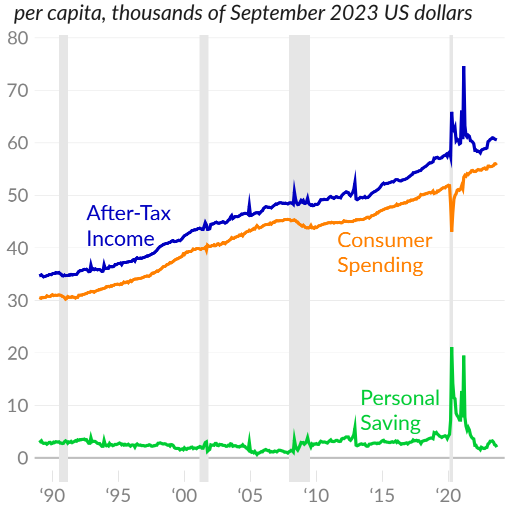
The next subsections cover household and personal income, consumer spending, and personal saving. This subsection offers an overview, with mean and median per capita measures, adjusted for inflation to September 2023 dollars.

In the national accounts, disposable personal income, or **after-tax income**, totals $20.3 trillion, on an annualized basis, in September 2023, equivalent to $60,556 per person (see —). Personal consumption expenditures, or **consumer spending**, totals $18.9 trillion in September 2023, or $56,166 per person (see —). **Personal saving**, calculated as after-tax income minus consumer spending and other outlays such as interest payments, totals $0.69 trillion, or $2,049 per person (see —).

The Consumer Expenditure Surveys report spending by income level, including for the median household. The median is not affected by the activities of the highest income households, which skew the average (mean). Personal saving is calculated as after-tax income minus spending, excluding spending on pensions.

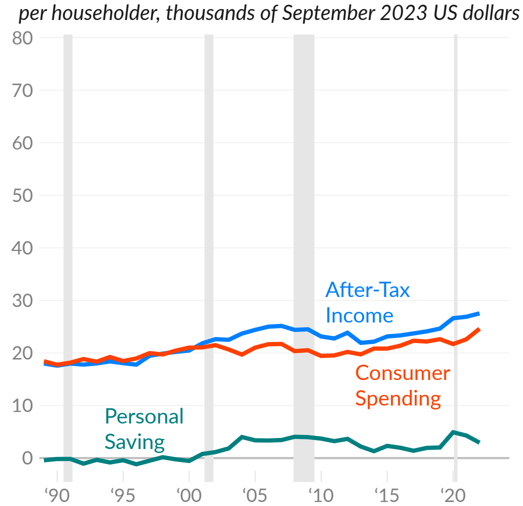
In 2022, inflation-adjusted after-tax income is $27,528 per person for the middle fifth of households (see —). Spending for these households is $24,606 per person (see —), and saving is $2,922 per person (see —).

Average Income, Spending, and Saving
per capita, thousands of September 2023 US dollars



Source: Bureau of Economic Analysis

Median (Middle Quintile Average)
per householder, thousands of September 2023 US dollars



Source: Census Bureau

Average Income, Spending, and Saving
per capita, seasonally-adjusted annualized rate, September 2023 US dollars

	Sep '23	Aug '23	Jul '23	Jun '23	Sep '22	Sep '20
Personal Income	$69,014	69,063	69,072	69,090	68,515	68,711
Personal Current Taxes	8,457	8,427	8,336	8,181	9,709	8,010
— After-Tax Income	60,556	60,636	60,736	60,909	58,805	60,701
Personal Outlays	58,508	58,223	58,224	57,908	57,021	52,667
— Consumer Spending	56,166	55,980	55,976	55,671	55,142	50,999
Interest Payments	1,608	1,506	1,509	1,505	1,126	974
— Personal Saving	2,049	2,413	2,512	3,001	1,785	8,034

Source: Bureau of Economic Analysis

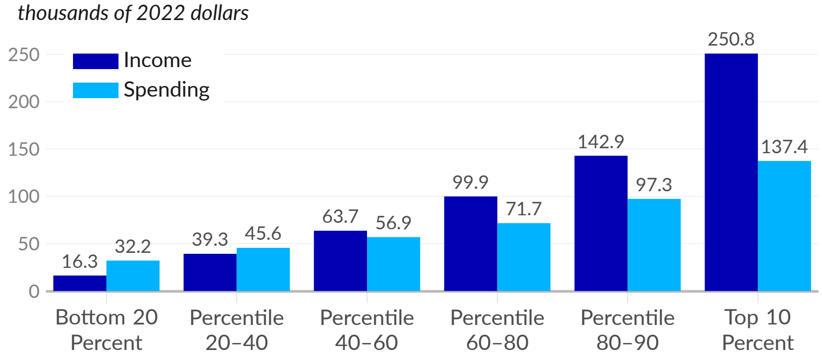
Distribution by Income

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 2022, after-tax household income (see ■) ranges from $16,300 for the bottom 20 percent to $250,800 for the top 10 percent. Spending, excluding pensions, (see ■) ranges from $32,200 for the bottom 20 percent by income, to $137,400 for the top 10 percent income group.

Household Income and Spending, by Income Percentile

thousands of 2022 dollars



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

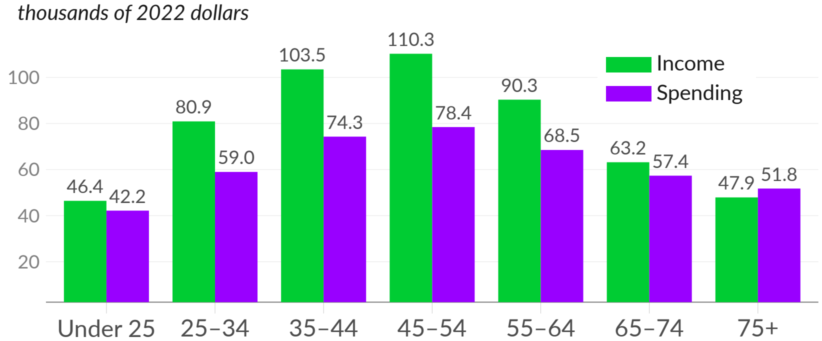
Distribution by Age

Income and spending vary by age and tend to peak between ages 45 and 54. Saving, the difference between income and spending, also varies by age and generally peaks during ages 45 to 54. In 2019, the oldest and youngest age groups in the data have income near or below their expenses, resulting in low or negative saving rates. In contrast, during the pandemic in 2020, income was above average and spending was below average, and saving rates were positive and far above average.

In 2022, after-tax household income (see ■) ranges from $46,400 for the youngest age group to $110,300 for the 45 to 54 age group. Spending, excluding pensions, (see ■) ranges from $42,200 for the youngest age group to $78,400 for the 45 to 54 age group.

Household Income and Spending, by Age of Reference Person

thousands of 2022 dollars



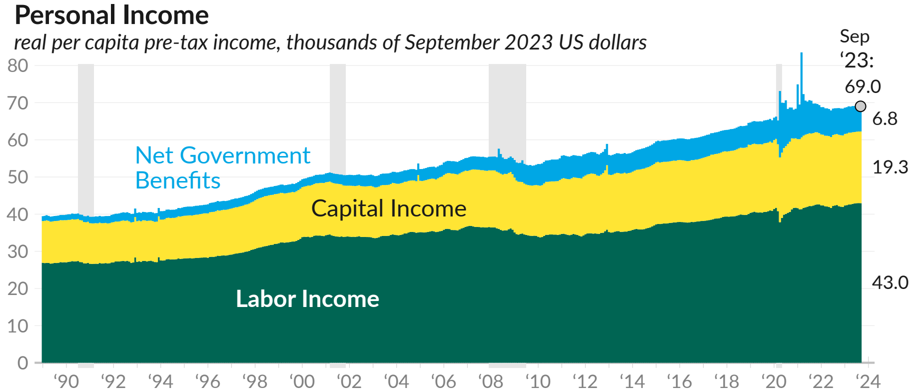
Income is after taxes; spending does not include spending on pensions
Source: Census Consumer Expenditure Surveys

Personal Income

Personal income, or pre-tax income, can be grouped into three major categories: labor income, capital income, and net government benefits. Labor income (see ■) encompasses wages and salaries and other job benefits, and is measured as compensation of employees in the national accounts. Capital income (see ■) sums proprietor, rental, dividend, and interest income. Net government social benefits (see ■) are measured as government social benefits less contributions to social insurance.

Personal Income

real per capita pre-tax income, thousands of September 2023 US dollars



Source: Bureau of Economic Analysis, Author

In September 2023, annualized personal income is $69,014 per capita (see ○). Labor income totals $42,956 per person, capital and proprietor income is $19,304 per person, and net government benefits total $6,754 per person.

Personal Income by Source

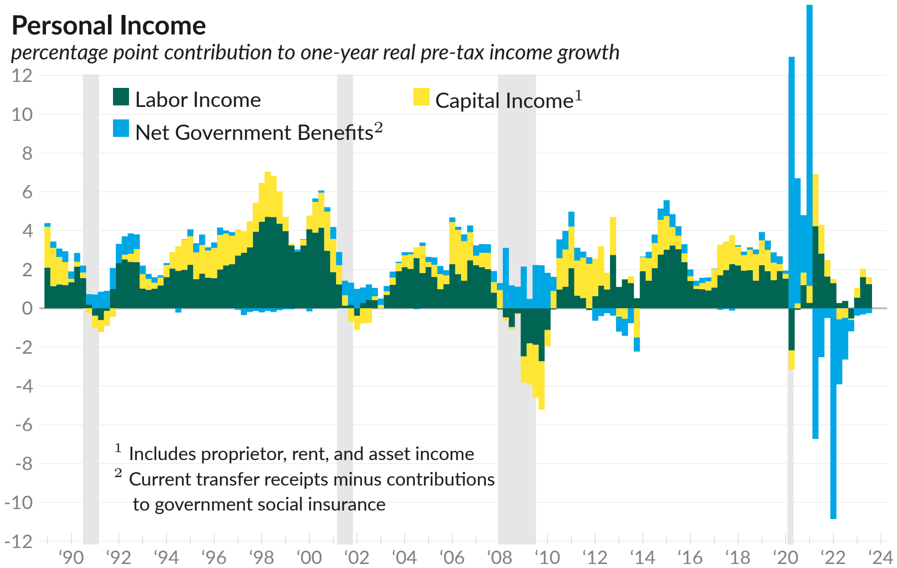
per capita, annualized, September 2023 US dollars

	Sep '23	Aug '23	Jul '23	Sep '22	Sep '19
Personal Income (Pre-Tax Income)	$69,014	69,063	69,072	68,515	65,297
■ Labor	42,956	42,973	42,949	42,450	40,621
Wages & Salaries	35,631	35,644	35,619	35,176	33,093
Supplements to Wages & Salaries	7,325	7,328	7,330	7,274	7,528
■ Capital	19,304	19,281	19,250	19,128	18,535
Proprietors' Income	5,525	5,524	5,515	5,620	5,621
Rental Income	2,925	2,915	2,905	2,772	2,439
Personal Interest Income	5,387	5,357	5,327	5,139	5,625
Personal Dividend Income	5,467	5,484	5,502	5,596	4,850
■ Net Government Benefits	6,754	6,809	6,872	6,937	6,142
Government Social Benefits	11,860	11,932	11,996	12,015	10,999
Social Security	4,064	4,074	4,080	3,768	3,667
Medicare	2,824	2,831	2,838	2,881	2,813
Medicaid	2,607	2,634	2,681	2,534	2,206
Unemployment Insurance	62	63	64	60	86
Veterans' Benefits	515	517	519	537	473
Other	1,789	1,814	1,815	2,235	1,754
Less: Social Insurance Contributions	-5,431	-5,436	-5,436	-5,383	-5,051

Source: Bureau of Economic Analysis

Personal Income

percentage point contribution to one-year real pre-tax income growth



Source: Bureau of Economic Analysis

Aggregate real personal income increased 1.36 percent over the year ending 2023 Q3. Labor income contributed 1.25 percentage points to overall growth, capital income contributed 0.35 percentage point, and net government benefits subtracted 0.25 percentage point.

Personal Income by Source

percentage point contribution to one-year real pre-tax income growth

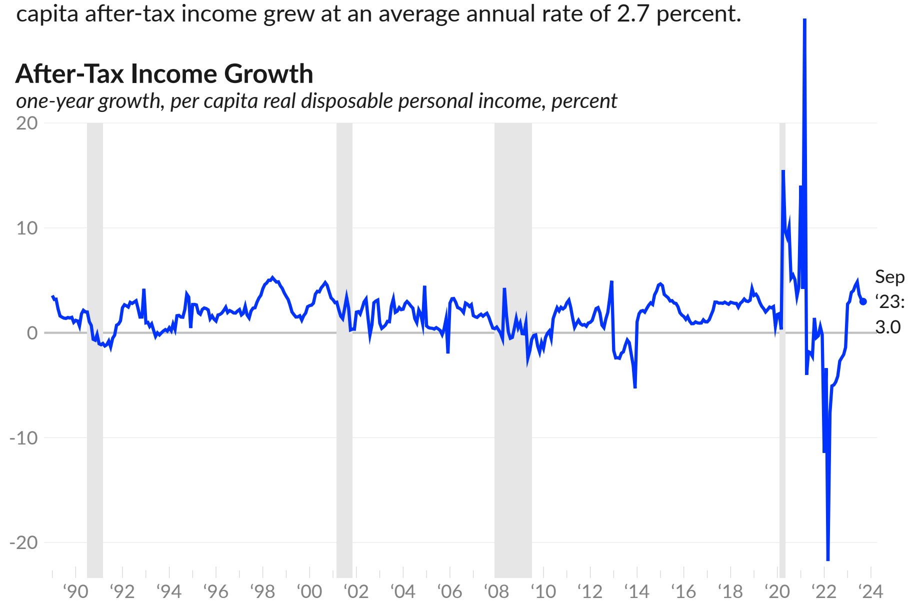
	2023 Q3	'23 Q2	'23 Q1	'22 Q4	'22 Q3	*moving averages* 1.0-year	10.0-year	30.0-year
Personal Income (Pre-Tax Income)	1.36	1.72	0.69	-1.18	-2.25	0.65	2.63	2.69
Labor	1.25	1.61	0.55	-0.53	0.38	0.72	1.52	1.54
Wages & Salaries	1.11	1.49	0.58	-0.32	0.61	0.72	1.38	1.30
Supplements to Wages & Salaries	0.14	0.12	-0.03	-0.21	-0.23	0.01	0.15	0.24
Capital	0.35	0.43	0.51	-0.07	-0.49	0.30	0.71	0.78
Proprietors' Income	-0.10	-0.08	-0.08	-0.21	-0.46	-0.12	0.07	0.25
Rental Income	0.22	0.23	0.30	0.10	0.07	0.21	0.11	0.16
Personal Interest Income	0.38	0.39	0.51	0.42	0.15	0.43	0.12	0.07
Personal Dividend Income	-0.15	-0.11	-0.22	-0.37	-0.26	-0.21	0.40	0.30
Net Government Benefits	-0.25	-0.32	-0.38	-0.59	-2.15	-0.38	0.39	0.37
Government Social Benefits	-0.12	-0.10	-0.25	-0.50	-1.92	-0.24	0.59	0.55
Social Security	0.46	0.44	0.36	0.15	0.11	0.35	0.16	0.16
Medicare	-0.06	-0.08	-0.12	-0.09	-0.06	-0.09	0.12	0.14
Medicaid	0.16	0.27	0.18	0.17	0.09	0.20	0.16	0.13
Unemployment Insurance	0.00	0.00	-0.02	-0.06	-0.99	-0.02	-0.00	0.00
Veterans' Benefits	-0.03	-0.02	-0.00	0.02	0.03	-0.01	0.04	0.03
Other	-0.66	-0.72	-0.64	-0.69	-1.11	-0.68	0.11	0.10
Less: Social Insurance Contributions	-0.14	-0.21	-0.12	-0.07	-0.22	-0.14	-0.22	-0.19

Source: Bureau of Economic Analysis

The Bureau of Economic Analysis report an inflation-adjusted one-year change in after-tax income per person of 3.0 percent in September 2023, 3.2 percent in August 2023, and -2.7 percent in September 2022 (see —). Over the past year, the measure has averaged 1.9 percent. During the three years before the COVID-19 pandemic, per capita after-tax income grew at an average annual rate of 2.7 percent.

After-Tax Income Growth

one-year growth, per capita real disposable personal income, percent



Source: Bureau of Economic Analysis

Distribution of Personal Income

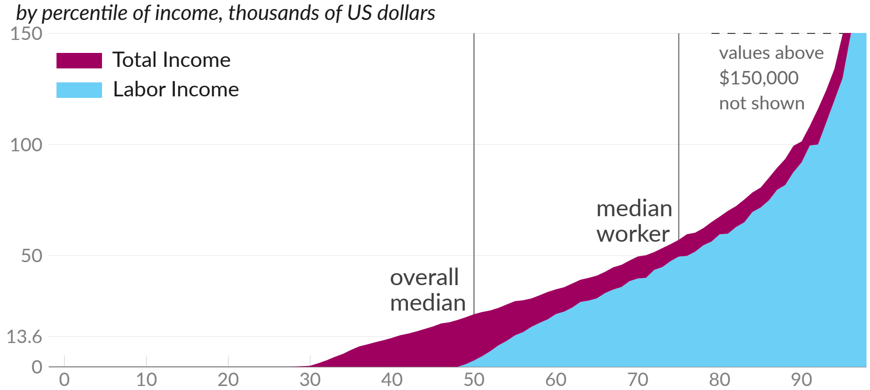
Labor income, which includes wages and salaries as well as self-employment income, is the vast majority of personal income. Over calendar year 2022, 50 percent of people have any labor income (see ■). Only 44 percent of people have labor income above the single-person poverty threshold of $13,590.

Total income, which includes after-tax labor income plus welfare and capital income, (see ■) reaches 71 percent of people in 2022. People who did not receive any income by the total income measure typically live with people who receive income.

In 2022, 4.9 percent of people have total income of more than $150,000. Note that the chart cuts off income above $150,000.

Distribution of Personal Income, 2022

by percentile of income, thousands of US dollars



Source: Author's Calculations from CPS ASEC

Personal Income

number of recipients in thousands, income amounts in 2022 US dollars

	2022			2019		
	Total with Income	Median Income	Mean Income	Total with Income	Median Income	Mean Income
Total	239,100	$40,480	$59,430	235,292	$41,309	$62,152
Earnings	170,900	47,960	66,010	169,802	47,693	66,327
Social Security	56,330	17,690	18,540	54,985	17,824	18,941
Supplemental Security Income	5,711	9,545	9,219	5,715	9,675	9,717
Public Assistance	1,747	3,129	4,571	1,383	3,113	4,655
Veterans' Benefits	4,710	17,050	20,850	4,406	15,793	20,247
Survivor Benefits	3,249	10,960	20,170	3,197	11,177	19,680
Disability Benefits	2,598	10,610	15,360	2,729	10,169	15,934
Unemployment Compensation	3,073	3,735	5,302	3,345	4,281	6,055
Workers' Compensation	1,192	8,414	14,910	1,485	9,225	16,361
Property Income	150,500	1,577	4,971	146,025	1,952	7,141
Retirement Income	30,190	16,000	27,170	30,731	16,669	29,630
Pension Income	20,510	16,480	25,240	20,850	18,277	29,342
Alimony	210	10,070	21,480	216	15,277	21,216
Child Support	3,210	4,299	6,245	3,788	4,777	6,756
Educational Assistance	6,634	5,762	10,210	7,848	5,999	9,969
Outside Financial Assistance	2,547	4,611	9,011	2,587	4,618	10,335
Other	2,358	2,253	4,653	2,407	2,090	14,876

Source: Census Bureau, Bureau of Labor Statistics

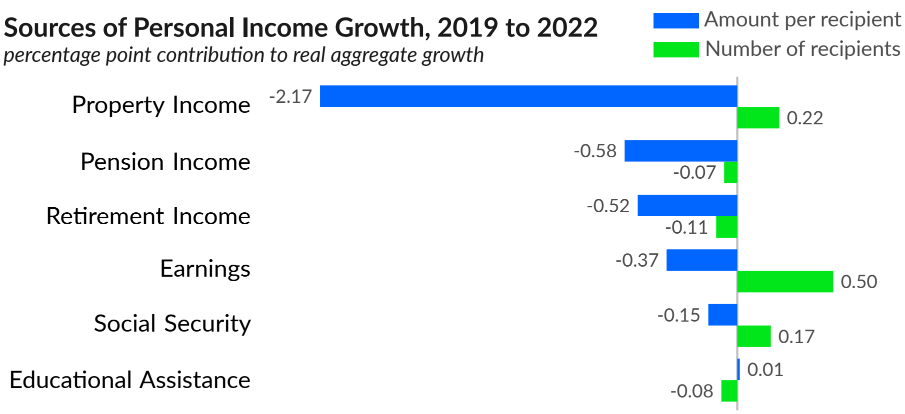
Contributions to Personal Income Growth

Annual data on personal income describe 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 payment amounts (see ■) and changes in how many people are receiving payments (see ■).

From 2019 to 2022, aggregate pre-tax personal income decreased by a total of 2.83 percent, after adjusting for changes in prices. Compared to 2019, average amounts received are down across nearly all categories. Property, pension, and retirement income were hit by higher inflation and a weak stock market. Earnings did not keep up with inflation over this period, though more people are working.

Sources of Personal Income Growth, 2019 to 2022

percentage point contribution to real aggregate growth



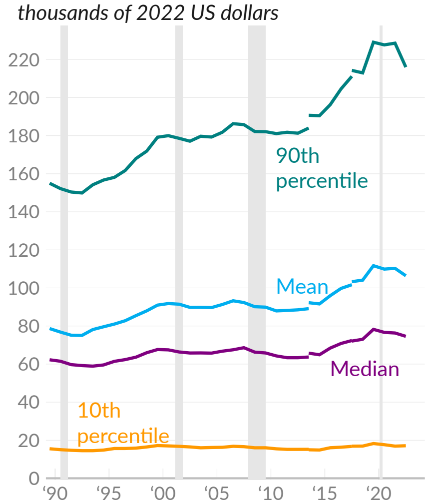
Source: Census Bureau, Bureau of Labor Statistics

Household Income

Given the variance in personal income, with many people receiving no income at all, individuals often live together and combine their income and expenses. This subsection covers household income, the combined income of all people in a given housing unit.

As with personal income, household income is distributed very unevenly in the US. The Census Bureau and Bureau of Labor Statistics report historical household income data, adjusted for changes in prices. The mean or average household income is $106,400 in 2022 (see —), compared to $110,300 in 2021, and $109,900 in 2020. In 2000, real mean household income was $91,810.

Real Household Income
thousands of 2022 US dollars



Source: Census Bureau

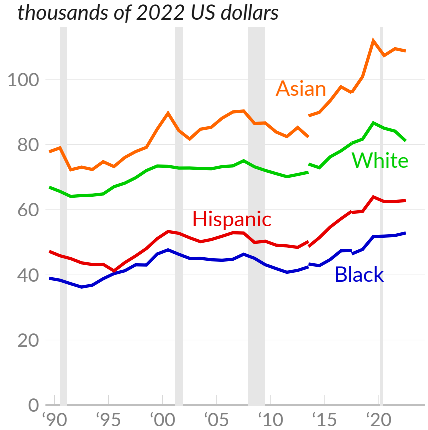
Real median household income (see —), the price-adjusted midpoint among household incomes, is $74,580 in 2022, $76,330 in 2021, and $76,660 in 2020. For comparison, real median household income was $67,470 in 2000. Since 2000, real median income increased by a total of 10.5 percent.

The price-adjusted income limit for the 90th percentile is $216,000 in 2022 (see —), $228,600 in 2021, $227,700 in 2020, and $180,000 in 2000. Ten percent of households make more than this level.

On the opposite end of the income distribution, the 10th percentile income limit is $17,100 in 2022 (see —), $16,890 in 2021, $17,650 in 2020, and $17,000 in 2000. Ten percent of households make less than this level.

The Census Bureau also report household income based on the race or ethnicity of the householder. Household income varies substantially by race, in the US, and the racial income gap has been persistent, over time.

Real Median Household Income
thousands of 2022 US dollars



Source: Census Bureau

Black median household income is $52,860 in 2022, compared to an inflation-adjusted equivalent of $52,080 in 2021 (see —). Non-Hispanic white median household income is $81,060 in 2022 and $84,110 in 2021 (see —). Hispanic (any race) median household income is $62,800 in 2022 and $62,520 in 2021 (see —). Asian median household income is $108,700 in 2022 and $109,400 in 2021 (see —).

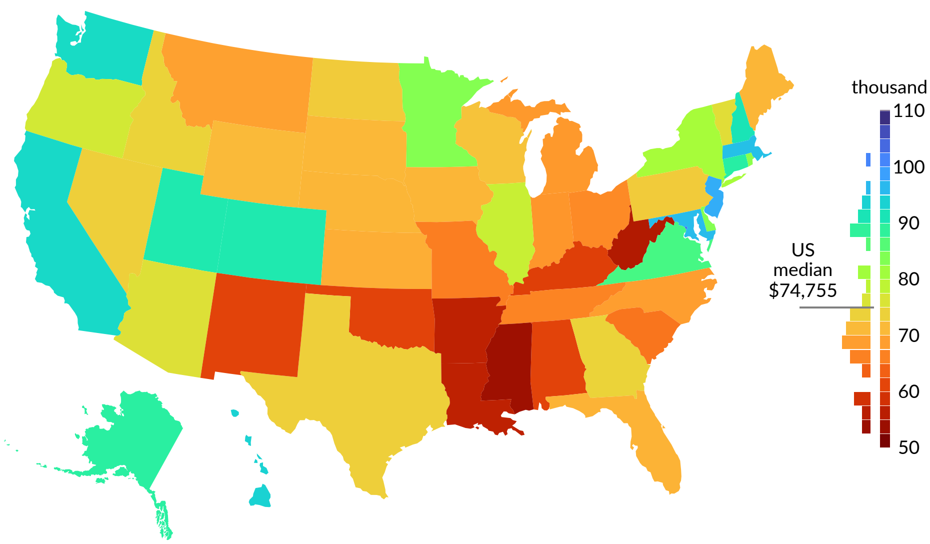
Two values are shown for 2013 and 2017 to mark revisions to the survey design (2013) and the processing of survey data (2017). These data are not perfectly comparable over time.

Lastly, the Census Bureau report median household income by state, calculated using the American Community Survey. In 2022, the median US household income, using this measure, is $74,755. In the same year, the median income in 18 states and the District of Columbia is above the national median, and the median income in 32 states is below the national median.

In 2022, the District of Columbia tops the list, with a median household income of $101,027. New Jersey has the second highest income ($96,346), followed by Maryland ($94,991). Other high-income states include Massachusetts ($94,488), Hawaii ($92,458), California ($91,551), Washington ($91,306), New Hampshire ($89,992), Colorado ($89,302), and Utah ($89,168).

The state with the lowest 2022 median household income is Mississippi ($52,719), followed by West Virginia ($54,329), Louisiana ($55,416), Arkansas ($55,432), Kentucky ($59,341), and Oklahoma ($59,673). Median household income in Puerto Rico is $24,112.

Household Income, 2022
median household income by state, 2022 US dollars



Source: Census Bureau, American Community Survey

Household Spending and Saving

The preceding subsection focused on household income, whereas this section addresses household expenditures. Consumer spending encompasses household outlays on goods and services, including government-provided benefits like Medicare and Medicaid, and imputed services such as the assumed rental value of owner-occupied housing.

Over the last three decades, the expansion of consumer spending has been a primary driver 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. Some categories of spending fell sharply during COVID-19 business closures and restrictions.

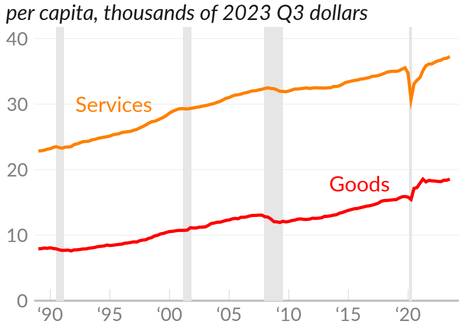
Personal saving occurs when households have income in excess of their expenses. Savings are invested, often providing additional income, and are used for future expenses, such as costs incurred during retirement.

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.

Expenditures, by Type

per capita, thousands of 2023 Q3 dollars

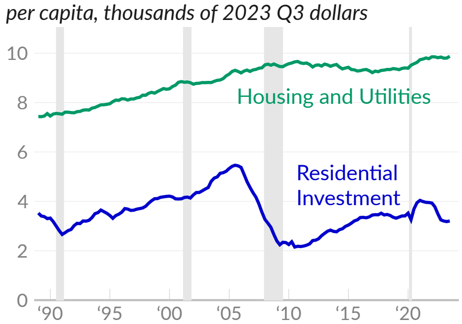


Source: Bureau of Economic Analysis

Total consumer spending is $18.7 trillion in 2023 Q3, compared to a price-adjusted $18.6 trillion in 2023 Q2 and $17.0 trillion in 2019 Q4. On a per person basis, consumer spending is $55,840 in 2023 Q3, of which $18,569 are spent on goods (see —) and $37,270 on services (see —). In the fourth quarter of 2019, before the pandemic, consumer spending on goods was $15,909 per person, and spending on services was $35,542 per person, after adjusting for inflation.

Shelter Costs

per capita, thousands of 2023 Q3 dollars



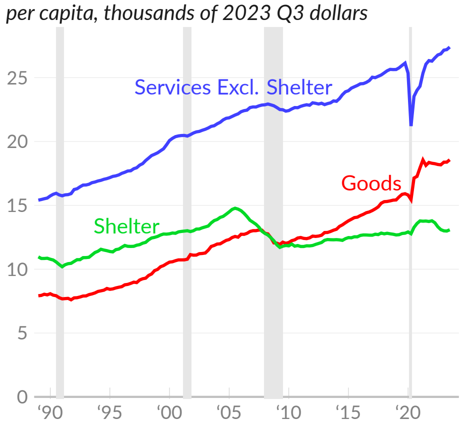
Source: Bureau of Economic Analysis

Within consumer spending on services, housing and utilities spending totals $9,877 on an annualized and per person basis in 2023 Q3 (see —) and $9,405 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 2023 Q3, residential investment totals $3,208 per person (see —), compared to $3,413 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.

Expenditures, by Type

per capita, thousands of 2023 Q3 dollars



Source: Bureau of Economic Analysis

Consumer spending on services other than housing and utilities totals $27,394 per person, on an annualized basis, in 2023 Q3 (see —), compared to $27,192 in 2023 Q2, and $26,137 in 2019 Q4. Spending on non-housing services has increased 4.8 percent since 2019 Q4.

Shelter costs, which combine housing, utilities, and residential fixed investment, are $13,084 per person in 2023 Q3 (see —), $12,986 in 2023 Q2, and $12,818 in 2019 Q4. Shelter spending peaked at $14,773 per person in the third quarter of 2005, during the housing bubble.

Expenditures, by Type

per capita, seasonally-adjusted annualized rate, 2023 Q3 dollars

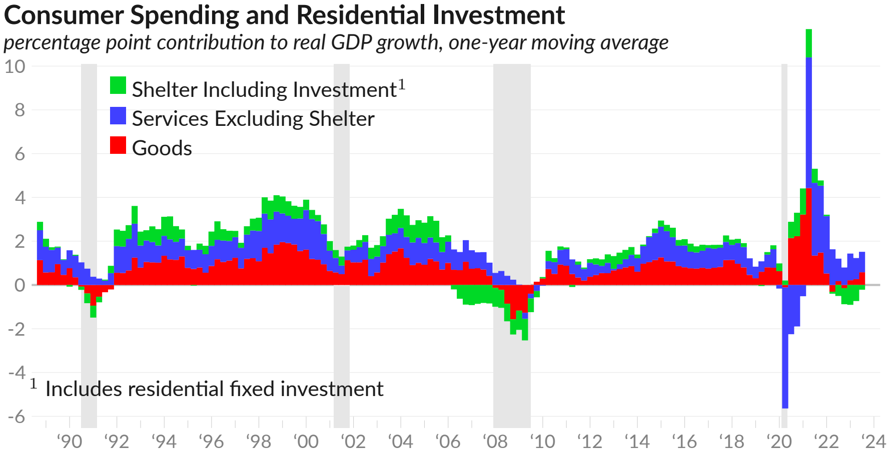
	2023 Q3	2023 Q2	2022 Q3	2019 Q4	2000 Q1	1989 Q1
Consumer Spending	$55,840	55,376	54,796	51,452	38,855	30,357
— Goods	18,569	18,379	18,199	15,909	10,553	7,918
Motor Vehicles & Parts	2,293	2,289	2,170	2,128	1,781	1,340
Furniture & HH Equipment	1,433	1,410	1,413	1,231	614	425
Recreational Durable Goods	2,050	1,980	1,907	1,266	262	76
Groceries	4,317	4,301	4,356	4,072	3,306	3,284
Clothes & Shoes	1,553	1,531	1,557	1,329	956	710
— Services Excluding Shelter	27,394	27,192	26,776	26,137	20,076	15,405
Health Care Services	8,979	8,924	8,559	8,374	5,516	4,994
Transportation	1,811	1,801	1,816	1,820	1,649	1,145
Recreational	2,149	2,145	2,080	2,137	1,645	1,174
Food & Accommodations	4,092	4,043	4,017	3,840	2,963	2,721
Financial & Insurance	4,080	4,026	3,981	4,073	4,190	2,483
— Shelter Including Investment	13,084	12,986	13,317	12,818	12,771	10,965
Housing Services & Utilities	9,877	9,805	9,819	9,405	8,559	7,439
Residential Fixed Investment	3,208	3,182	3,498	3,413	4,212	3,526

Source: Bureau of Economic Analysis

Next, we examine the effect on GDP growth from 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. These categories contributed 2.7 percentage points to GDP growth in 2023 Q3 and contributed 0.6 percentage point in 2023 Q2, compared to an addition of 1.7 percentage points in 2019 Q4, before the pandemic.

Consumer Spending and Residential Investment

percentage point contribution to real GDP growth, one-year moving average



Source: Bureau of Economic Analysis

In the third quarter of 2023, household spending on goods contributed 1.1 percentage points to GDP growth, household spending on services other than housing and utilities added 1.2 percentage points, and shelter spending and investment contributed 0.6 percentage point.

Consumer Spending and Residential Investment

percentage point contribution to real GDP growth

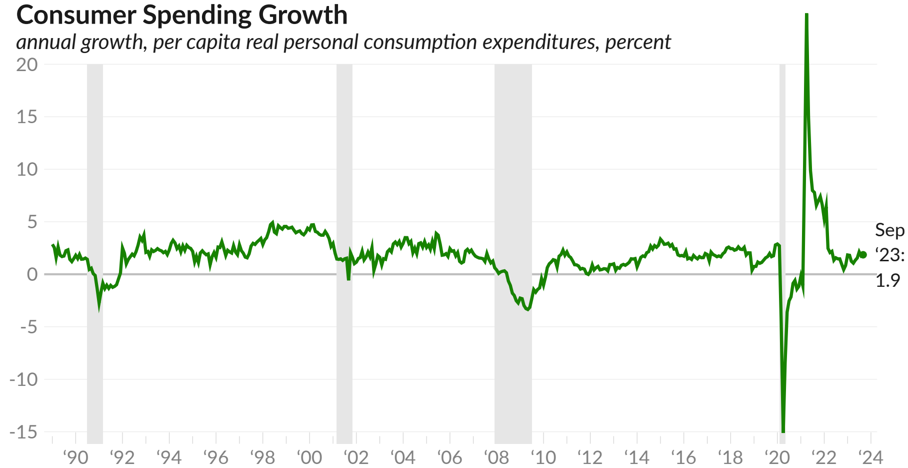
	2023 Q3	'23 Q2	'23 Q1	'22 Q3	*moving averages* 1-year	10-year	30-year
Consumer Spending	2.69	0.55	2.54	1.05	1.64	1.92	1.86
Goods	1.08	0.11	1.14	-0.18	0.58	0.95	0.85
Motor Vehicles & Parts	0.04	-0.27	0.80	-0.10	0.17	0.11	0.09
Furniture & HH Equipment	0.12	0.00	0.03	-0.01	0.03	0.10	0.09
Recreational Durable Goods	0.37	0.27	0.23	0.18	0.20	0.23	0.24
Groceries	0.11	0.05	-0.17	-0.24	-0.02	0.14	0.10
Clothes & Shoes	0.12	-0.14	0.02	0.03	0.00	0.08	0.08
Services Excluding Shelter	1.20	0.36	1.57	1.32	0.94	0.84	0.81
Health Care Services	0.33	0.27	1.04	0.51	0.58	0.36	0.29
Transportation	0.06	0.08	-0.03	0.00	0.01	0.05	0.06
Recreational	0.04	0.04	0.19	0.01	0.10	0.06	0.06
Food & Accommodations	0.27	-0.05	0.15	0.23	0.12	0.15	0.10
Financial & Insurance	0.29	0.21	0.08	0.13	0.14	0.02	0.10
Shelter Including Investment	0.57	-0.01	-0.39	-1.50	-0.22	0.19	0.23
Housing Services & Utilities	0.42	0.08	-0.17	-0.09	0.13	0.12	0.20
Residential Fixed Investment	0.15	-0.09	-0.22	-1.41	-0.35	0.06	0.03

Source: Bureau of Economic Analysis

Consumer spending is also reported on a monthly basis. In September 2023, consumer spending totals $56,166 per capita, on an annualized basis. Inflation- and population-adjusted consumer spending increased 1.9 percent over the year ending September 2023 (see —), slightly above the previous year rate (an increase of 1.5 percent over the year ending September 2022).

Consumer Spending Growth

annual growth, per capita real personal consumption expenditures, percent



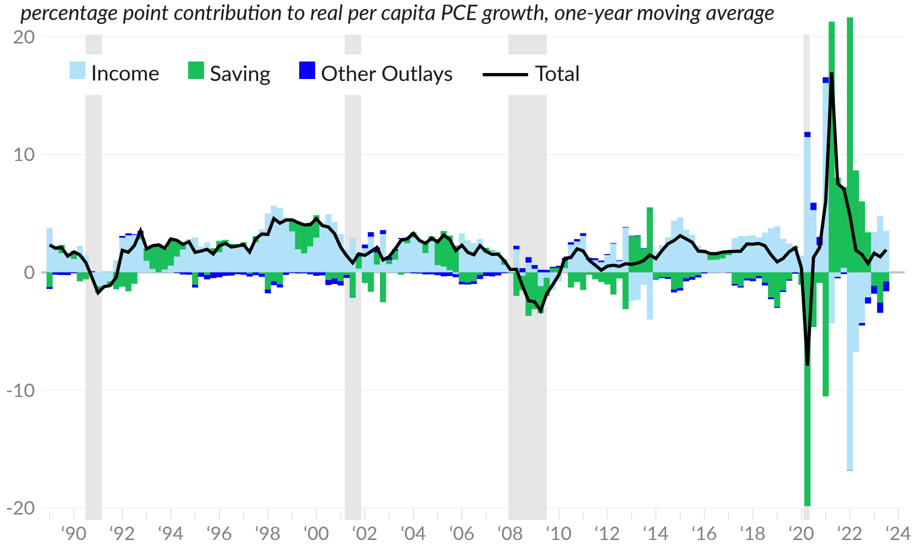
Source: Bureau of Economic Analysis

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 1.9 percent over the four quarters ending 2023 Q3. Changes to disposable income added 3.5 percentage points, increased saving subtracted 0.8 percentage point, and increases in other outlays subtracted 0.8 percentage point. During 2019, real per capita consumer spending increased at an average rate of 1.5 percent. Increased income contributed 2.8 percentage points, and a slight increase in saving subtracted 1.2 percentage points.

Contributions to Consumer Spending

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



Source: Bureau of Economic Analysis

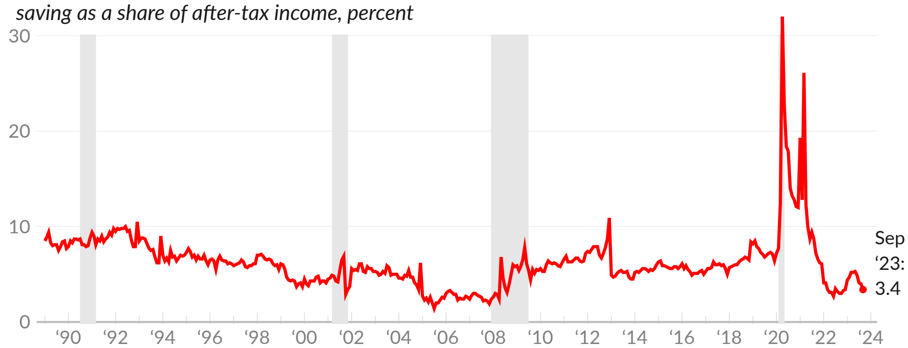
Personal Saving

The after-tax income that people do not spend is considered **personal saving**, from an economic accounting perspective. Peoples' savings are invested through the financial system and become the current fixed investment or consumption activities of other groups in the economy. Savers generally receive a return from this investment.

In September 2023, the Bureau of Economic Analysis report a personal saving rate of 3.4 percent (see —). The personal saving rate decreased by a total of 4.3 percentage points since February 2020.

Personal Saving Rate

saving as a share of after-tax income, percent



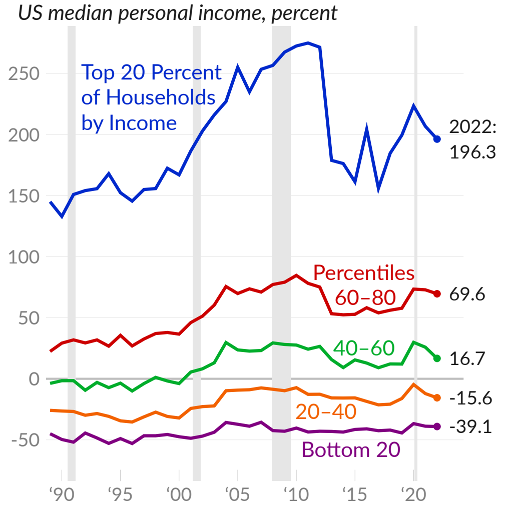
Source: Bureau of Economic Analysis

Distribution of Saving

With such a wide distribution of after-tax income, **saving rates vary massively between households**. Some households dissave and others save more than two typical incomes. Saving by income quintile is calculated using the Consumer Expenditure Surveys (CE) as after-tax income minus spending (other than spending on pensions). The following chart shows the average saving of each group divided by the US median personal income, thus reporting saving, or dissaving, in terms of a typical annual US income.

Saving Rate by Income Quintile

income quintile average saving, as share of US median personal income, percent



Source: Author's Calculations from CE

The 20 percent of households with the least income dissave the equivalent of 39.1 percent of the US median personal income in 2022 (see —). This group includes people going into debt and retirees dissaving. In the same period, the top 20 percent of households save the equivalent of 196.3 percent of the median income (see —).

The middle fifth of households by income, percentiles 40–60, saved the equivalent of 16.7 percent of the median income (see —). The fifth of households below the middle group, in percentiles 20–40, dissaved the equivalent of 15.6 percent of a median income in 2022 (see —).

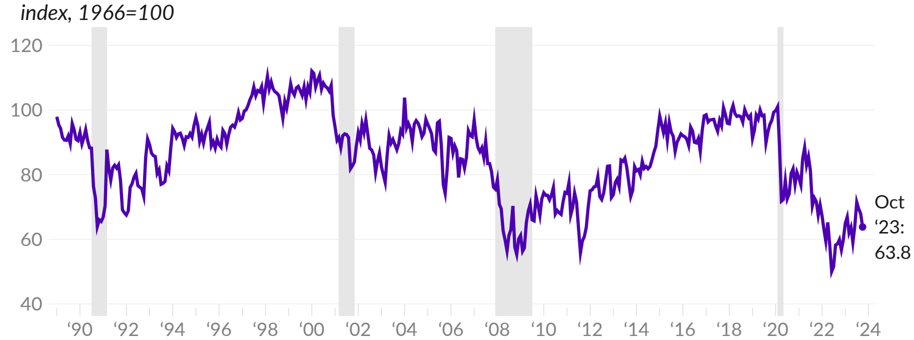
Consumer Sentiment

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 October 2023, the latest value of the consumer sentiment index is 63.8, following 67.9 in September 2023, and compared to 59.9 one year prior, in October 2022. As a pre-COVID baseline, the index average value was 97.3 during the year ending February 2020; the consumer sentiment index is currently 34.4 percent below this level.

Consumer Sentiment

index, 1966=100



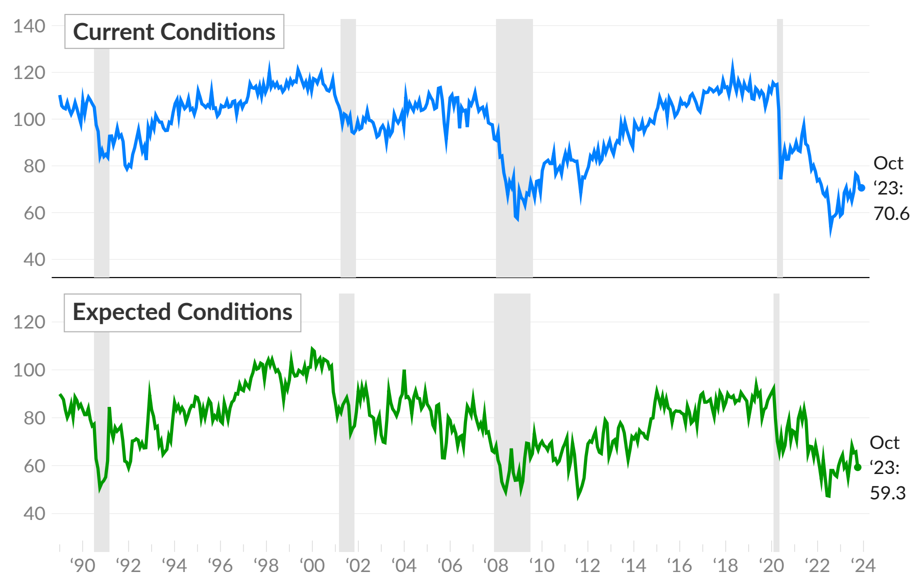
Source: University of Michigan

The consumer sentiment index combines views on current and future economic conditions. In October 2023, the index tracking views on current economic conditions was 70.6, compared to 71.1 in September 2023, and 110.8 in 2019 (see —).

In October 2023, the index tracking consumer expectations for future economic conditions was 59.3, compared to 65.8 in September 2023, and 86.5 in 2019 (see —).

Consumer Sentiment Index Components

index, 1966=100



Source: University of Michigan

Household Balance Sheets

The vast majority of US wealth is found on private household balance sheets. Households own residential real estate and consumer durable goods, but also own equity in businesses, directly and indirectly, and hold financial claims on businesses and on the public sector. This subsection discusses household debt, assets, and net worth.

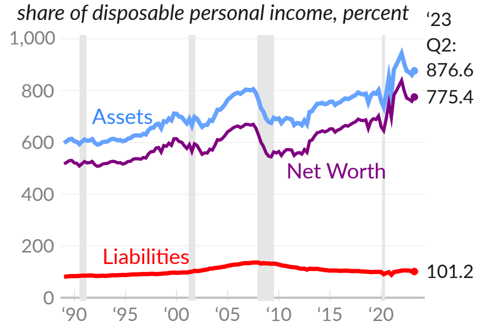
In the US financial accounts, the combined household and nonprofit sectors hold a total of $174.4 trillion in assets and $20.1 trillion in liabilities, resulting in a net worth of $154.3 trillion, as of 2023 Q2.

Household balance sheets have grown relative to income. In 2023 Q2, assets are equivalent to 876.6 percent of disposable personal income (DPI), compared to 607.0 percent in 1989 (see —). Household liabilities are currently 101.2 percent of DPI, compared to 82.2 percent in 1989 (see —).

Household net worth is equivalent to 775.4 percent of DPI in 2023 Q2, 691.0 percent in 2019, and 524.8 percent in 1989 (see —).

Household & Nonprofit Balance Sheet

share of disposable personal income, percent



Source: Federal Reserve

Liabilities

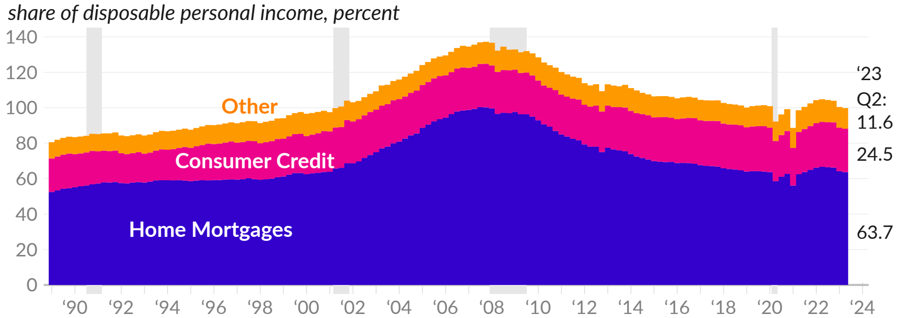
Household liabilities have a significant impact on consumer behavior and can signal potential economic risks. The primary form of household debt is home mortgages, but there has been a substantial increase in consumer debt as well. This subsection examines household debt using two data sources: the financial accounts, and the Federal Reserve Bank of New York's Consumer Credit Panel.

The liabilities of households and nonprofit institutions total $20.1 trillion in 2023 Q2, as reported by the Federal Reserve. Home mortgages are the main household liability, and total $12.8 trillion (see ■). Consumer credit liabilities include auto loans, credit card debt, student loans, and other personal loans, and total $4.9 trillion (see ■). The remaining liabilities are primarily attributable to nonprofits (see ■).

The ratio of household and nonprofit debt to disposable personal income has fallen to 99.8 percent in 2023 Q2 from the housing bubble peak of 137.2 percent in 2007. Over the past four years, household and nonprofit debt has increased 24.2 percent while disposable personal income increased 25.1 percent. As a result, the debt-to-income ratio has fallen by 1.1 percentage points.

Household and Nonprofit Debt by Type

share of disposable personal income, percent

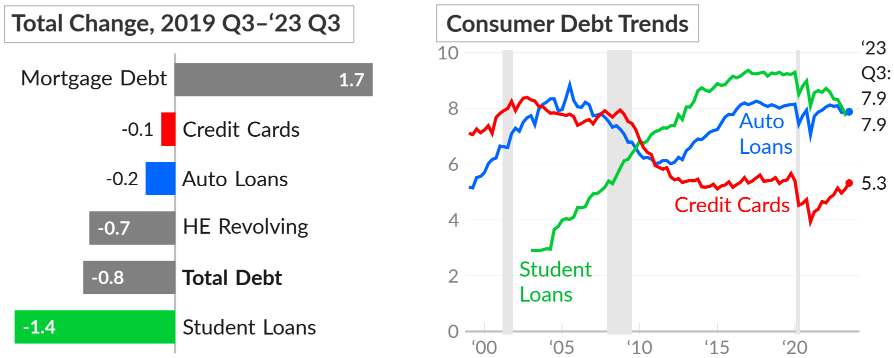


Source: Federal Reserve, Bureau of Economic Analysis

Federal Reserve Bank of New York (FRBNY) data show $17.3 trillion in household debt in the third quarter of 2023, which translates to 85.3 percent of disposable personal income. Over the past four years, household debt increased by $3.34 trillion, compared to a $4.06 trillion increase in disposable personal income. As a result, the ratio of debt to income decreased 0.8 percentage point over this period.

Household Debt

share of disposable personal income, percent



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

The FRBNY data show mortgage debt, including home equity lines of credit, totals $12.49 trillion in the third quarter of 2023, equivalent to 61.6 percent of disposable personal income. Student loans total $1,599 billion, or 7.9 percent of income; auto loans total $1,595 billion (7.9 percent of income); and credit card debt is $1,079 billion (5.3 percent of income).

Over the past four years, the ratio of total mortgage debt to disposable personal income grew by 0.9 percentage point, compared to a decrease of 1.4 percentage points for student loans, a decrease of 0.2 percentage point for auto loans, and a decrease of 0.1 percentage point for credit card debt.

Household Debt Outstanding

trillions of US dollars

			share of disposable personal income				
	2023 Q3	2023 Q2	'23 Q3	'23 Q2	'19 Q3	'13 Q1	'03 Q1
Financial Accounts Total	–	$20.14T	–	99.8	101.2	113.2	109.3
Mortgage Debt Total	–	$12.85T	–	63.7	64.2	77.4	74.9
Consumer Credit	–	$4.94T	–	24.5	25.4	23.8	24.0
Other	–	$2.34T	–	11.6	11.6	12.0	10.4
Consumer Credit Panel Total	$17.29T	$17.06T	85.3	84.6	86.1	91.7	87.3
Mortgage Debt Total	$12.49T	$12.35T	61.6	61.2	60.7	69.2	62.6
Mortgage	$12.14T	$12.01T	59.9	59.5	58.2	64.7	59.6
Home Equity Revolving	$0.35T	$0.34T	1.7	1.7	2.4	4.5	2.9
Consumer Credit	$4.80T	$4.71T	23.7	23.3	25.4	22.4	24.7
Auto Loan	$1.59T	$1.58T	7.9	7.8	8.1	6.5	7.7
Credit Card	$1.08T	$1.03T	5.3	5.1	5.4	5.4	8.3
Student Loan	$1.60T	$1.57T	7.9	7.8	9.2	8.0	2.9
Other	$0.53T	$0.53T	2.6	2.6	2.6	2.5	5.8

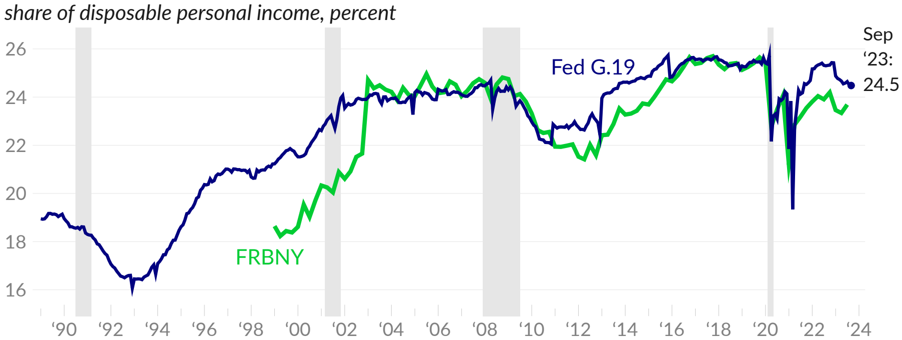
Source: Federal Reserve, Federal Reserve Bank of New York, Bureau of Economic Analysis
Financial Accounts include debt of nonprofit institutions and the Consumer Credit Panel does not include people without a social security number.

Consumer Credit

The Federal Reserve also report consumer credit on a monthly basis. In the monthly measure, consumer credit totals $4.98 trillion US dollars on a seasonally-adjusted and annualized basis in September 2023. Over the past year, consumer credit increased by 3.5 percent, while after-tax income increased by 7.1 percent. As a result, the ratio of consumer credit to disposable income decreased by a total of 0.8 percentage point. In September 2023, total consumer credit is equivalent to 24.5 percent of annualized September 2023 disposable income (see –).

The latest comparable figure from the FRBNY data discussed in the previous section, which covers 2023 Q3, shows consumer credit is equivalent to 23.7 percent of annual disposable personal income (see –). Over the past year, the ratio decreased by a total of 0.2 percentage point.

Consumer Credit
share of disposable personal income, percent



Source: Federal Reserve, FRBNY

Financial Obligations

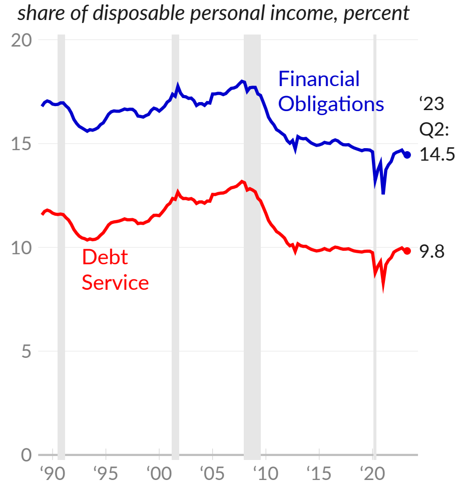
Payments to service debt, along with rent, auto lease payments, homeowner's insurance, and property tax are considered financial obligations. The Federal Reserve report financial obligations as a share of disposable personal income. The ratio of debt service payments and financial obligations to income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

In the 1990s, financial obligations comprise an average of 16.4 percent of income. This ratio peaked at 18.0 percent in 2007 Q4, during the housing bubble.

As of 2023 Q2, household **financial obligations** are 14.5 percent of income (see –), a decrease of 0.13 percentage point from the year prior. The financial obligations ratio fell by 0.23 percentage point since 2019.

In the latest quarter, the ratio of **debt service** payments to income is 9.8 percent (see –). The debt service ratio is virtually unchanged since 2019. In 2023 Q2, the ratio of mortage debt service to income is four percent, and the ratio of consumer credit debt service to income is 5.8 percent.

Financial Obligations and Debt Service Ratios
share of disposable personal income, percent



Source: Federal Reserve

Assets

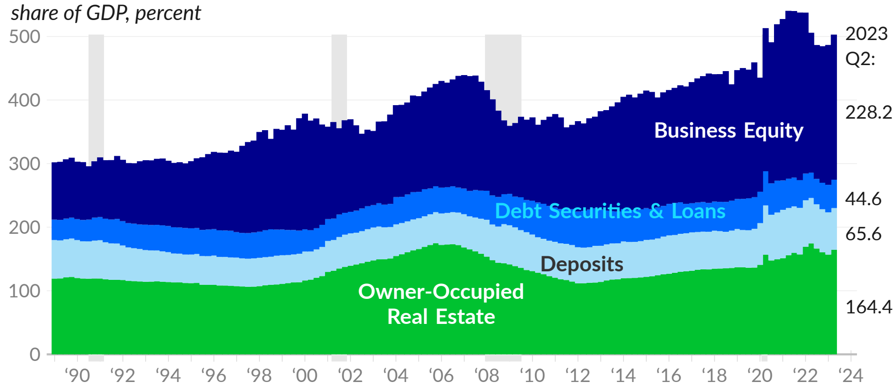
According to the US Financial Accounts produced by the Federal Reserve, the market value of **household and nonprofit assets** is $174.4 trillion in 2023 Q2, equivalent to 644 percent–or 6.44 years–of GDP. Of this, $57.5 trillion, or 33.0 percent of the total, are tangible (non-financial) assets and $116.9 trillion, or 67.0 percent, are financial assets.

Tangible assets include peoples' homes as well as consumer durable goods, such as cars, furniture, and appliances. Owner-occupied real estate is valued at $44.5 trillion in 2023 Q2, equivalent to 164 percent of GDP (see ■). The replacement value of consumer durable goods is $7.8 trillion, or 29 percent of GDP.

Financial assets include equity in businesses–corporate and non-corporate–with a market value of $61.8 trillion, or 228 percent of GDP (see ■), in 2023 Q2. Debt securities and loan assets total $12.1 trillion, or 45 percent of GDP (see ■). Cash and deposits, including money market accounts, total $17.8 trillion, or 66 percent of GDP (see ■). Other financial assets total $25.3 trillion.

Selected Household and Nonprofit Assets

share of GDP, percent

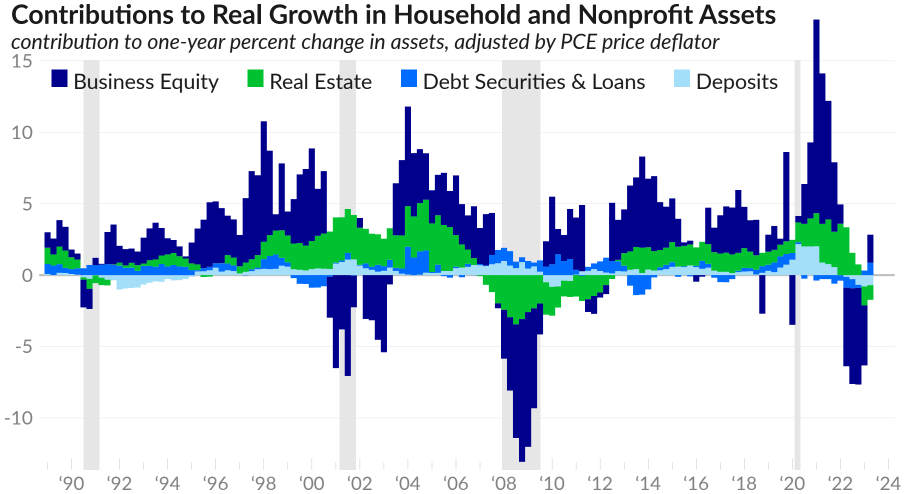


Source: Federal Reserve, Bureau of Economic Analysis

The value of household and nonprofit assets grew 0.9 percent over the year ending 2023 Q2. The low growth is the result of conflicting changes in subcategories. The overall effect is the result of an increase in the market value of business equity and the market value of debt and loan securities that is partially offset by a decrease in the value of owner-occupied real estate and money held as deposits.

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*		
	2023 Q2	2023 Q2	2022 Q2	One-year	Three-year	20-year
Total Assets	$174.4	644.5	651.7	0.9	3.7	3.4
Nonfinancial Assets	57.5	212.6	223.9	-3.1	6.5	2.6
Owner-Occupied Real Estate	44.5	164.4	174.5	-3.9	7.3	2.7
Consumer Durable Goods	7.8	29.0	29.3	0.7	5.4	1.7
Nonprofit Assets	5.2	19.3	20.1	-2.2	2.5	3.4
Financial Assets	116.9	431.9	427.9	3.0	2.5	3.9
Deposits, Incl. Money Market	17.8	65.6	71.5	-6.4	-0.1	3.4
Debt Securities & Loans	12.1	44.6	39.8	14.3	-0.8	3.2
Business Equity	61.8	228.2	220.0	5.8	6.1	5.2
Corporate Equities	44.7	165.2	153.4	9.8	6.2	6.0
Noncorporate Business Equity	17.1	63.0	66.6	-3.5	5.6	3.5

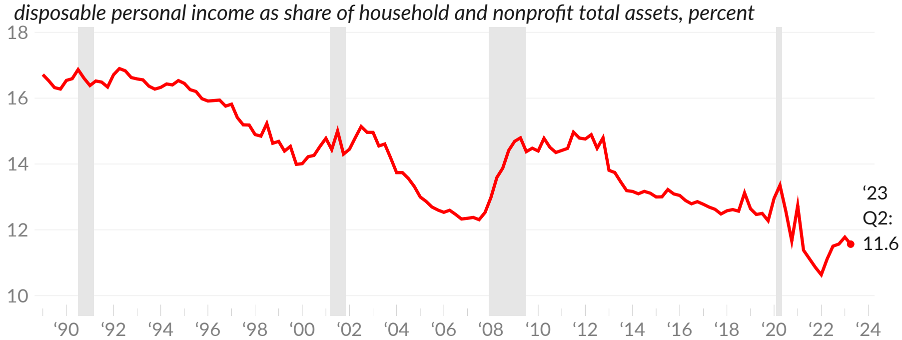
Source: Federal Reserve, Bureau of Economic Analysis

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. In 2023 Q2, disposable income is equivalent to 11.6 percent of the market value of US assets (see —), compared to an average of 16.0 percent during the 1990s.

Return on Household Assets

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



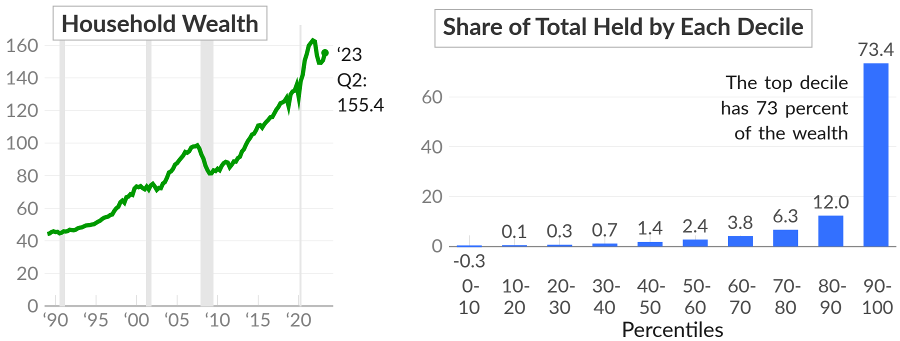
Source: Federal Reserve, Bureau of Economic Analysis

Wealth

In aggregate, US households are very wealthy. Household wealth totals $155.4 trillion in 2023 Q2 (see —), equivalent to $463,800 per capita. The vast majority of this wealth, however, is held by the wealthiest families. In the 2022 Survey of Consumer Finances, 73.4 percent of wealth is held by the wealthiest ten percent of families (see ■).

Household Wealth / Net Worth Summary

trillions of 2023 Q2 US dollars (left), and percent of US wealth held by each decile, 2022 (right)



Source: Federal Reserve, Survey of Consumer Finances

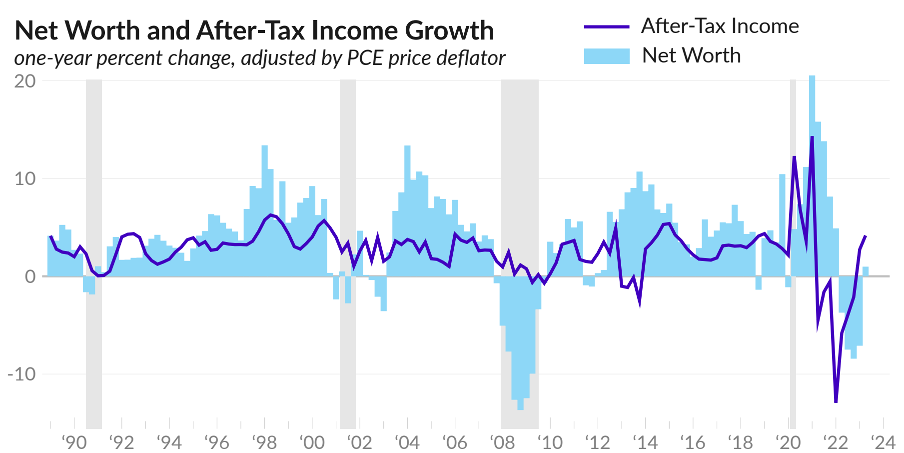
Growth Rate

Over the long run, 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 2023 Q2, household and nonprofit institution net worth was $154.3 trillion, equivalent to 7.8 years of disposable personal income; the result of total assets of $174.4 trillion and total liabilities of $20.1 trillion.

In 2023 Q2, inflation-adjusted net worth increased by one percent (see ■), and inflation-adjusted after-tax income increased by 4.2 percent (see —). Over the past four years, real net worth grew at an average rate of 4.6 percent, while real after-tax income grew at an average rate of 1.4 percent

Net Worth and After-Tax Income Growth

one-year percent change, adjusted by PCE price deflator



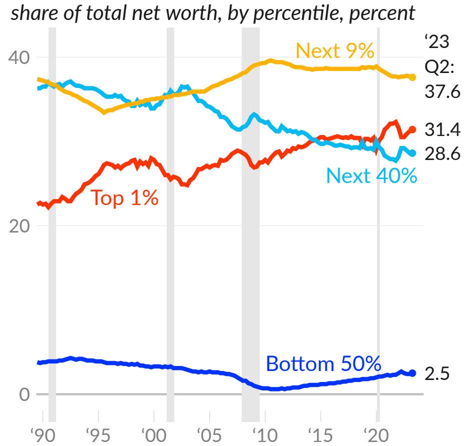
Source: Federal Reserve, Bureau of Economic Analysis

The Federal Reserve report net worth by percentile. The top one percent of households by wealth own 31.4 percent of US wealth, as of 2023 Q2 (see –), while the top 10 percent of households own 69.0 percent. The bottom half of households own 2.5 percent of US wealth (see –).

Since 1989, the wealth share of the top one percent increased 8.8 percentage points, while the share held by the bottom 50 percent decreased 1.2 percentage points. The wealth share of the 40 percent of households in wealth percentiles 50 through 90 decreased 7.7 percentage points since 1989.

Share of US Wealth

share of total net worth, by percentile, percent



Source: Federal Reserve

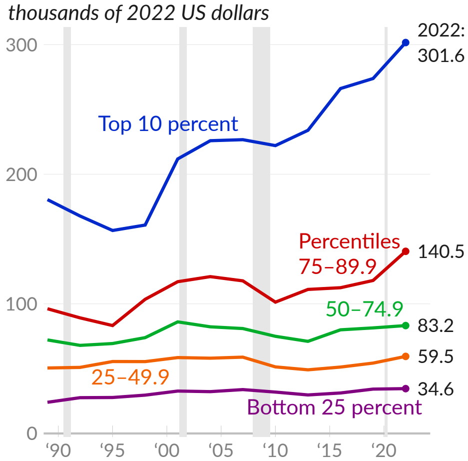
Wealth and Income

While wealth can be a source of income, wealth 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 $7.8 million and a median wealth of $3.8 million in 2022, have a typical annual income of $301,600 in 2022 and $180,400 in 1989, after adjusting for inflation. Income for the group increased $121,200, or 20.5 percent per year, over the 33-year period.

Pre-Tax Income by Wealth Percentile

median inflation-adjusted annual family income
thousands of 2022 US dollars



Source: Federal Reserve (SCF)

Families in the third wealth quartile (50th to 74.9th percentiles, mean wealth of $373,800 in 2022), have a typical income of $83,200 in 2022 and $72,200 in 1989 (see –), an increase of $11,100 (5.3 percent per year).

Second quartile (25th to 49.9th percentile, mean wealth of $98,800) family income increased $8,900 (6.1 percent per year) to $59,500 in 2022, from $50,500 in 1989 (see –).

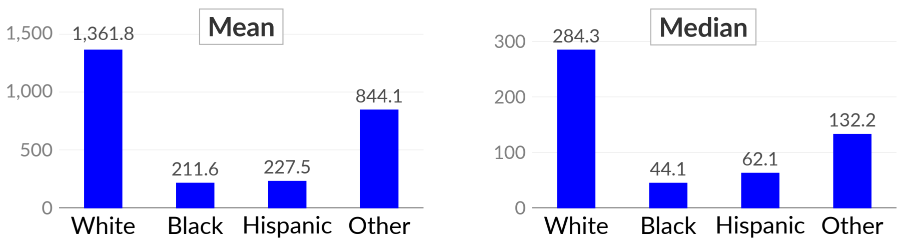
For the bottom quarter of families by wealth (see –), typical income increased $10,500 or 14.1 percent per year to $34,600, over the 33 years ending 2022. The bottom quarter of families have no wealth.

Wealth and Race

In the US, levels of wealth vary substantially by race and ethnicity. In 2022, white non-Hispanic families' average net worth was $1,361,800, compared to $211,600 for black non-Hispanic families, and $227,500 for Hispanic families of any race. Additionally, typical (median) family wealth is much lower than average (mean) family wealth, as the result of a concentration of wealth among the wealthiest families.

Racial Wealth Gap

net worth by race/ethnicity, thousands of US dollars, 2022

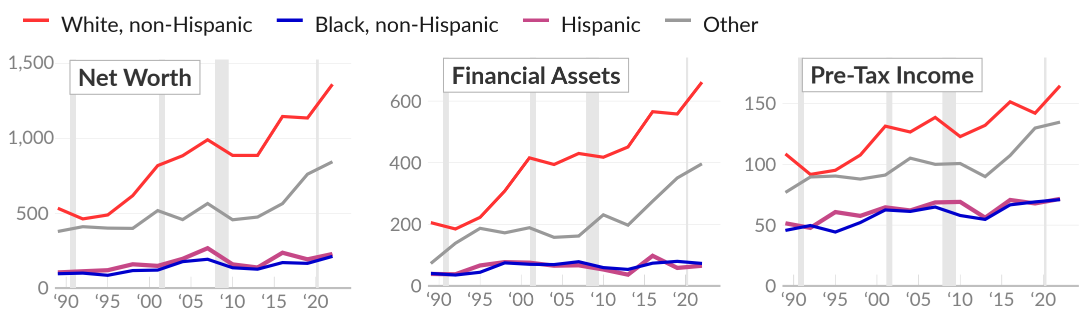


Source: Federal Reserve, Survey of Consumer Finances

White families have substantially more financial assets including stocks and are much more likely to receive inheritance and in vivo transfers. 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 2022 USD

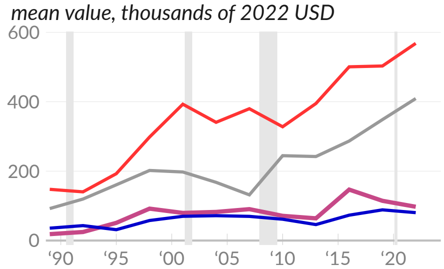


Source: Federal Reserve

In 2022, among the 284.3 percent of white families who own stocks, the average value of stock holdings is $568,136. 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 44.1 percent of black families own stocks, with average stock holdings of $80,400.

Stock Holdings

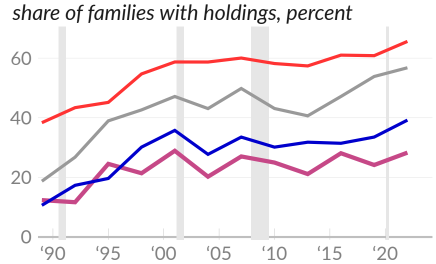
mean value, thousands of 2022 USD



Source: Federal Reserve

Stock Holdings

share of families with holdings, percent



Source: Federal Reserve

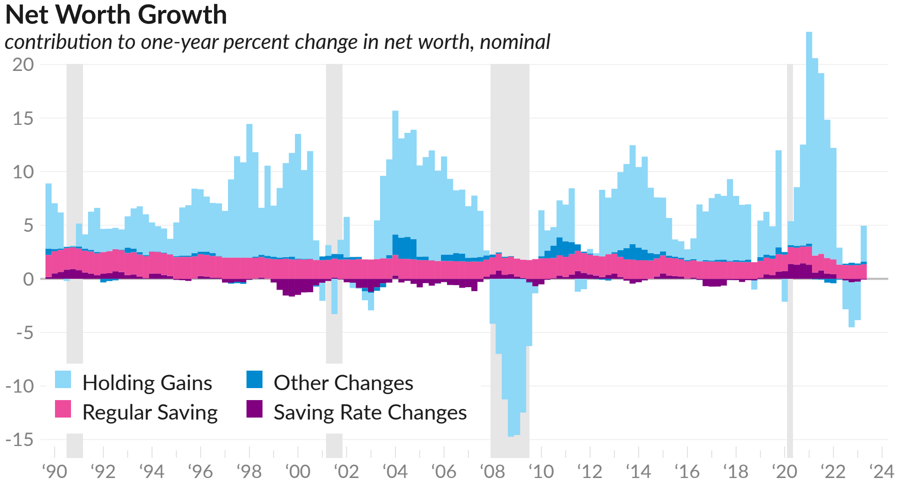
Changes in Wealth

Household wealth growth is largely determined by capital gains (see), but is also the result of new saving. The portion of aggregate household income that isn't consumed by the household sector becomes net investment in the economy and adds to household wealth. Since 1989, household net investment averages 10 percent of after-tax income.

In the following chart, income invested at the historical-average rate (see) is shown separately 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 second quarter of 2023, holding gains contributed 3.4 percentage points to the 4.9 percent change in household net worth. Income invested at the 1989-onward average rate of 10.3 percent would have contributed 1.4 percentage points, and cyclical activity in investment did not seem to play a role as household net investment was 9.8 percent of disposable person income in 2023 Q2. Other volume changes contributed 0.2 percentage point.

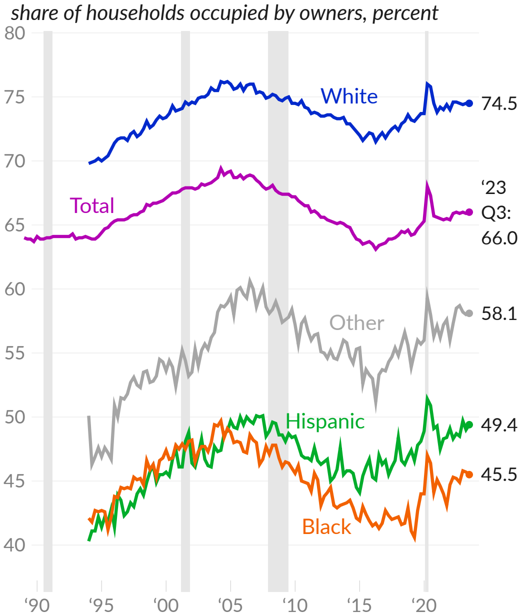
Over the past four years, net worth grew at an average rate of 8.2 percent. Holding gains contributed 6.1 percentage points to this total, on average; net investment of income contributed two percentage points; and other volume changes contributed 0.3 percentage point.

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 2023 Q3, the Census Bureau report a homeownership rate of 66.0 percent (see –). Over the past three years, the overall US homeownership rate decreased by a total of 1.3 percentage points.

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 (74.5 percent in 2023 Q3) 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. Black homeownership peaked at 49.7 percent in the second quarter of 2004 but fell to 40.6 percent in 2019 Q2. The 2023 Q3 rate is 45.5 percent (see –).

The 2023 Q3 rate for Hispanic households is 49.4 percent, slightly below the 50.1 percent rate in 2007 Q1 (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.

Homeowners' Equity

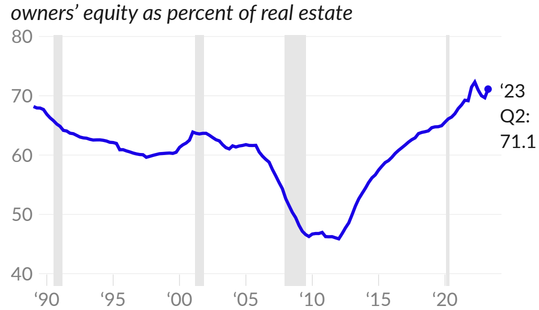
As seen during the collapse of the housing bubble, it is possible for a homeowner to have no equity in their home, for example if the market price of the home falls below the principal remaining on the mortgage. Owners' equity in their homes has increased substantially since the collapse of the housing bubble.

As of 2023 Q2, the Federal Reserve report **owners' equity** is 71.1 percent of residential real estate (see –). Over the past three years, the owners' equity share increased by a total of five percentage points.

Over the past year, the share decreased by a total of 1.2 percentage points. The current share is substantially 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 September 2023, a seasonally-adjusted annual rate of 1,471,000 new residential housing units were authorized by building permits (see —). Permits issued decreased by 70,000 (-4.5 percent) (annualized) over the previous month, decreased by 117,000 (-7.4 percent) over last September, and increased by 151,000 (11.4 percent) total over the past five years.

Residential Construction Permits

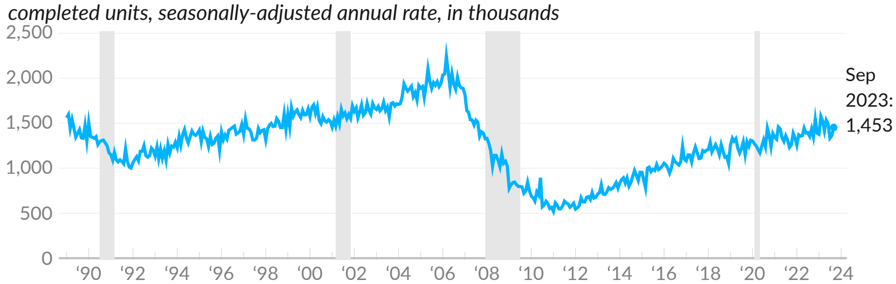
building permits issued, seasonally-adjusted annual rate, in thousands

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 September 2023, a seasonally-adjusted annual rate of 1,453,000 new residential units were completed (see —), compared to 1,363,000 in August and 1,334,000 in September 2022.

Residential Construction Completions

completed units, seasonally-adjusted annual rate, in thousands

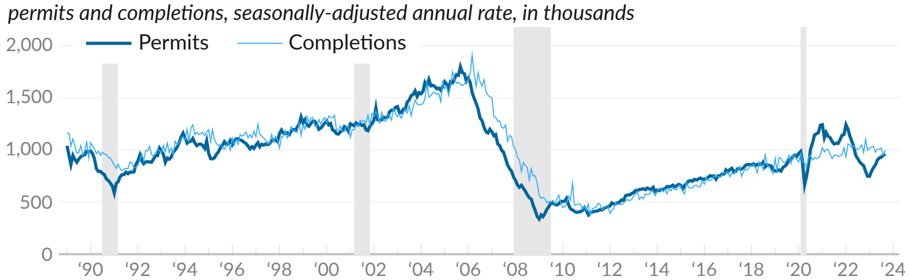


Source: Census Bureau

In September 2023, a seasonally-adjusted annual rate of 963,000 new single-family residential units were permitted and 998,000 were completed.

Single-Family Units

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

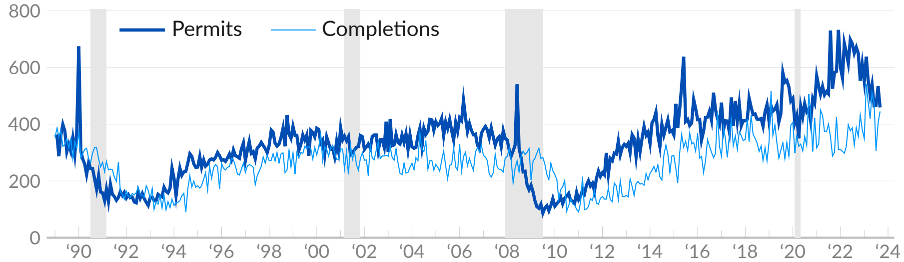


Source: Census Bureau

In September 2023, a seasonally-adjusted annual rate of 459,000 new multi-family residential units were permitted and 445,000 were completed.

Multi-Family Units

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



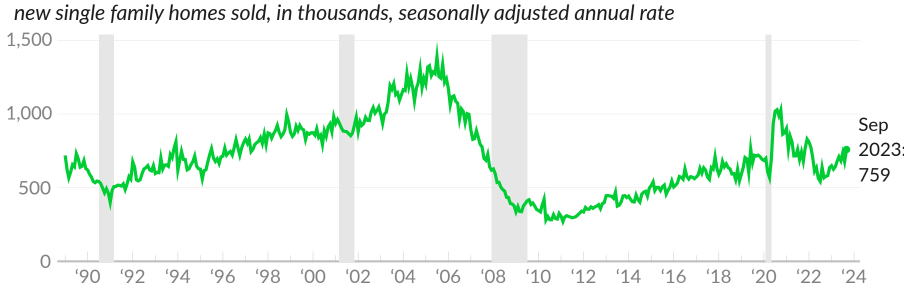
Source: Census Bureau

New Residential Sales

In September 2023, seasonally-adjusted **annualized sales** of new single-family homes total 759,000 (see —), as reported by the Census Bureau. Over the past year, new home sales increased 0.3 percent. Pre-COVID, in February 2020, the annualized rate of single family new home sales was 699,000. Since February 2020, new home sales have increased 8.6 percent.

New Home Sales

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

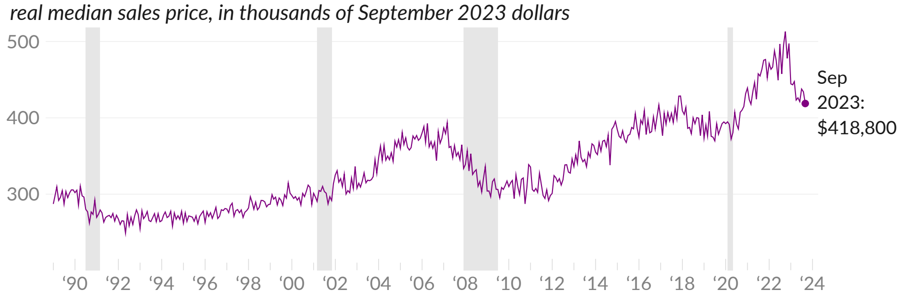


Source: Census Bureau

The Census Bureau also tracks the **sales price** of new single-family homes. In September 2023, the median new home sold for $418,800 (see —), and the average sales price was $503,900. The inflation-adjusted median sales price has decreased 15.5 percent over the past year, and increased 10.7 percent over the past four years. Since 1989, the inflation-adjusted median new home sales price increased 45.8 percent.

New Home Sales Price

real median sales price, in thousands of September 2023 dollars

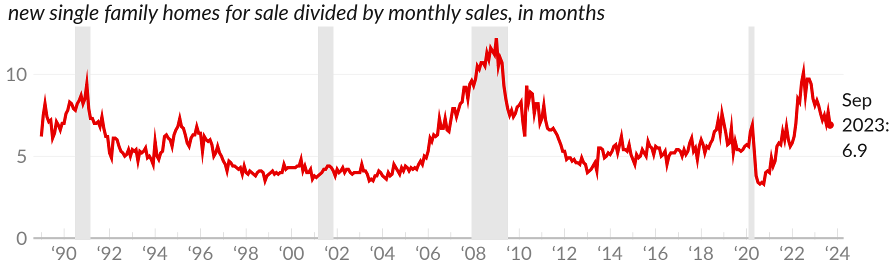


Source: Census Bureau, Bureau of Labor Statistics

The **inventory** of new homes for sale affects housing prices. The Census Bureau report a seasonally-adjusted total of 461,000 new houses for sale in August 2022, an increase of 87,000 since August 2021. At the current pace of new home sales, it would take 6.9 months to exhaust the supply of unsold homes (see —). Current inventory levels are substantially below the year-prior supply of 9.7 months and slightly above the long-term average supply of 5.9 months.

Months Supply

new single family homes for sale divided by monthly sales, in months

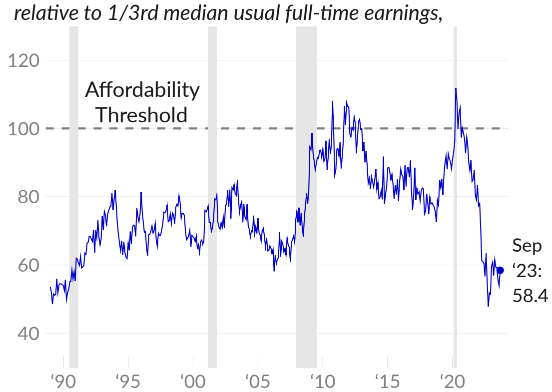


Source: Census Bureau

The monthly payment associated with new single-family home sales typically reflects both the sales price and the current mortgage interest rate. The monthly principal and interest payment for a 30-year fixed-rate mortgage on the median new home sold is $2,558, as of September 2023, compared to an average of $2,577 over the past three months, and an average of $1,361 in 2019.

New House Affordability

index, new house monthly principal and interest payment relative to 1/3rd median usual full-time earnings,



Source: Author's Calculations

The **affordability of a new house** depends on both the monthly payment and people's ability to make the payment, usually determined by their income. New homes are affordable when the monthly payment is a third of income, or less.

The new house affordability index (see —) compares the monthly payment with one-third of the median full-time wage. The median full-time wage is sufficient to afford the median new home when index values are 100 or greater.

New House Affordability

index components

	Oct '23	Sep '23	Aug '23	Jul '23	Sep '22	2019
Affordability Index	–	58.4	54.0	55.7	54.9	87.6
Monthly Payment ($)	–	2,558	2,612	2,562	2,609	1,361
Median Home Price ($)	–	418,800	433,100	434,800	477,700	319,267
Mortgage Rate (%)	7.62	7.20	7.07	6.84	6.11	3.93
Median Monthly Earnings ($)	4,926	4,979	4,694	4,747	4,765	3,964

Source: Author's Calculations, Census Bureau, Freddie Mac, CPS

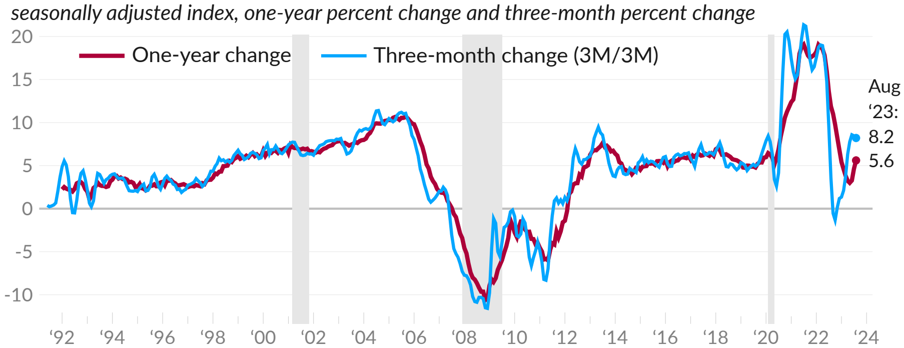
See also the more-comprehensive Home Ownership Affordability Monitor from the Federal Reserve Bank of Atlanta.

Housing Prices

The Federal Housing Finance Agency (FHFA) **house price index** measures changes in the price of the same home. The seasonally-adjusted index increased 5.6 percent over the year ending August 2023 (see —). The average of the latest three months of data compared to the previous three months shows an annualized growth rate of 8.2 percent (see —). In July 2023, the one-year growth rate was 4.6 percent and the three-month growth rate was 8.5 percent. Home prices in the Middle Atlantic region, which includes New Jersey, New York, and Pennsylvania, increased 8.6 percent in August 2023, the highest one-year growth rate.

House Price Index

seasonally adjusted index, one-year percent change and three-month percent change



Source: Federal Housing Finance Agency

House Price Growth

seasonally adjusted, one-year percent change

	Aug '23	Jul '23	Jun '23	May '23	Aug '22	Aug '21	Aug '20	'03–'05 Average	'09–'12 Average
Middle Atlantic	8.6	7.1	4.9	5.1	10.7	15.4	8.1	11.3	-2.3
New England	8.4	8.3	6.9	3.7	11.8	18.5	8.3	10.3	-2.2
East North Central	8.3	7.0	5.8	5.7	10.6	15.2	8.1	4.3	-2.4
West North Central	6.5	5.5	5.0	4.3	10.2	14.5	7.9	5.4	-1.2
South Atlantic	6.0	6.1	4.2	4.2	16.0	20.6	8.9	11.3	-3.7
United States	5.6	4.6	3.3	3.0	11.9	18.4	8.4	9.2	-2.5
East South Central	5.2	4.8	4.1	4.8	14.0	18.3	9.1	5.1	-1.6
West South Central	2.9	2.5	1.6	2.6	13.4	17.0	7.0	4.3	0.3
Pacific	2.8	0.7	-0.4	-1.5	7.6	21.1	8.2	18.3	-3.9
Mountain	2.4	0.2	-1.4	-2.8	10.5	25.3	10.2	11.0	-4.2

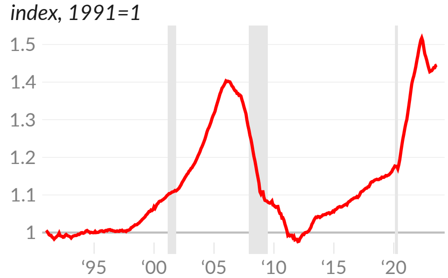
Source: Federal Housing Finance Agency

The purchase price of housing should move with the rental price. 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 August 2023, housing prices are 44.6 percent above the rental equivalent (see —).

Housing Price to Rent Ratio

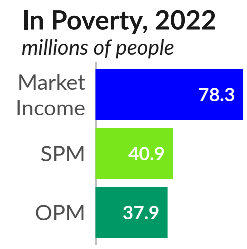
index, 1991=1



Source: FHFA, BLS

Poverty

In 2022, market income is below the poverty line for about one quarter (23.7 percent) of US households. Government programs reduce the poverty rate to 12.4 percent, pulling 37.4 million people out of poverty in 2022. This subsection discusses poverty definitions, who is in poverty, and which programs reduce poverty.



Source: CPS ASEC

Definitions

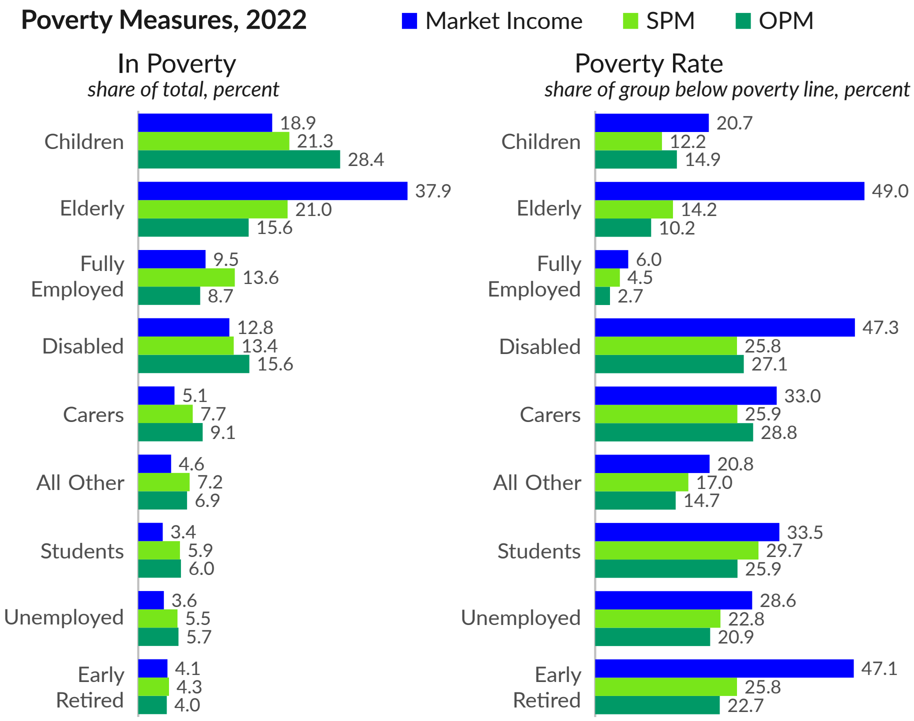
For purposes of program eligibility and economic statistics, poverty is defined by having income below the poverty threshold. The Official Poverty Measure (OPM) defines poverty as cash income below three times a price-adjusted 1963 minimal food budget. Under this definition, 37.9 million people are in poverty in the US in 2022.

The more-comprehensive Supplemental Poverty Measure (SPM) is based on food, shelter, clothing, and utilities costs and additionally captures program benefits and taxes, along with other adjustments. The SPM poverty level in 2022 is 41.0 million people.

Who is in poverty?

While some fully-employed people are in poverty, **the vast majority of poor people are either children, elderly, disabled, caregivers, or students**. Groups that are work-limited in some way cannot rely on labor markets and must rely on others and government programs to avoid poverty. These groups make up roughly 50 percent of the population but roughly 80 percent of those in poverty before taxes and transfers.

While poverty is far more likely for some groups than others, government programs also reduce market poverty for some groups more than others. These trends are summarized in the following charts, which show the breakdown of poverty by group (left) and the poverty rates for each group (right).



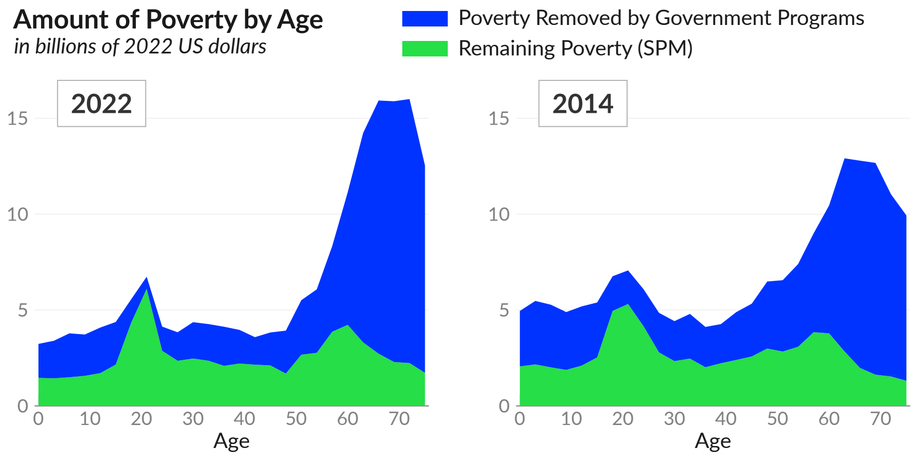
Source: CPS ASEC, Author's Replication of Bruenig, see
OPM = Official Poverty Measure; SPM = Supplemental Poverty Measure. See text for description.

Poverty by Age

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 2022, students, caregivers, and the disabled had the highest poverty rates. The poverty rate is low for the fully-employed.

By age, market income (see ■) leaves older people particularly vulnerable to poverty, as they are not as likely to have labor income. After government social benefits (see ■), the elderly have lower rates of poverty than other age groups. Young people and those just below social security and medicare age (late 50s and early 60s) remain particularly vulnerable to poverty, relative to other ages.

Amount of Poverty by Age
in billions of 2022 US dollars

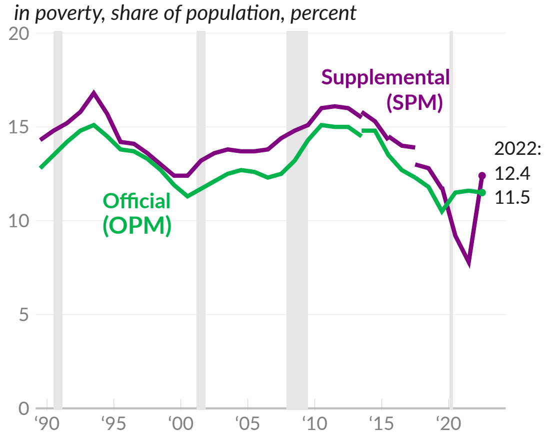


Source: CPS ASEC, 2014 adjusted for inflation with CPI-U-RS

Poverty Rates

Since 1989, the official poverty measure (see —) shows between 10.5 percent and 15.1 percent of people in poverty each year, with an average poverty rate of 12.9 percent during the period. Poverty rates were above-average after the recession of 1991 and after the great recession, and below-average around 2000.

Poverty Rates
in poverty, share of population, percent



Source: Census Bureau

In 2019, both the official US poverty rate and the more-comprehensive supplemental rate (SPM, see —) reached new lows of 10.5 percent and 11.8 percent, respectively.

In 2021, the official rate increased to 11.6 percent, while the SPM fell further, to a new low of 7.8 percent. The official poverty rate does not include stimulus checks, housing assistance, or tax credits, while the supplemental rate does. In 2022, the SPM bounced back to 12.4 percent, as stimulus expired.

Effect of Government Programs

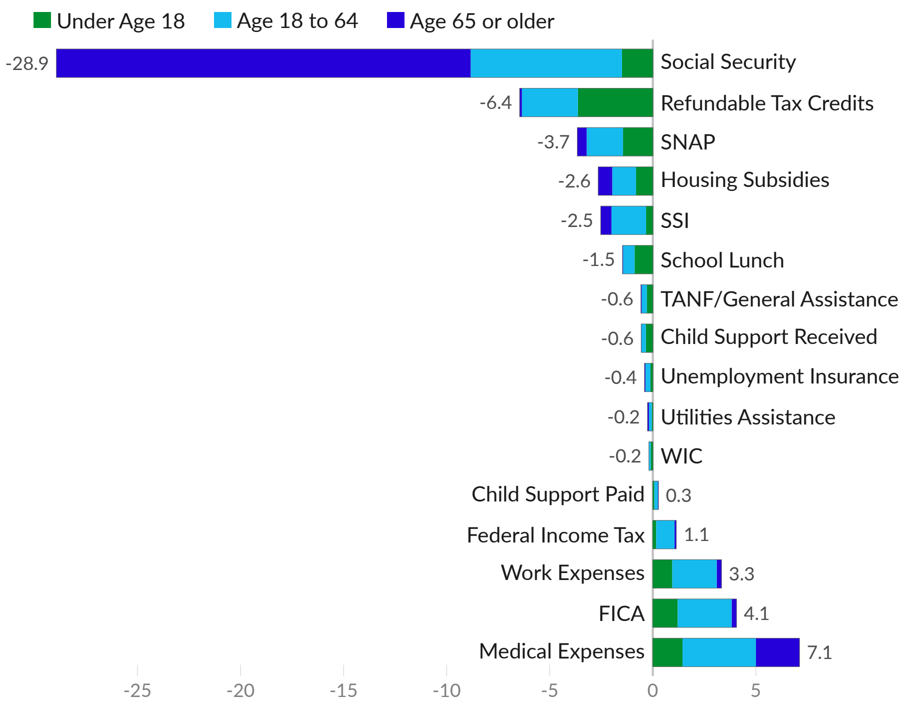
The Census Bureau report **the number of people taken out of poverty by various programs**, along with how many people are put in poverty by various expenses. In 2022, Social Security payments lift income above the poverty line for 28.9 million people, by far the most effective program for reducing poverty.

Refundable tax credits, which include the refundable portion of the child tax credit and the earned income tax credit, remove 6.4 million people from poverty, including 3.6 million children. Supplemental nutrition assistance (SNAP) removes 3.7 million people from poverty, while school lunch programs remove 1.5 million. Public assistance and welfare programs take 566,000 people out of poverty.

Several elements add to the number of people in poverty. Medical expenses are the most significant, and push 7.1 million people into poverty line. Federal payroll taxes for Social Security and Medicare put 4.1 million people in poverty. Work expenses additionally put 3.3 million people in poverty.

Effect of Individual Elements on Poverty Headcount

individual element effect on number of people in poverty, in millions of people, 2022



Refundable tax credits include the refundable portion of the child tax credit and the earned income tax credit. SNAP is the Supplemental Nutrition Assistance Program, SSI is Supplemental Security Income, TANF is Temporary Assistance for Needy Families, WIC is special supplemental nutrition assistance for women, infants, and children, and FICA is Federal Insurance Contributions Act payroll taxes.

Source: Author's Replication of Census Bureau Report

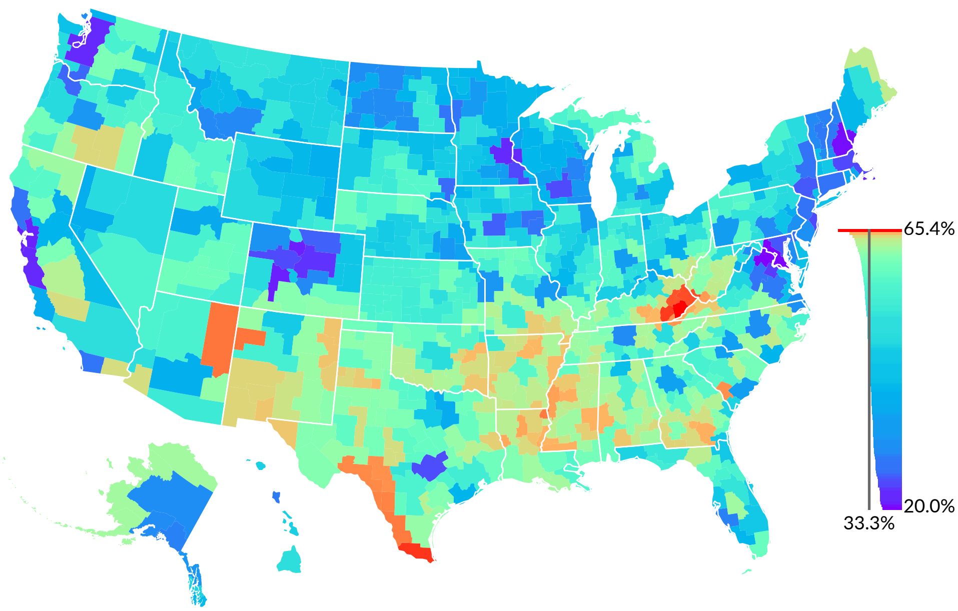
Poverty and Geography

Poverty can be geographically concentrated. In the United States, some regions have particularly high and persistent poverty rates. In 2020, one third of people in the US have income below $21,495. In some regions of the US, more than half of the population has income below this threshold.

Dividing the US into 741 commuter zones, 66 of these zones, covering 3.4 million people, have a majority of the population in bottom third of US income. Among the most extreme examples are Brownsville, TX (62.3 percent), Corbin, KY (61.9 percent), Pikeville, KY (60.9 percent), and Gallup, NM (58.5 percent).

Low-Income Share of Commuter Zone, 2021

Share of commuting zone householders with income below $21,495



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 private business sector, with data covering business investment, retail sales, industrial production, corporate profits, and the financial activities of private businesses.

Investment

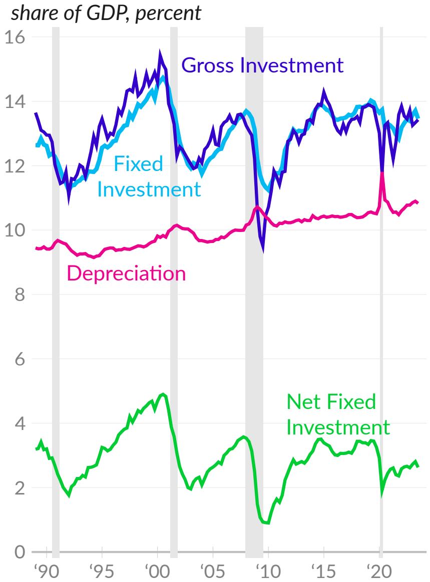
Private business production relies on capital goods, such as buildings, equipment, and software. These items, with a useful life exceeding one year, are categorized as fixed investment, or investment in fixed assets. From an accounting perspective, these transactions are considered an exchange of assets–cash in exchange for capital goods–rather than expenses.

Over time, capital goods deteriorate, a process known as consumption of fixed capital or depreciation. From an accounting standpoint, depreciation represents the cost associated with the use of capital goods. 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. Net investment, which is gross investment minus depreciation, 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 boosts 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 third quarter of 2023, gross private business investment totals $3,709 billion on a seasonally-adjusted annualized basis, which is 13.4 percent of GDP (see —). Private business investment in fixed assets totals $3,718 billion, or 13.5 percent of GDP (see —). Private business depreciation totals $2,992 billion in the quarter, or 10.8 percent of GDP (see —). As a result, net fixed investment is $726 billion, or 2.6 percent of GDP (see —).

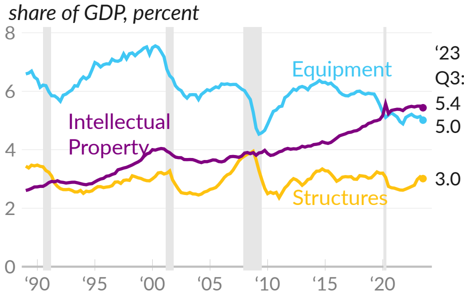
In 2019 Q4, prior to the COVID-19 pandemic, private business gross investment was $2,935 billion. Since 2019 Q4, gross investment increased at an annual rate of 6.4 percent. Net fixed investment was $711 billion in 2019 Q4, and increased at an annual rate of 0.6 percent from 2019 Q4 to 2023 Q3, as growth of depreciation costs outpaced the increase in gross investment.

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 gross investment in fixed assets is grouped into three categories: structures, equipment, and intellectual property (for example software and R&D). Annualized investment in structures is $832 billion in 2023 Q3, representing 3.0 percent of GDP (see —). Equipment investment is $1,384 billion or 5.0 percent of GDP (see —), and intellectual property investment is $1,502 billion or 5.4 percent of GDP (see —).

Gross Fixed Investment by Type

share of GDP, percent



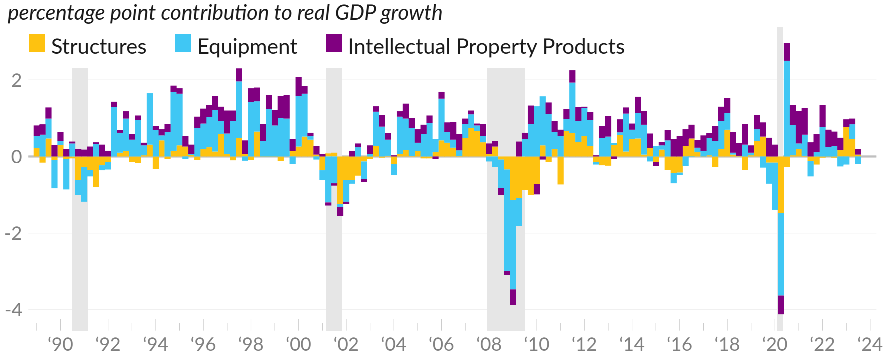
Source: Bureau of Economic Analysis

Contribution to Growth

Private business gross fixed investment did not contribute to annualized GDP growth in 2023 Q3, slightly below the average contribution of 0.49 percentage point over the past year. In 2023 Q3, investment in structures contributed 0.05 percentage point to GDP growth (see ■), investment in equipment subtracted 0.19 percentage point (see ■), and investment in intellectual property products contributed 0.14 percentage point (see ■).

Business Gross Fixed Investment

percentage point contribution to real GDP growth



Source: Bureau of Economic Analysis

Business Gross Fixed Investment

percentage point contribution to real GDP growth

	2023 Q3	'23 Q2	'23 Q1	'22 Q3	'21 Q3	*moving averages* 1-year	10-year	30-year
Total	0.00	0.98	0.76	0.62	-0.15	0.50	0.54	0.59
■ Structures	0.05	0.46	0.77	-0.03	-0.12	0.36	0.04	0.03
■ Equipment	-0.19	0.38	-0.21	0.28	-0.40	-0.07	0.16	0.31
Information Processing	-0.09	-0.11	-0.02	0.09	-0.09	-0.15	0.10	0.20
Computers & Peripherals	-0.06	0.02	-0.05	0.09	-0.03	-0.08	0.02	0.10
Industrial Equipment	-0.04	-0.06	0.04	-0.07	0.08	-0.00	0.02	0.03
Transportation Equipment	-0.01	0.54	-0.14	0.30	-0.41	0.14	0.02	0.05
■ Intellectual Property Products	0.14	0.15	0.20	0.37	0.37	0.20	0.34	0.25
Software	0.12	0.13	0.16	0.28	0.18	0.18	0.21	0.15
Research & Development	0.02	0.00	0.04	0.05	0.14	0.02	0.12	0.09

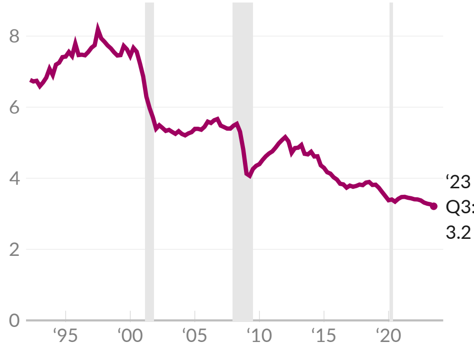
Source: Bureau of Economic Analysis

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 the Census Bureau survey of shipments, inventories, and orders.

New orders for manufactured core capital goods excluding aircraft total $74 billion in September 2023, equivalent to 3.2 percent of GDP (see –). New orders increased 2.4 percent over the past year, and increased by 21.8 percent since February 2020.

New Orders for Core Capital Goods

nondefense capital goods ex-aircraft, share of GDP



Source: Census Bureau

Inventories

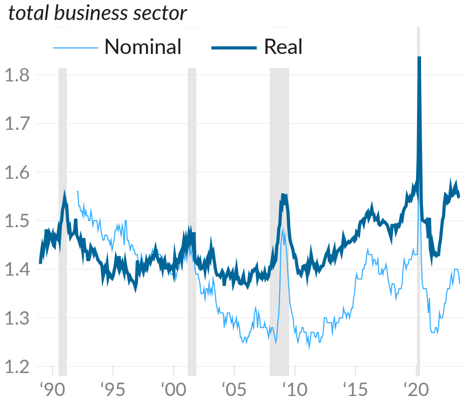
In the national accounts, **inventories** are the stock of goods held by firms, encompassing goods for sale, goods used in production and sales, and goods requiring further processing prior to sale. When economic activity is measured using spending on final goods, it must be adjusted for changes in inventories. For example, a rise in inventories indicates goods were produced but not sold, and therefore were not measured by consumer spending or investment.

One tool for measuring changes in inventories is the inventories-to-sales ratio. The Bureau of Economic Analysis report an inflation-adjusted ratio of inventories to sales in manufacturing and trade sectors (see –).

When examining trends in the ratio, note that business sales include services, whereas inventories account only for goods. In the three decades before the COVID-19 pandemic, a shift towards service-based sales led to a naturally lower inventories-to-sales ratio. Post-COVID-19, a rebound in goods sales, in turn, pushed this ratio higher, all else equal, masking some of the inventory shortages of the period.

Inventories to Sales Ratio

total business sector



Source: FRED, BEA

The Census Bureau report the nominal **ratio of inventories to sales** for the total business sector (see –). In August 2023, the ratio of total business inventories to sales was 1.37, compared to 1.39 in July 2023, 1.36 in August 2022, and 1.43 in February 2020.

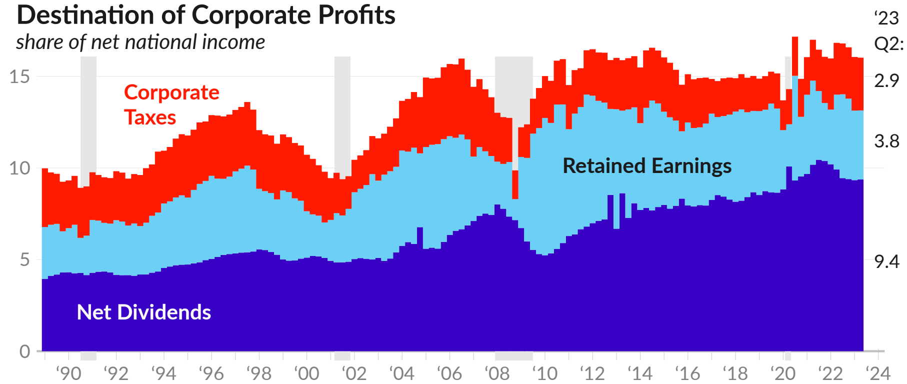
The inflation-adjusted version from BEA shows inventories at 1.55 times sales in August 2023, following a ratio of 1.55 in July 2023, and 1.54 one year prior, in August 2022. In 2019, real monthly inventories were 1.55 times real monthly sales, on average.

Corporate Profits

The national accounts include detailed information on **aggregate** corporate profits. In the second quarter of 2023, corporate profits were $3.17 trillion, equivalent to 16.0 percent of the income paid to US nationals after depreciation costs (net national income). Of this, $1.86 trillion, equivalent to 9.4 percent of net national income, were paid out as dividends (see ■), $746 billion were retained (corporate saving, see ■), and $570 billion, 18.0 percent of corporate profits, went to corporate income tax (see ■).

In 2019, corporate profits were 15.1 percent of net national income. Dividends were equivalent to 8.6 percent, corporate savings were 4.6 percent, and corporate income taxes were 1.8 percent of net national income and 12.0 percent of corporate profits.

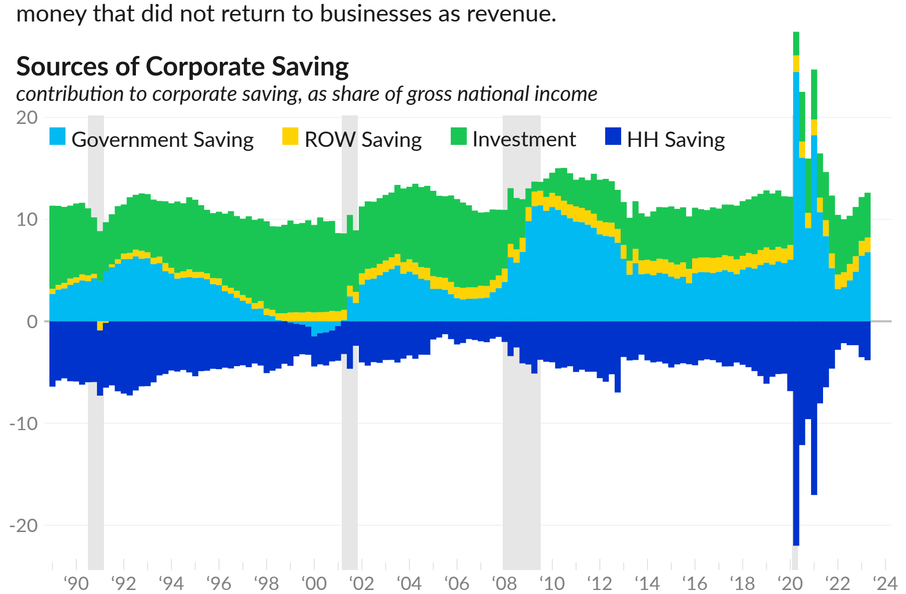
Destination of Corporate Profits
share of net national income



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 Balance Sheets

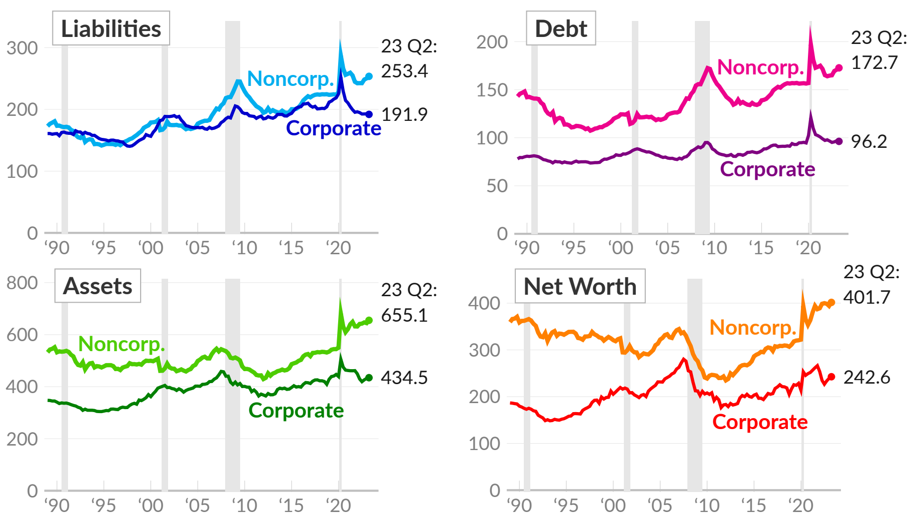
Next, we look at the **balance sheets** of US private businesses. The Financial Accounts report assets, liabilities, and net worth for corporate and noncorporate businesses, each of which is discussed in this subsection.

The following charts cover nonfinancial businesses and show the ratio of balance sheet components to sector production, measured as the gross value added by the sector. The gross value added is essentially the GDP of the sector. For example, the corporate liabilities-to-sector-GDP ratio is 191.9 percent in 2023 Q2 (see —), as corporate liabilities total $25.9 trillion and corporate sector gross value added is $13.5 trillion. Noncorporate business liabilities equal 253.4 percent of the sector GDP (see —).

Corporate assets are equivalent to 434.5 percent of sector GDP in 2023 Q2 (see —), and corporate sector net worth, assets minus liabilities, is equivalent to 242.6 percent of sector GDP (see —). Noncorporate assets are equivalent to 655.1 percent of sector GDP (see —), and noncorporate business net worth is equivalent to 401.7 percent of sector GDP (see —).

Nonfinancial Business Balance Sheets

share of sector gross value added, percent

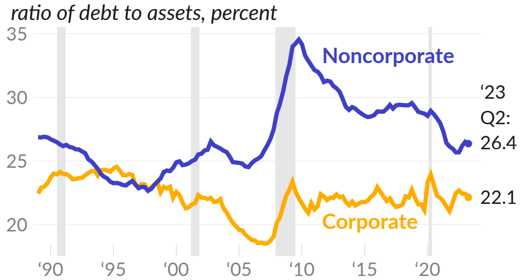


Source: Federal Reserve

Analysis of private business balance sheets can help researchers understand risks in the sector. A high ratio of debt to assets, for example, can suggest businesses are over-leveraged. The following chart shows the **ratio of debt to assets** for nonfinancial businesses, separated by corporate and noncorporate businesses.

Nonfinancial Business Debt-to-Asset Ratio

ratio of debt to assets, percent



Source: Federal Reserve

The ratio of corporate business debt to assets is 22.1 percent in 2023 Q2 (see —). One year prior, in 2022 Q2, the ratio was 22.5 percent, and, in 2019, the ratio averaged 21.6 percent.

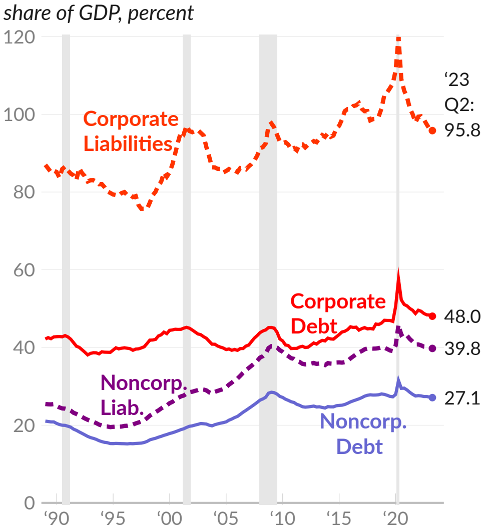
The noncorporate business debt to asset ratio is 26.4 percent in 2023 Q2 (see —), and 25.7 percent, one year prior. In 2019, the ratio was 28.9 percent.

Business Liabilities

This subsection looks at types of **business liabilities**. Corporate nonfinancial businesses issue bonds, and have loans and mortgages, pension liabilities, and accounts payable. Noncorporate businesses primarily have mortgages and other loans. Both sectors have substantial miscellaneous liabilities, calculated as the unidentified residual of other aggregate balance sheet measures.

Nonfinancial Business Liabilities

share of GDP, percent



Source: Federal Reserve

Corporate liabilities total $25.9 trillion in the second quarter of 2023, equivalent to 95.8 percent of GDP (see —). Of this, corporate debt is equivalent to 48.0 percent of GDP (see —). In 2019, corporate liabilities are 106.3 percent of GDP and corporate debt is 46.9 percent.

Noncorporate business sector liabilities are equivalent to 39.8 percent of GDP in 2023 Q2 and 39.5 percent in 2019 (see —). Noncorporate business debt is 27.1 percent of GDP in the latest data and 27.6 percent in 2019 (see —).

The following table provides more details on the size of nonfinancial business liabilities relative to the overall economy.

Nonfinancial Business Liabilities

share of GDP, percent

	2023 Q2	'23 Q1	'22 Q4	'22 Q2	'19 Q4	2010	1989
Corporate Liabilities (—)	95.8	96.2	97.4	99.5	108.0	92.1	85.9
Corporate Debt (—)	48.0	48.4	48.4	49.3	46.7	40.6	42.4
Corporate Bonds	25.5	25.7	25.5	26.4	26.6	22.0	16.5
Bank Loans & Mortgages	9.6	9.6	9.6	9.3	8.1	7.8	15.1
Nonbank Loans	9.9	10.0	10.2	10.4	8.4	7.0	6.9
Trade & Taxes Payable	13.4	13.5	14.0	14.5	14.6	11.5	11.1
Miscellaneous Liabilities	33.0	33.0	33.5	34.4	44.9	37.3	30.7
Noncorporate Liabilities (—)	39.8	39.9	40.1	40.6	39.1	38.0	25.4
Noncorporate Debt (—)	27.1	27.2	27.4	27.5	27.3	26.6	20.9
Mortgages	19.5	19.5	19.6	19.7	19.3	19.0	16.3
Other Loans	7.6	7.7	7.8	7.8	8.0	7.6	4.7
Trade & Taxes Payable	3.6	3.6	3.6	3.7	3.2	3.4	1.7
Miscellaneous Liabilities	9.1	9.0	9.1	9.3	8.5	8.0	2.8

Source: Federal Reserve, Bureau of Economic Analysis

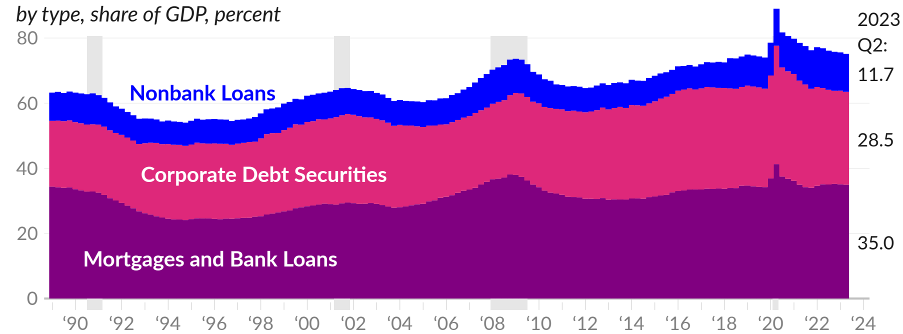
Business Debt

Combining corporate and noncorporate business debt provides the aggregate amount of nonfinancial business debt, which we can compare to the size of the overall economy. The debt to GDP ratio provides an additional measure of business sector leverage.

As of 2023 Q2, **nonfinancial business debt**–the debt security and loan liabilities of nonfinancial private businesses–both corporate and non-corporate–totals $20.3 trillion, with $13.0 trillion (63.9 percent) held by corporate businesses. Over the past four years, nonfinancial business debt has grown at about the same rate as overall economic activity. As a share of GDP, nonfinancial business debt grew by 0.5 percentage points to 75.1 percent in 2023 Q2 from 74.6 percent in 2019 Q2. The vast majority of the increase, 2.1 percentage points, comes from nonbank loans (see ■).

Nonfinancial Business Debt

by type, share of GDP, percent



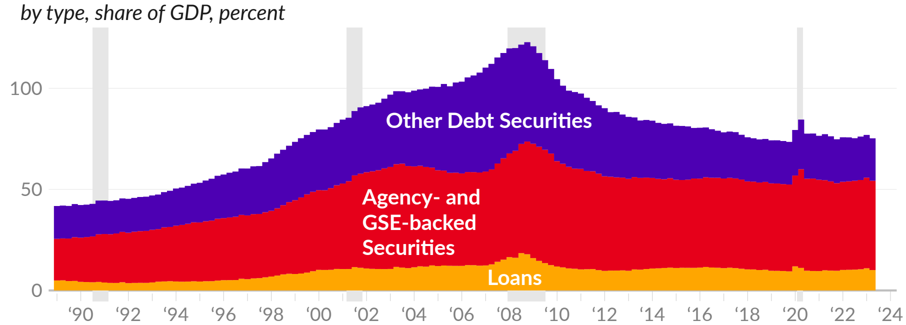
Source: Federal Reserve, Bureau of Economic Analysis

The debt of the domestic private 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 more.

Domestic financial sector debt has fallen as a share of GDP to 75.3 percent in 2023 Q2 from a housing bubble peak of 122.8 percent in 2008 Q4.

Financial Sector Debt

by type, share of GDP, percent



Source: Federal Reserve, Bureau of Economic Analysis

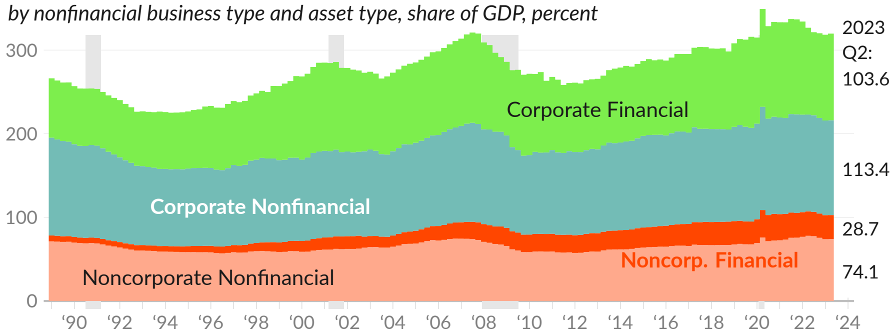
Business Assets

Combined **assets of private nonfinancial businesses** are valued at $86.5 trillion in the second quarter of 2023, which is 319.7 percent of GDP. These include financial and nonfinancial assets. Financial assets include cash and deposits, equity in other businesses, trade receivables, and other financial assets, and total $35.8 trillion. Nonfinancial, or tangible, assets include real estate, equipment, inventories, and intellectual property products, and total $50.7 trillion.

Nonfinancial corporations have assets valued at $58.7 trillion, or 217.0 percent of GDP. These include nonfinancial assets (see) valued at 113.4 percent of GDP and financial assets (see) valued at 103.6 percent, as of 2023 Q2. Noncorporate business assets are valued at $27.8 trillion, equivalent to 102.8 percent of GDP. Tangible assets (see) are equivalent to 74.1 percent of GDP, and include $10.7 trillion in rental housing. Financial assets for the sector (see) total 28.7 percent of GDP.

Business Assets

by nonfinancial business type and asset type, share of GDP, percent



share of GDP, percent

	2023 Q2	'23 Q1	'22 Q4	'22 Q2	'19 Q4	2010	1989
Corporate Total	217.0	215.7	215.6	219.5	220.8	190.0	185.3
Nonfinancial Assets ( )	113.4	113.1	114.3	115.7	112.0	97.0	114.7
Real Estate	62.8	62.4	63.7	64.7	63.1	48.7	61.7
Equipment	23.9	24.1	24.0	23.8	24.0	25.1	29.9
IP Products	14.1	13.9	13.8	13.6	12.8	11.4	7.7
Inventories	12.6	12.7	12.9	13.6	12.1	11.9	15.4
Financial Assets ( )	103.6	102.5	101.3	103.8	108.9	93.0	70.6
Noncorporate Total	102.8	102.7	104.5	107.2	95.0	80.0	77.9
Nonfinancial Assets ( )	74.1	73.9	75.6	78.0	67.8	59.0	71.0
Real Estate	65.7	65.9	67.8	70.7	61.2	51.8	62.0
Residential	39.4	39.7	41.3	44.0	35.4	29.6	34.9
Equipment	5.6	5.4	5.1	4.6	4.0	4.5	5.8
IP Products	1.6	1.5	1.5	1.5	1.3	1.3	0.7
Inventories	1.1	1.1	1.1	1.2	1.2	1.5	2.5
Financial Assets ( )	28.7	28.8	29.0	29.3	27.3	20.9	6.9

Source: Federal Reserve, Bureau of Economic Analysis
Notes: Includes only nonfinancial businesses. Tangible assets are market values or current replacement values.

Industrial Production

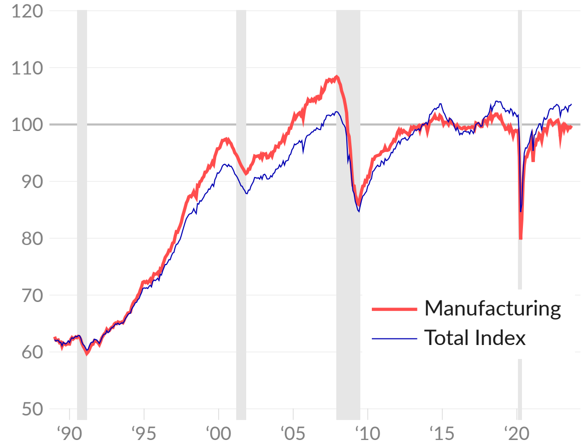
The Federal Reserve industrial production index measures the real output of the industrial sector, which includes manufacturing, mining, and electric and gas utilities.

Industrial production increased 0.1 percent over the year ending September 2023, following an increase of 0.1 percent in August. The manufacturing-only index decreased 0.8 percent over the year ending September, and subtracted 0.6 percentage point from the growth of the total index. Mining contributed 0.5 percentage point, and utilities contributed 0.2 percentage point.

By market group, finished consumer goods did not contribute to one-year industrial production growth in September. Business equipment did not contribute, nonindustrial supplies subtracted 0.3 percentage point, and materials contributed 0.4 percentage point.

Industrial Production

index, 2012=100



Source: Federal Reserve

Industrial Production Growth

one-year growth, seasonally-adjusted	*contribution to total* Sep '23	Aug '23	Jul '23	Sep '22	*rate, percent* Sep '23	Aug '23	Jul '23	Sep '22
Total Index	0.1	0.1	0.2	4.5	0.1	0.1	0.2	4.5
Manufacturing	-0.6	-0.7	-0.5	2.6	-0.8	-0.9	-0.7	3.6
Durable Manufacturing	0.2	0.1	0.2	2.1	0.4	0.4	0.6	5.9
Motor Vehicles & Parts	0.4	0.4	0.6	1.0	7.0	6.9	10.4	20.1
Nondurable Manufacturing	-0.7	-0.8	-0.7	0.6	-2.0	-2.3	-2.0	1.7
Mining	0.5	0.6	0.6	1.9	3.4	4.2	4.3	11.0
Utilities	0.2	0.1	-0.0	0.1	2.0	1.3	-0.2	0.9
Consumer Goods	0.0	-0.1	-0.0	0.5	0.1	-0.4	-0.0	2.0
Consumer Durables	0.1	0.0	0.1	0.3	1.7	0.0	1.0	6.0
Automotive Products	0.1	0.1	0.2	0.4	4.4	2.7	4.8	11.4
Consumer Nondurables	-0.1	-0.1	-0.1	0.2	-0.3	-0.5	-0.3	0.9
Foods & Tobacco	-0.2	-0.3	-0.3	0.1	-2.2	-3.4	-2.8	0.9
Chemical Products	0.3	0.2	0.2	0.1	5.2	4.8	4.8	1.2
Consumer Energy Products	-0.1	-0.0	-0.0	0.0	-1.1	-0.0	-0.1	0.7
Business Equipment & Supplies	-0.3	-0.3	-0.2	1.4	-1.2	-1.0	-0.8	5.5
Equipment	-0.1	0.0	0.1	1.0	-0.5	0.3	0.9	9.8
Industrial Equipment	-0.1	-0.1	-0.0	0.2	-4.2	-1.8	-1.0	6.6
Nonindustrial Supplies	-0.3	-0.3	-0.3	0.4	-1.7	-1.8	-2.1	2.6
Construction Supplies	-0.1	-0.1	-0.1	0.1	-2.0	-2.6	-2.4	1.8
Business Supplies	-0.2	-0.2	-0.2	0.3	-1.6	-1.5	-1.9	2.9
Materials	0.4	0.5	0.4	2.6	0.9	1.0	0.9	5.4
Consumer Parts	0.2	0.2	0.3	0.3	6.5	7.2	9.3	11.3
Equipment Parts	0.0	0.1	0.1	0.1	0.9	1.4	1.9	2.6
Chemical Materials	-0.0	-0.1	-0.1	0.0	-0.1	-1.2	-2.2	0.7
Energy Materials	0.6	0.8	0.7	1.9	3.4	4.4	4.2	9.3

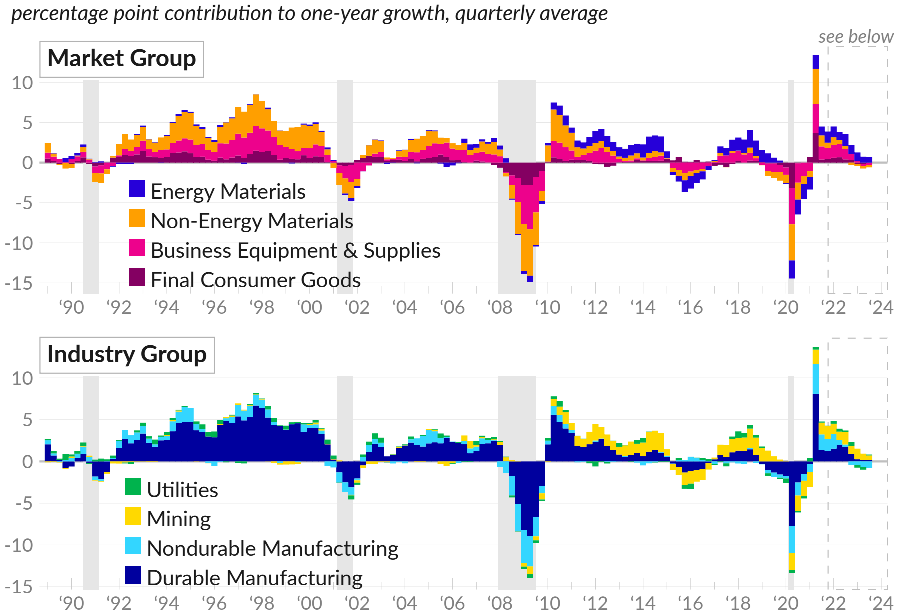
Source: Federal Reserve

Over the past 30 years, economic conditions and shifts in how production is organized have affected industrial growth. Much of the growth over the period is attributed to the production of materials, such as parts, chemicals, and energy, and to the production of business equipment and supplies. In contrast, there has been virtually no growth in domestic production of finished consumer goods, particularly from 2000 to 2020.

While the manufacturing industry dominated industrial growth in the 1990s, mining and utilities have played a relatively larger role since 2010. Manufacturing growth was relatively weak from 2013 to 2020, but increased starting in 2021.

Contributions to Industrial Production Growth

percentage point contribution to one-year growth, quarterly average

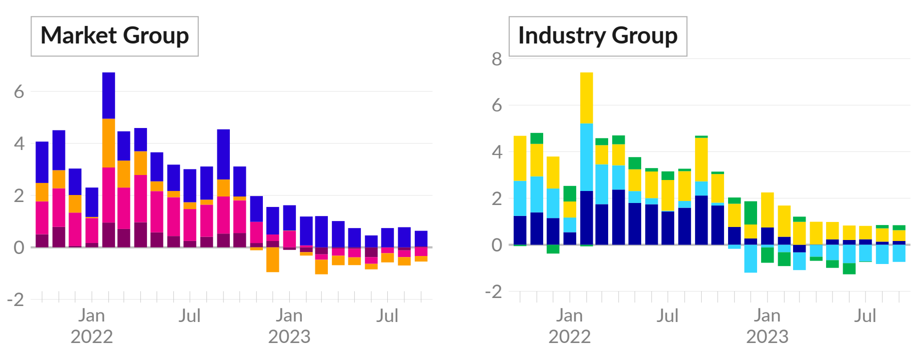


Source: Federal Reserve

Looking more closely at recent industrial production growth, the latest one-year growth rate, covering September 2023, is substantially below the five-year average, and in line with the August growth rate.

By market group, the latest low growth is the result of conflicting changes in subcategories. The overall effect is largely the result of an increase in energy materials that is offset by a decrease in business equipment and non-industrial supplies and non-energy materials. By industry group, the latest low growth is also the result of conflicting changes in subcategories. The overall effect is the result of an increase in mining and electric and gas utilities that is offset by a decrease in nondurable manufacturing.

Recent Data in Detail



Source: Federal Reserve

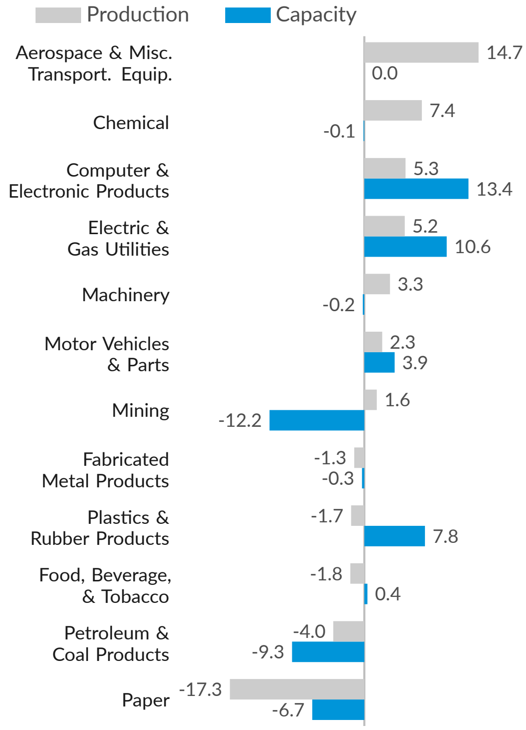
As of September 2023, of a subset of 12 industries that contribute the majority of industrial production, seven increased **production** since February 2020, and five decreased production (see).

Since February 2020, paper production decreased by 17.3 percent, aerospace and miscellaneous transportation equipment production increased by 14.7 percent, chemical production increased by 7.4 percent, and production of computer and electronic products increased by 5.3 percent.

Since February 2020, five of the 12 industries increased **capacity**, five decreased capacity, and two were unchanged (see). Production capacity for computer and electronic products increased by 13.4 percent, mining capacity decreased by 12.2 percent, and electric and gas utilities capacity increased by 10.6 percent.

Industrial Production and Capacity

As of September 2023, percent change since February 2020



Source: Federal Reserve

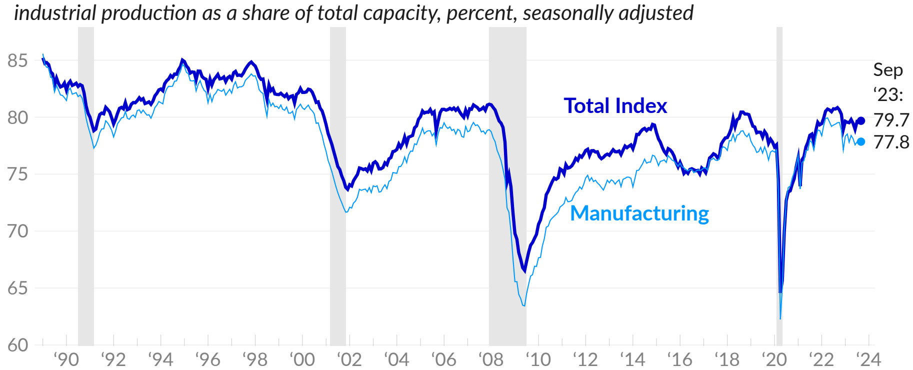
Capacity Utilization

The Federal Reserve also report the US industrial capacity, based on estimates of the maximum sustainable output. Industrial production as a share of total capacity is called **capacity utilization**. From the 1990s to the 2010s, capacity utilization fell substantially, as many domestic industrial facilities reduced output or closed.

In September 2023, the US is utilizing 79.7 percent of total industrial capacity (see —), and 77.8 percent of manufacturing capacity (see —). In 2019, the total capacity utilization rate averaged 78.6 percent, and the manufacturing capacity utilization rate averaged 77.1 percent. Total capacity utilization has increased by 1.1 percentage points since 2019, and decreased by four percentage points since 1989.

Capacity Utilization

industrial production as a share of total capacity, percent, seasonally adjusted



Source: Federal Reserve

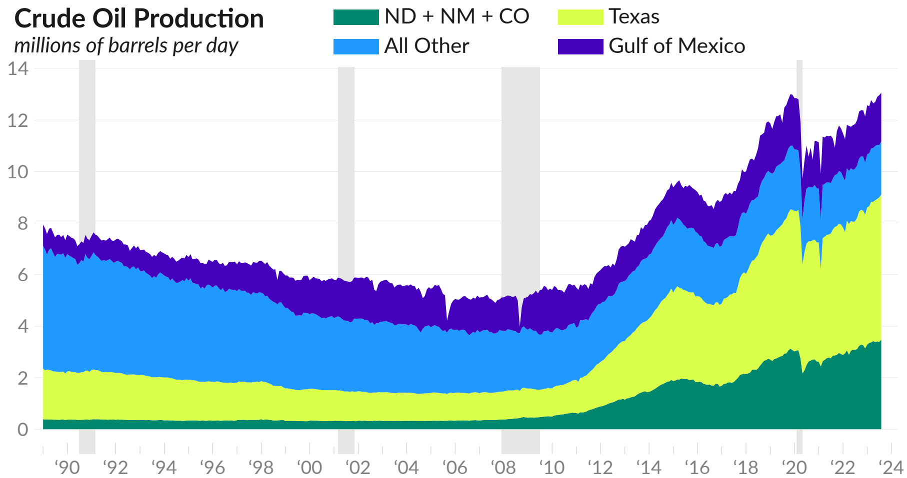
Energy Production and Use

This subsection looks at the energy sector, and covers oil production and electricity generation and sales.

Crude Oil Production

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 August 2023, the US produced 13.1 million barrels per day, compared to 12.0 million barrels per day in August 2022.

Crude Oil Production
millions of barrels per day

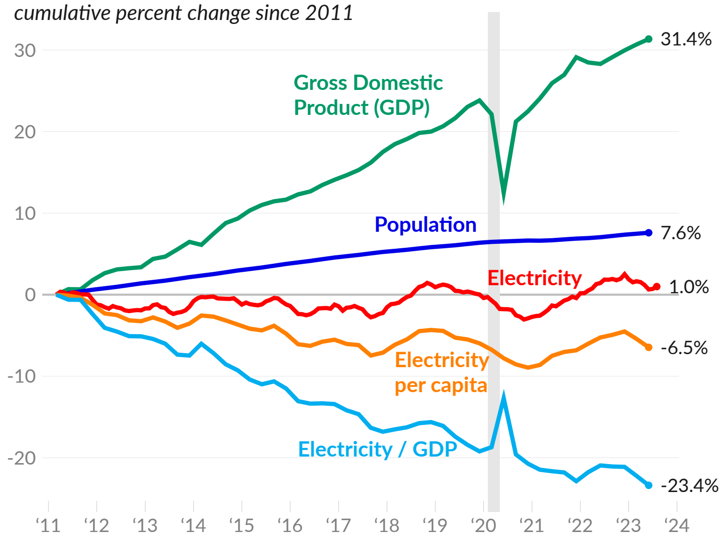


Source: Energy Information Administration

Electricity Production

Since 2011, annualized total US **electricity generation** has increased one percent. Over the same period, the US population has increased by 7.9 percent (see —) and real GDP has increased by 32.9 percent (see —). As a result, the electricity required to produce a unit of real GDP decreased by 23.4 percent (see —).

Electricity Generation, Population, and Production
cumulative percent change since 2011



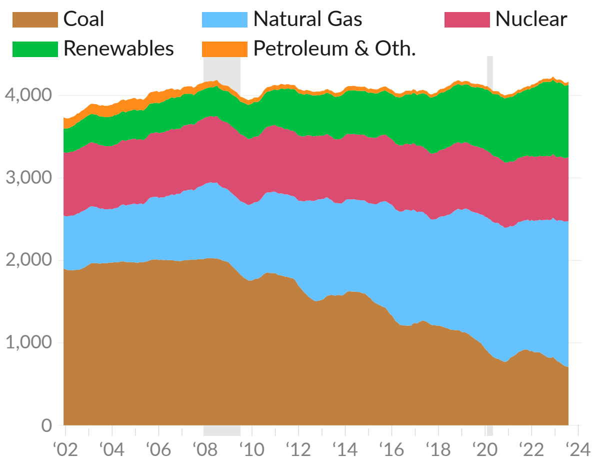
Source: EIA, BEA

Electricity Production by Source

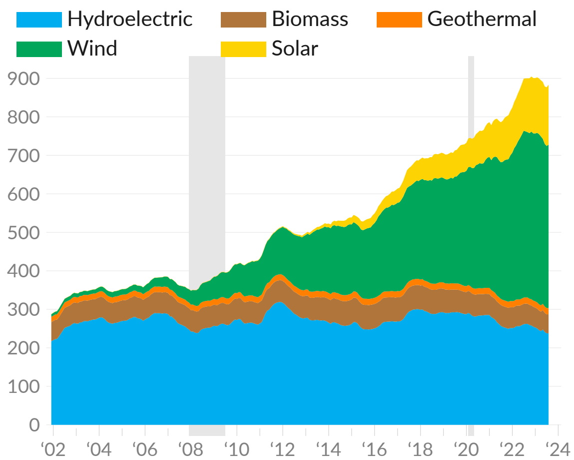
During the 12 months ending August 2023, the US generated 4,168 billion kilowatt hours of electricity. Of this, 1,773 billion kilowatt hours were generated using natural gas (see), 706 billion kilowatt hours were generated from coal (see), 771 billion from nuclear (see), and 883 billion from renewable sources (see).

Electricity Generation by Source

billion kilowatt hours, 12-month moving sum



Renewable Sources



Source: Energy Information Administration

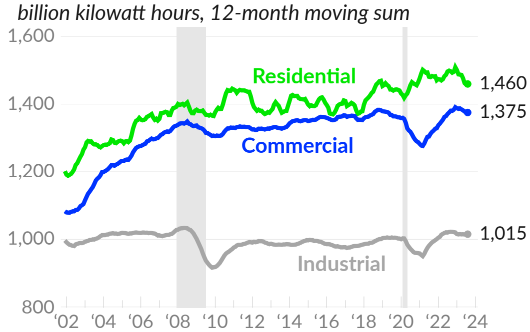
Among renewable energy sources, over the year ending August 2023, 238 billion kilowatt hours of electricity were generated with conventional hydroelectric (see), 49 billion kilowatt hours were generated from biomass (see), 16 billion were generated from geothermal (see), 425 billion from wind (see), and 156 billion from solar (see).

Electricity Sales by Sector

The Energy Information Administration report the **retail sales of electricity** to each major sector. Electricity sales to the commercial and industrial sectors fell during the pandemic, and were partially offset by increased electricity sales to the residential sector.

Electricity Retail Sales by Sector

billion kilowatt hours, 12-month moving sum



Source: Energy Information Administration

Over the year ending August 2023, retail sales of electricity to the residential sector total 1,460 billion kilowatt hours, compared to 1,440 billion during 2019 (see –). Commercial sector electricity sales total 1,375 billion kilowatt hours over the year ending August 2023, and 1,361 billion in 2019 (see –). Industrial sector sales total 1,015 billion kilowatt hours in the latest 12 months of data and 1,002 billion in 2019 (see –).

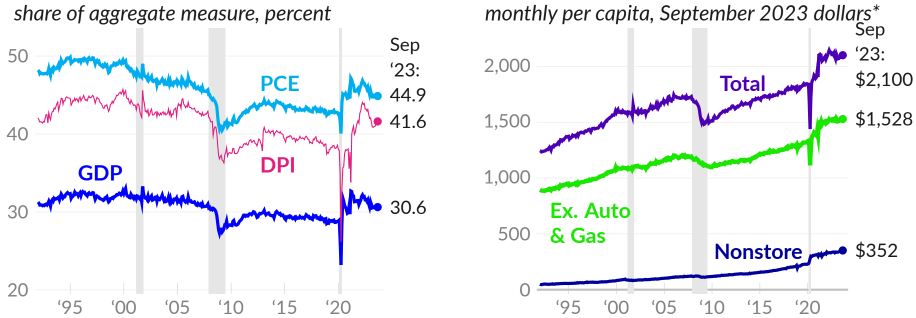
Retail Sales

The Census Bureau report the monthly sales of retail businesses, restaurants, and bars. These retail trade figures can be a useful economic indicator. Retail trade includes brick and mortar stores as well as e-commerce and other nonstore sales to the general public.

In September 2023, **retail and food services sales** total $704.9 billion. On an annualized basis, this is equivalent to 41.6 percent of disposable (after-tax) income (see –), 44.9 percent of consumer spending (see –), and 30.6 percent of GDP (see –). During the first two months of the US COVID-19 pandemic, retail sales were a smaller portion of overall economic activity, as many businesses were closed. Since the initial reopening, retail sales have comprised a larger share of economic activity, in part as other activities, like transportation, have recovered less.

Retail and food service sales, **adjusted for population growth and inflation**, provide additional context on economic developments. Per capita retail and food services sales, adjusted by the personal consumption expenditure (PCE) price index, are $2,100 during September 2023 (see –). Prior to the pandemic, in 2019, real per capita retail and food service sales averaged $1,823 per month. Excluding automotive and gasoline sales, per capita sales were $1,528 in September 2023 and $1,306 per month in 2019, after adjusting for inflation (see –).

Retail and Food Services Sales

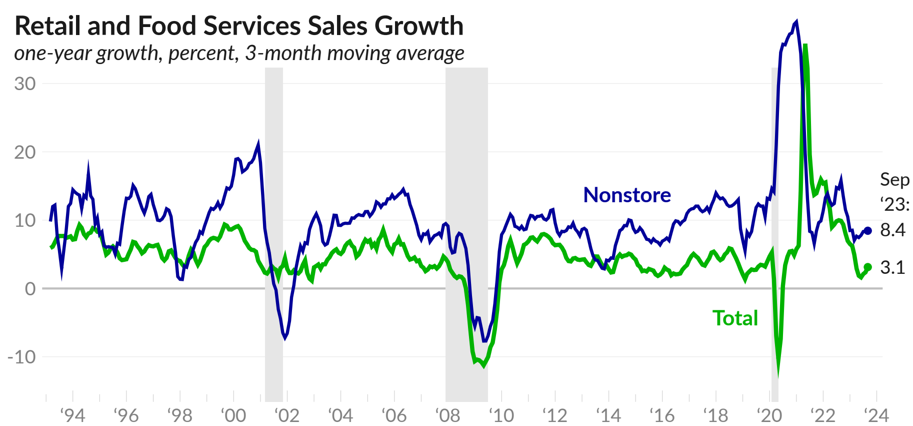


Source: Census Bureau, Bureau of Economic Analysis

*Adjusted by PCE price index

Changes in retail and food services sales can indicate shifts in consumer behavior. One-year retail and food services **sales growth** is 3.8 percent in September 2023, and averages 3.1 percent over past three months (see –). Nonstore sales, for example from online retailers, have increased at a faster rate than other sales, since 1992. Over the past three months, one-year nonstore sales growth averages 8.4 percent (see –).

Retail and Food Services Sales Growth



Source: Census Bureau

Since 1992, the share of after-tax income spent at different **kinds of businesses** has diverged wildly. In large part, this is due to the growth of e-commerce, with online sales replacing brick and mortar sales. However, there have also been shifts in other consumer preferences and relative prices.

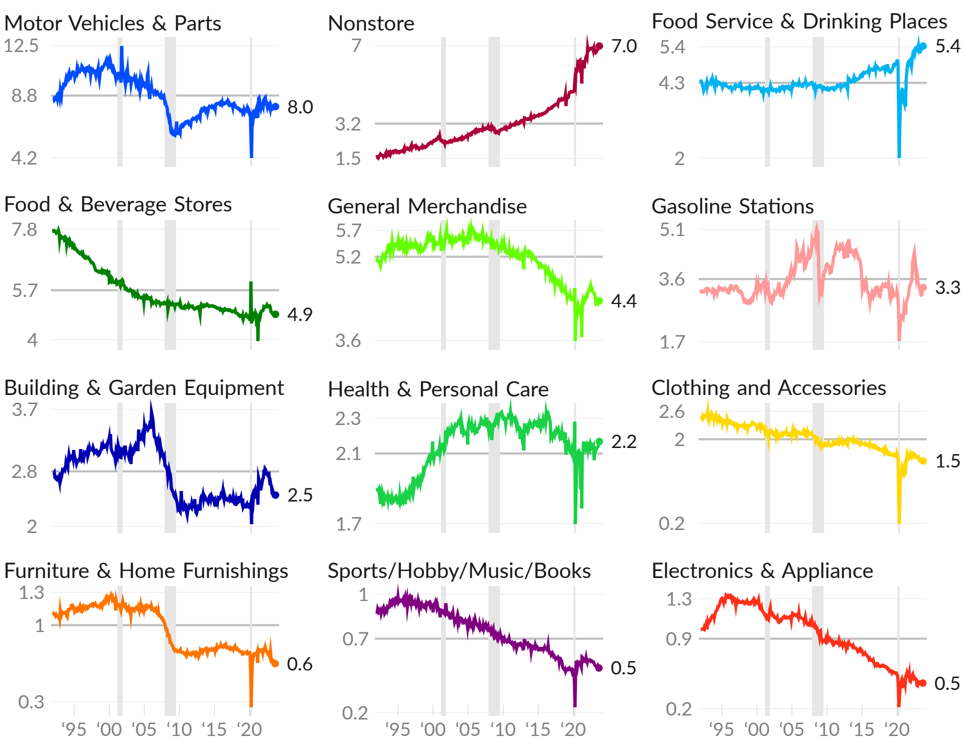
Nonstore sales were 1.7 percent of after-tax income in January 1992 and 7.0 percent in September 2023, a shift that is equivalent to $1,077 billion per year. Since 1992, sales as a share of after-tax income has decreased in food and beverage stores (-2.9 percentage points), clothing and accessories stores (-1.0 percentage points), and general merchandise stores (-0.7 percentage points).

Some sales categories were boosted by the housing bubble during the 2000s and its associated wealth effects, then fell sharply following the collapse of the bubble. Building and garden equipment, furniture and home furnishings stores, and motor vehicle sales all claimed a larger share of income during the 1990s and 2000s than during the 2010s. Meanwhile, food service and drinking places and health and personal care stores received a relatively stable share of income from 2000 until the COVID-19 pandemic, which hit restaurants and bars particularly hard.

Lastly, some categories are more affected by changes in relative prices. Sales at gasoline stations, for example, move with gasoline prices. Likewise, an increase in building material prices during the pandemic partially boosted the share of income spent at building and garden equipment stores.

Retail Sales by Kind of Business

share of disposable personal income, percent, January 1992 to September 2023



Source: Census Bureau, Bureau of Economic Analysis

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 government contributions to current economic activity, receipts and expenditures, assets and liabilities, and government jobs.

Current Economic Activity

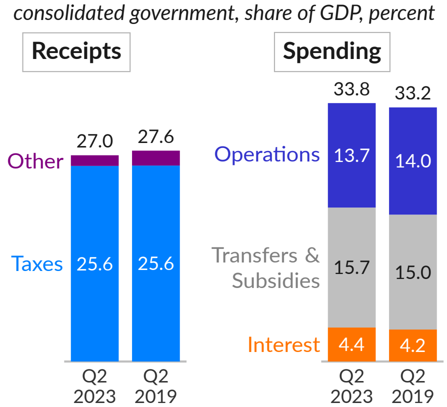
There are multiple ways to interpret the government's direct contribution to current economic activity. Methods include: 1) government current receipts and expenditures; 2) the gross output of the sector minus intermediate inputs used in production (value added); 3) government income payments to people and taxes and social insurance contributions; or 4) the sum of government current expenditures on final goods and services, and investment.

As an overview of the consolidated government's effect on GDP, government receipts are equivalent to 27.0 percent of GDP in 2023 Q2, compared to 27.6 percent in 2019 Q2. The vast majority of these receipts are taxes, including social insurance contributions.

Government spending is equivalent to 33.8 percent of GDP in the latest data and 33.2 percent in 2019. This includes consumption expenditures, which are the government's operating costs, transfers and subsidies, and interest payments. These are covered in more detail in the following subsections.

Government Receipts and Spending

consolidated government, share of GDP, percent



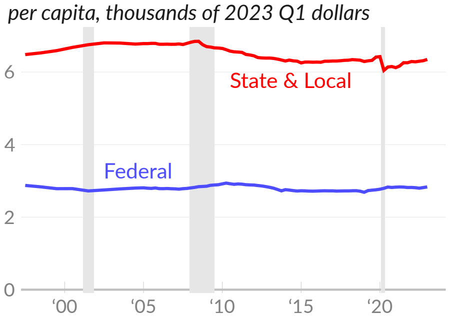
Source: Bureau of Economic Analysis

Value Added

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, as a residual, the government's gross operating surplus, much of which goes toward replacing and maintaining government fixed assets.

Value Added in Domestic Production

per capita, thousands of 2023 Q1 dollars



Source: Bureau of Economic Analysis

In the first quarter of 2023, the federal government value added in domestic production is $948 billion, equivalent to $2,832 per capita (see —). In 2019 Q4, federal government added $2,754 in value to domestic production, per capita, after adjusting for inflation.

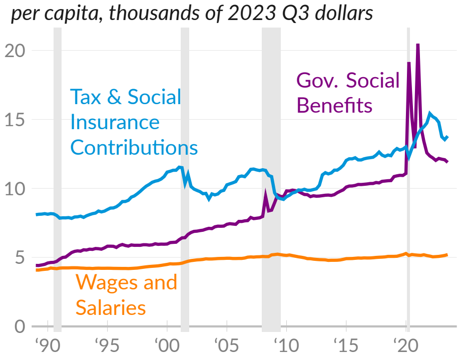
State and local governments added $2,124 billion in production value in 2023 Q1 and $1,847 billion in 2019 Q4, equivalent after inflation to $6,348 and $6,413 per capita, respectively (see —).

Income Approach

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.

Over the past thirty years, total spending on government social benefits has mostly kept pace with consumer spending, while tax collection lagged behind income growth. Increased social benefits payments on a per capita basis reflect expanded access to health insurance, as well as a larger share of the population receiving social security benefits. During the COVID-19 pandemic, the federal government expanded social benefits, reducing poverty rates to all-time lows in 2021.

Personal Income and Outlays
per capita, thousands of 2023 Q3 dollars



Source: Bureau of Economic Analysis

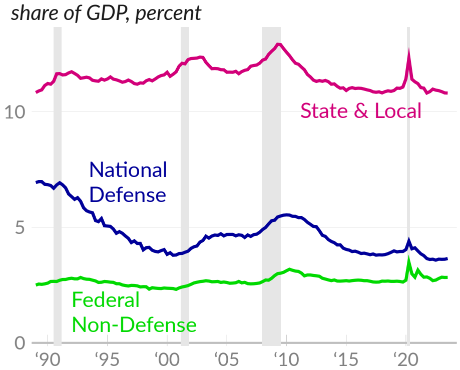
In 2023 Q3, government worker wages and salaries were equivalent to $5,203 per capita, following a price-adjusted $5,199 in 2019 Q4 (see —). Net government benefits were equivalent to $11,886 per capita in 2023 Q3, compared to $10,940 per capita in 2019 Q4 (see —). In 1989 Q1, net benefits were equivalent to $4,420 per person.

Personal current taxes and social insurance contributions total $13,791 per capita in 2023 Q3, $12,849 in 2019 Q4, and $8,096 in 1989 (see —).

Consumption and Investment

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 2023 Q3, federal non-defense spending and investment was $782.1 billion, equivalent to 2.8 percent of GDP (see —), compared to 2.6 percent of GDP in 2019 Q4. Federal spending on national defense was equivalent to 3.6 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 2023 Q3, state and local government spending and investment was equivalent to 10.8 percent of GDP, compared to 11.1 percent in 2019 Q4 (see —).

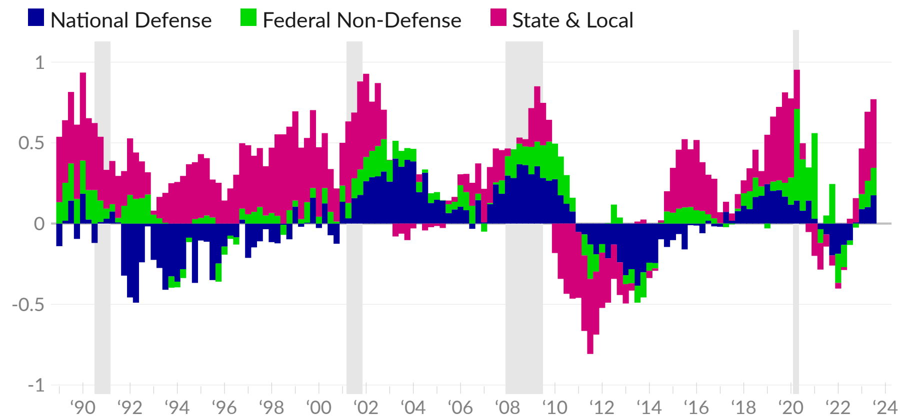
Contribution to Growth

Government consumption and investment directly affect economic growth in the short-term. In the third quarter of 2023, government consumption spending and investment contributed 0.79 percentage point to the real GDP growth rate of 4.9 percent. Over the last four quarters, government consumption and investment contributed 0.77 percentage point to economic growth, on average. Since 1989, the average contribution has been 0.25 percentage points.

Over the four quarters ending 2023 Q3, by level of government, national defense contributed 0.18 percentage point (see ■), federal non-defense contributed 0.17 percentage point (see ■), and state and local government contributed 0.43 percentage point (see ■).

Government Consumption and Investment

percentage point contribution to real GDP growth, one-year moving average



Source: Bureau of Economic Analysis

Government Consumption and Investment

percentage point contribution to real GDP growth — *moving averages*

	2023 Q3	'23 Q2	'23 Q1	'22 Q3	'21 Q3	1-year	10-year	30-year
Consolidated Government Total	0.79	0.57	0.82	0.49	-0.26	0.77	0.29	0.25
Federal Total	0.39	0.07	0.33	0.07	-0.48	0.34	0.11	0.10
■ National Defense	0.28	0.08	0.07	-0.01	-0.12	0.18	0.02	0.03
Consumption Expenditures	0.22	0.02	0.16	0.05	-0.15	0.12	0.01	0.02
Gross Investment	0.07	0.06	-0.09	-0.06	0.03	0.06	0.02	0.02
■ Federal Non-Defense	0.11	-0.01	0.26	0.08	-0.36	0.17	0.08	0.06
Consumption Expenditures	0.09	-0.07	0.17	0.05	-0.41	0.11	0.04	0.04
Gross Investment	0.02	0.05	0.08	0.03	0.05	0.06	0.04	0.02
■ State & Local Total	0.40	0.50	0.49	0.41	0.22	0.42	0.18	0.15
Consumption Expenditures	0.23	0.16	0.29	0.20	0.49	0.20	0.15	0.12
Gross Investment	0.16	0.34	0.21	0.22	-0.27	0.22	0.04	0.03

Source: Bureau of Economic Analysis

Government Receipts and Expenditures

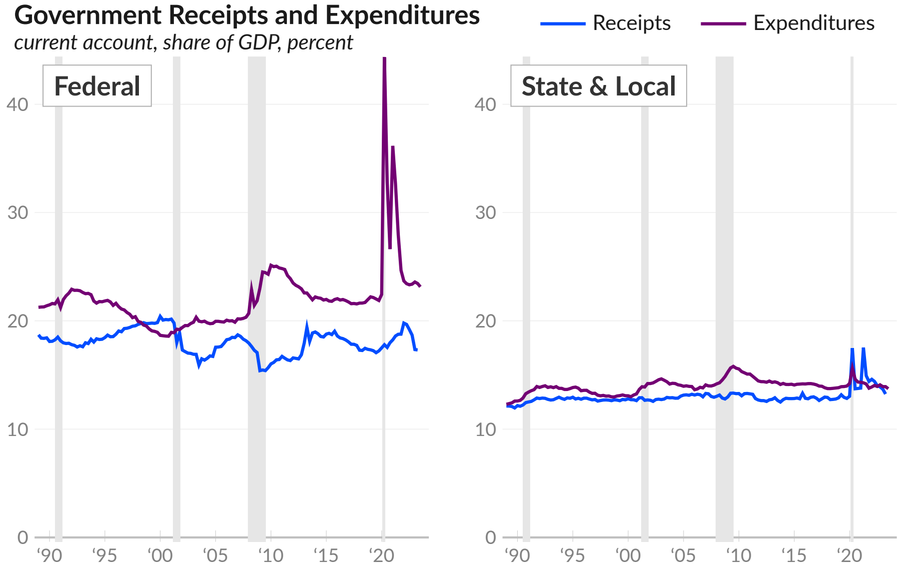
Government current expenditures include consumption and investment as well as transfers such as government social benefits to persons. Government spending provides services and income to people. Government current receipts come primarily from taxes. When government expenditures exceed receipts, it is 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 $6.4 trillion, or 23.1 percent of GDP, in 2023 Q3. BEA has not yet released receipts data for 2023 Q3, however, in 2023 Q2, federal government receipts total $4.7 trillion, or 17.3 percent of GDP. In 2023 Q2, the federal government deficit was $1,661 billion or 6.1 percent of GDP.

Combined state and local government expenditures total $3.8 trillion, or 13.7 percent of GDP, in 2023 Q3. BEA has not yet released receipts data for 2023 Q3, however, in 2023 Q2, combined state and local government receipts total $3.6 trillion, or 13.2 percent of GDP. In 2023 Q2, the combined state and local government deficit was $185 billion or 0.7 percent of GDP.

Government Receipts and Expenditures

current account, share of GDP, percent



Source: Bureau of Economic Analysis

Government Receipts and Expenditures

percent of GDP

	'23 Q3	'23 Q2	'23 Q1	'22 Q3	'21 Q3	'19 Q3	*moving average* 4-year	10-year	30-year
Federal Government									
Receipts	–	17.3	17.3	19.2	18.8	17.1	18.3	18.2	18.1
Expenditures	23.1	23.5	23.6	23.3	27.9	22.0	27.1	24.0	22.1
Surplus (+) / Deficit (-)	–	-6.1	-6.2	-4.1	-9.2	-5.0	-9.1	-5.8	-4.0
State & Local Government									
Receipts	–	13.2	13.7	14.0	14.9	12.9	14.4	13.4	13.1
Expenditures	13.7	13.9	13.9	13.9	14.2	13.9	14.2	14.1	14.1
Surplus (+) / Deficit (-)	–	-0.7	-0.2	0.1	0.8	-1.0	0.1	-0.7	-1.0

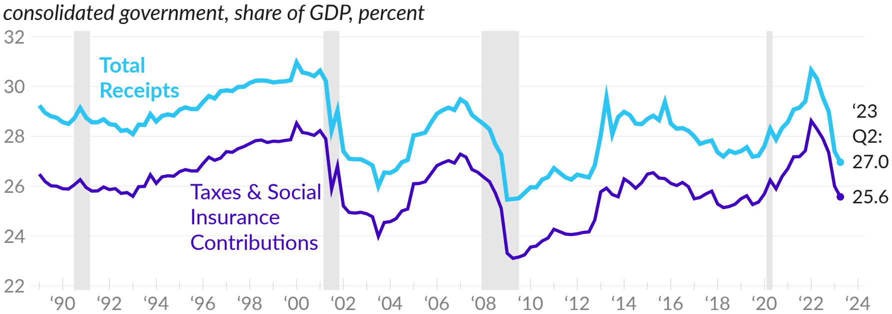
Source: Bureau of Economic Analysis

Government Receipts

The combined revenue of the federal, state, and local governments in the US is reported as government current receipts in the national accounts. This subsection describes government current receipts by level of government and by type.

At an aggregate level, the vast majority of government receipts are tax receipts and contributions for social insurance programs. Government receipts total $7.3 trillion in 2023 Q2, representing 27.0 percent of GDP (see —). Taxes and social insurance contributions comprise 94.8 percent of receipts and are equivalent to 25.6 percent of GDP in 2023 Q2 (see —).

Government Current Receipts
consolidated government, share of GDP, percent

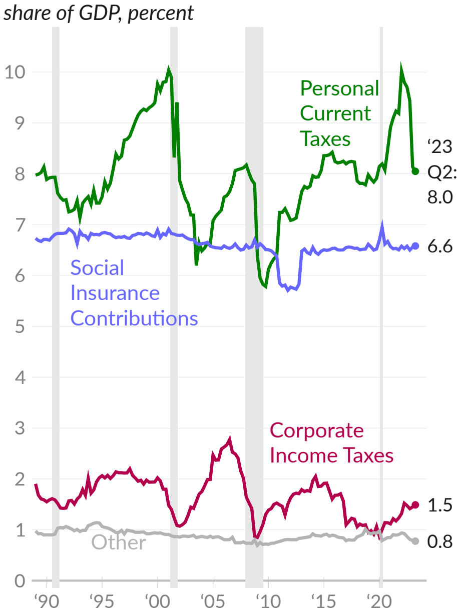


Source: Bureau of Economic Analysis

Federal Government Receipts

Taxes and social insurance contributions are the main federal government receipts, and total $1.8 trillion in 2023 Q3, equivalent to 16.9 percent of GDP. These receipts include personal current taxes, primarily individual income taxes, taxes on corporate income, and other taxes such as the federal excise tax on gasoline. Tax receipts are grouped with social insurance contributions, such as payroll taxes for Social Security and Medicare.

Federal Gov. Current Tax Receipts
share of GDP, percent



Source: Bureau of Economic Analysis

As of 2023 Q3, federal personal current tax receipts are equivalent of eight percent of GDP (see —). Some volatility in these receipts comes from swings in yearly capital gains. Since 1989, these tax receipts average 7.9 percent of GDP.

Social insurance contributions are relatively stable over time and comprise 6.6 percent of GDP in 2023 Q3 (see —), compared to an average of 6.6 percent since 1989.

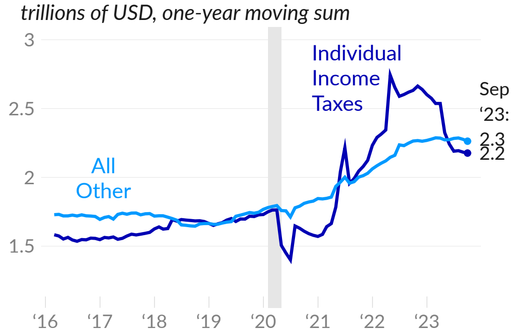
Corporate income tax receipts are typically two percent of GDP during economic expansions, but were cut to one percent in 2019. In 2023 Q3, these receipts are equivalent to 1.5 percent of GDP (see —).

Other tax receipts, including excise taxes and customs duties total 0.8 percent of GDP in the latest data (see —).

The United States Treasury report federal government current receipts and outlays, by type, in the Monthly Treasury Statement. To smooth seasonal patterns in tax payments, the receipts from the previous 12 months are combined, in each month, below.

Federal Government Receipts

trillions of USD, one-year moving sum



Source: Treasury

Over the 12 months ending September 2023, **federal government receipts** total $4.4 trillion, compared to $4.9 trillion one year prior, in September 2022.

Over the past 12 months, 49 percent of receipts, totalling $2.2 trillion, are from individual income taxes (see). The remaining receipts (see) are largely social insurance contributions ($1.6 trillion) and corporate income taxes ($0.4 trillion).

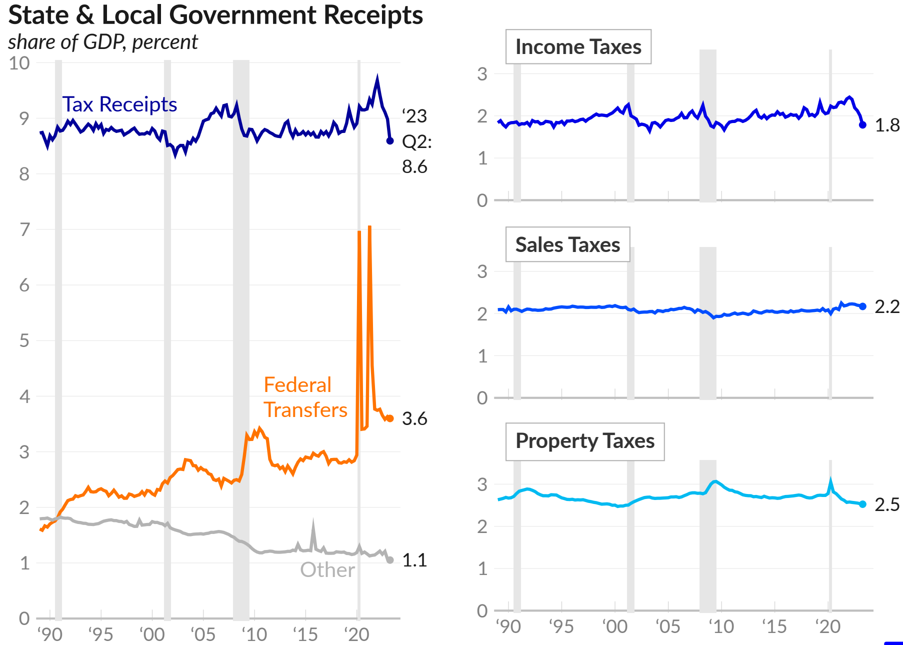
State and Local Government Receipts

State and local government current receipts are a combination of taxes, transfers from the federal government, and other receipts, such as fines and fees. In 2023 Q2, combined state and local government tax receipts total 8.6 percent of GDP (see), following 9.4 percent of GDP one year prior. Since 2019, these tax receipts decreased by 0.4 percent of GDP. State and local government income tax receipts decreased by 0.3 percent of GDP over the same period.

Federal government transfers to state and local governments total 3.6 percent of GDP in 2023 Q2 (see), and 3.8 percent one year prior. These transfers peaked during COVID-19 relief efforts, but have been climbing over time, from 1.6 percent of GDP in 1989. Other receipts are equivalent to 1.1 percent of GDP in 2023 Q2 (see).

State & Local Government Receipts

share of GDP, percent



Source: Bureau of Economic Analysis

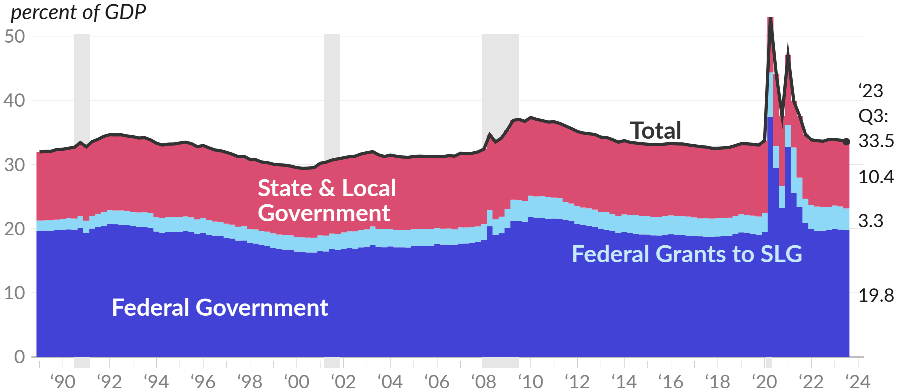
Government Expenditures

Consolidated government current expenditures combine federal, state, and local levels of government, and include consumption expenditures, government social benefits, interest payments, subsidies, and other transfers. Federal government grants to state and local governments are separated to avoid double counting.

As of 2023 Q3, government current expenditures total $9.3 trillion, which is 33.5 percent of GDP (see —). One year prior, in 2022 Q3, government current expenditures total 33.6 percent of GDP. Government spending peaked during the COVID-19 pandemic, averaging 40.9 percent of GDP from 2020 to 2021. Since 1989, government spending averages 33.3 percent of GDP.

Government Current Expenditures

percent of GDP



Source: Bureau of Economic Analysis

By level of government, federal current expenditures are equivalent to 19.8 percent of GDP in 2023 Q3, and 19.7 percent in 2022 Q3 (see ■). Federal government transfers to state and local governments comprise 3.3 percent of GDP in the latest data (see ■). State and local government current expenditures, excluding transfers from the federal government, are equivalent to 10.4 percent of GDP in 2023 Q3 (see ■).

By category, consumption expenditures represent 13.7 percent of GDP in 2023 Q3, and 13.8 percent of GDP one year prior. Over the past 30 years, consumption expenditures average 14.8 percent of GDP. Current transfer payments, which are largely government social benefits, total 14.9 percent of GDP in 2023 Q3, compared to 15.5 percent one year prior, and a long-term average of 13.5 percent.

Consolidated government interest payments are 4.6 percent of GDP in the latest data, compared to 3.8 percent one year prior. Interest payments comprise 4.4 percent over the past 30 years, on average. Government subsidies to businesses total 0.4 percent of GDP in 2023 Q3 and 0.5 percent in 2022 Q3.

Government Current Expenditures

share of GDP, percent

	2023 Q3	'23 Q2	'23 Q1	'22 Q3	'21 Q3	*moving averages* 1-year	10-year	30-year
Current Expenditures (—)	33.5	33.8	33.9	33.6	37.6	33.8	34.8	33.3
Consumption Expenditures	13.7	13.7	13.8	13.8	14.2	13.7	14.2	14.8
Current Transfer Payments	14.9	15.3	15.4	15.5	17.5	15.3	15.9	13.5
Interest Payments	4.6	4.4	4.3	3.8	3.6	4.4	3.9	4.4
Subsidies	0.4	0.4	0.4	0.5	2.3	0.4	0.8	0.5

Source: Bureau of Economic Analysis

Composition of Federal Government Spending

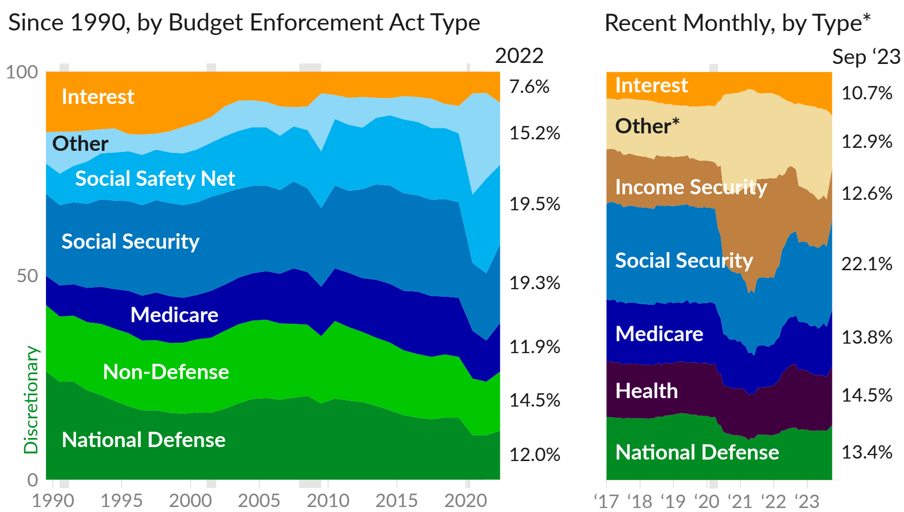
Over the long-term, there have been important shifts in the **composition of federal spending**. The ways federal spending varies from these long-term trends, in the short-term, are also important.

Over the long-term, Office of Management and Budget (OMB) data show national defense spending fell to 15.2 percent of outlays in 2019 from 26.6 percent in 1989 (see ■). Discretionary non-defense spending maintained a relative stable share of spending over the period (see ■). Net interest expense, the cost of federal borrowing, fell along with long-term interest rates, to 8.4 percent of outlays in 2019 from 14.8 percent in 1989 (see ■).

Offsetting the reduction in spending on interest and national defense, Medicare and Social Security now make up a larger share of federal spending, as a larger share of people are retirement age. Likewise, spending on the social safety net (means-tested benefits and Medicaid) increased as employment-to-population ratios fell and Medicaid was expanded. Medicare (see ■), Social Security (see ■), and the social safety net (see ■) combine to comprise 54.8 percent of federal spending in 2019, compared to 34.7 percent in 1989.

Composition of Federal Government Outlays

share of total, percent



Source: Office of Management and Budget

Source: Treasury

* The two charts use different data sources with different categories and therefore do not match.

The Treasury Bureau of Fiscal Service report federal outlays by type on a monthly basis (see right chart above). The categories used in the Treasury monthly report are not the same as those used in the OMB data, so the two charts above should not be compared. The higher-frequency Treasury data, however, are helpful for showing short-term changes, and **recent changes in the composition of federal spending**.

Income security, which includes economic impact payments, the child tax credit, unemployment compensation, food and nutrition assistance, federal employee retirement and disability, and housing assistance, was 12.6 percent of federal spending over the 12 months ending September 2023 (see ■). At its peak, over the 12 months ending March 2021, income security comprised 26.0 percent of federal spending. Pre-pandemic, in 2019, the category comprised 11.5 percent.

The category labeled “other” in the above-right chart includes several subcategories worth examining. The category increased to 12.9 percent of federal spending during the 12 months ending September 2023, from 24.2 percent during the 12 months ending March 2021 (see). Prior to the pandemic, in 2019, the category was 12.8 percent of spending.

Within the “other” category, the biggest changes during the pandemic came from business and housing subsidies (commerce and housing credit) and transfers to state and local governments (general government). The category is described in the following table.

Composition of Federal Government Outlays
share of total, percent

	Sep 2023	Aug 2023	Jul 2023	Mar 2021	2019	2017
Income Security	12.6	12.1	11.6	26.0	11.8	12.8
Health	14.5	13.9	13.3	10.9	12.8	13.4
Medicare	13.8	13.0	12.2	10.4	14.7	15.0
Social Security	22.1	20.9	19.7	14.7	23.6	23.8
National Defense	13.4	12.7	12.0	9.7	16.0	15.2
Net Interest	10.7	9.9	9.3	4.1	8.3	6.6
Other:	12.9	17.5	21.9	24.2	12.8	13.1
Administration of Justice	1.3	1.3	1.2	1.0	1.5	1.5
Agriculture	0.6	0.6	0.5	0.7	0.8	0.5
Commerce & Housing Credit	1.6	0.7	0.7	9.8	-0.5	-0.8
Community & Regional Development	1.4	1.4	1.3	1.3	0.7	0.7
Educ., Training, Employment, & Social Serv.	-0.1	6.5	11.5	3.2	2.7	3.2
Energy	-0.0	-0.1	-0.1	0.1	0.1	0.1
General Government	0.5	0.5	0.5	2.4	0.4	0.5
General Science, Space, & Technology	0.7	0.6	0.6	0.5	0.7	0.8
International Affairs	1.1	1.1	1.1	0.9	1.2	1.2
Natural Resources & Environment	0.7	0.7	0.7	0.5	0.8	0.9
Transportation	2.1	2.0	1.9	2.2	2.2	2.4
Undistributed Offsetting Receipts	-2.2	-2.4	-2.3	-1.5	-2.3	-2.3
Veterans Benefits & Services	4.9	4.6	4.3	3.0	4.5	4.4

Source: Treasury Bureau of Fiscal Service

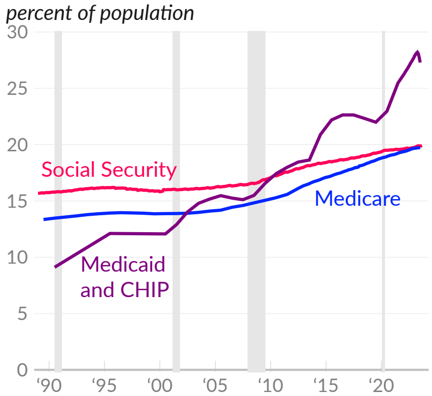
Major Federal Programs

The three main federal government social benefits in the US are Social Security, Medicare, and Medicaid. Social Security provides income in old age and to disabled people. Medicare provides health insurance in old age, and Medicaid provides health insurance to many low income people.

As discussed in the household section, Social Security is by far the main anti-poverty program in the US, removing 28.9 million people from poverty in 2022. The number of Social Security beneficiaries has increased from 53.4 million in 2010, or 17.2 percent of the population, to 66.8 million in September 2023, equivalent to 19.9 percent of the population.

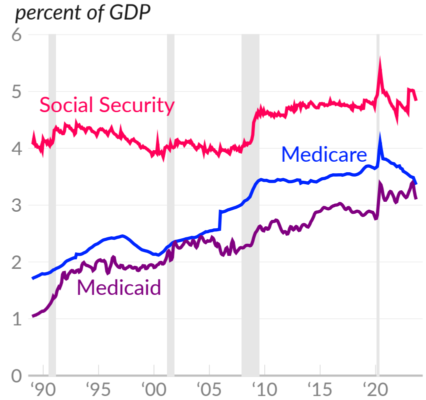
Medicare enrollment has grown from 15.3 percent of the population in 2010 to 19.7 percent. Total Medicare enrollment is 66.2 million in July 2023. Medicaid, which was expanded in 2014, and the Children's Health Insurance Program (CHIP), increased enrollment from 17.4 percent of the population in 2010 to 27.3 percent in July 2023. The total enrollment for Medicaid and CHIP is 91.5 million people.

Enrollment / Beneficiaries
percent of population



Source: CMS, SSA, Census

Expenditures
percent of GDP



Source: BEA

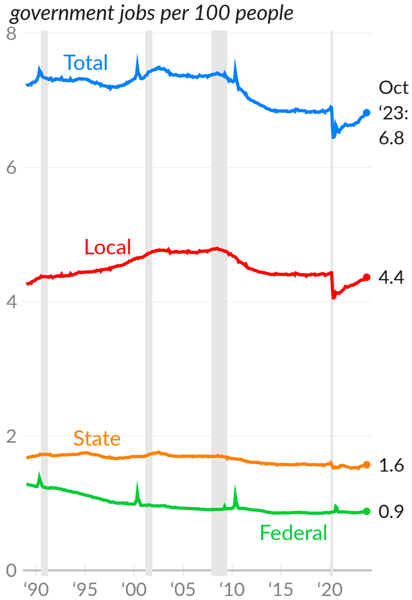
The overall increase in the cost of these programs since 2010 has been modest, despite the aging of the population and the major expansion of Medicaid. Payments to Social Security beneficiaries, combined with government spending on Medicare and Medicaid, comprise 10.7 percent of GDP in 2010. In the latest data, covering September 2023, these programs combined are equivalent to 11.3 percent of GDP. As of July 2023, Social Security benefits are 4.8 percent of GDP, and government spending on Medicare and Medicaid are 3.4 percent and 3.1 percent of GDP, respectively.

Government Jobs

Government workers provide public services to the population. As examples, federal government jobs include mail carriers and park rangers; state government jobs include teachers and social workers; and local governments employ firefighters, police, 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

government jobs per 100 people



Source: Bureau of Labor Statistics

In October 2023, there were 22.9 million government jobs, equivalent to 6.8 for every 100 people (see —). The previous year, in October 2022, there were 22.3 million government jobs, equivalent to 6.7 per 100 people. During the 1990s, there were 7.3 government jobs per 100 people. If the rate was the same today, there would be 1.6 million additional government jobs.

By level of government, there were 14.7 million local government jobs in October 2023, equivalent to 4.4 per 100 people (see —). In the same period, there were 5.3 million state government job (1.6 per 100 people, see —), and 3.0 million federal government job (0.9 per 100 people, see —).

Since 2019, the US has gained 169,000 total government jobs. During the same period, local governments added 21,000 jobs, state governments added 33,000 jobs, while the federal government added 115,000 jobs.

Government Employment

in thousands of employees

	Oct '23	Sep '23	Oct '22	Oct '21	2019	2005
Government Total	22,892	22,841	22,262	22,037	22,608	21,804
Federal	2,951	2,948	2,871	2,877	2,831	2,732
Federal Hospitals	–	377	361	359	355	248
Department of Defense	–	556	550	563	544	487
US Postal Service	608	607	602	601	607	775
State Government	5,281	5,271	5,104	5,132	5,202	5,032
State Education	2,548	2,546	2,446	2,472	2,511	2,260
State Hospitals	–	429	416	409	387	350
General Admin.	–	1,824	1,784	1,787	1,824	1,862
Local Government	14,660	14,622	14,287	14,028	14,576	14,041
Local Education	8,003	7,976	7,827	7,676	8,000	7,856
Utilities	–	253	247	244	247	238
Transportation	–	294	283	278	290	252
Local Hospitals	–	705	680	673	682	654
General Admin.	–	4,306	4,216	4,165	4,255	4,013

Source: Bureau of Labor Statistics

Government Balance Sheets

The scope of the public sector and how the government funds and organizes itself are reflected in **government balance sheets**. This subsection describes selected components of government balance sheets, at the federal level, and for combined state and local governments. First, the combined balance sheet of federal, state, and local governments is summarized. Next, public wealth is discussed, followed by liabilities, interest expense, and debt sustainability. The subsection also covers assets and net investment.

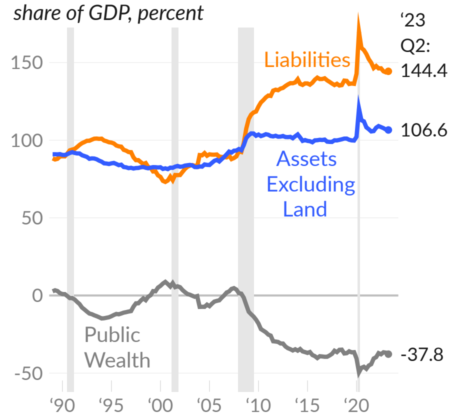
Assets other than public lands, liabilities, and net worth (public wealth), are the main components of government balance sheets, and are summarized below for the combined federal, state, and local governments. Since 1989, government assets have remained stable as a share of GDP, while liabilities have increased, driving down public wealth.

Combined government liabilities total $39.1 trillion in 2023 Q2, equivalent to 144.4 percent of GDP (see —). Liabilities are 146.2 percent of GDP one year prior, in 2022 Q2, and 136.8 percent in 2019.

Government assets, excluding public land, are valued at $28.8 trillion in 2023 Q2, or 106.6 percent of GDP (see —). Assets are 109.1 percent of GDP one year prior, and 100.3 percent in 2019.

Public wealth is government assets minus liabilities, and is equivalent to negative 37.8 percent of GDP in the latest data (see —). Each balance sheet component is discussed in the following subsections.

Government Balance Sheet
combined federal, state, and local governments
share of GDP, percent



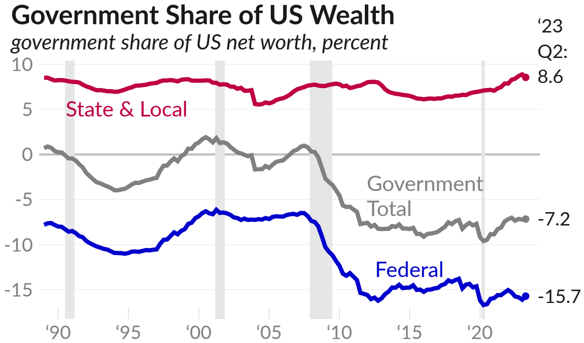
Source: Federal Reserve

Public Wealth

Government balance sheets can be summarized and put into broader context by examining the **government share of US wealth**, calculated from the Federal Reserve financial accounts. Wealth, or net worth, is calculated as assets minus liabilities, and summarizes an overall financial position. The wealth of an individual group is then divided by total US wealth to determine the group's share of the total.

Excluding public land, the federal government's sizable debt exceeds the market value of its assets, therefore its financial position is negative. At an aggregate level, state and local governments own a small portion of US wealth, as the value of assets is greater than the amount of debt.

Government Share of US Wealth
government share of US net worth, percent



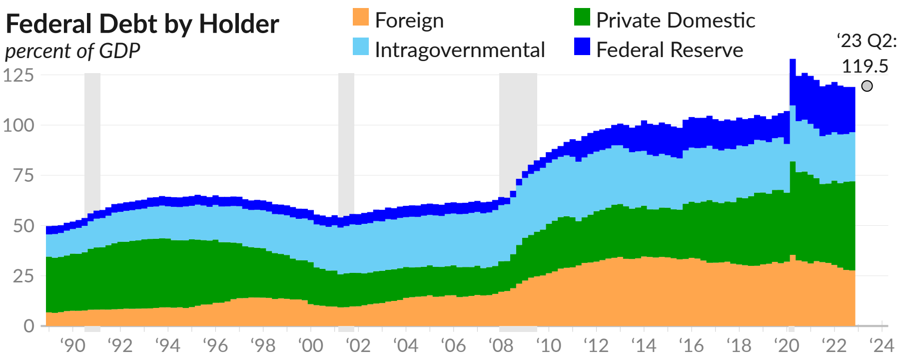
Source: Federal Reserve

The combined US government has a net worth of negative $22.4 trillion, as of 2023 Q2, equivalent to -7.2 percent of national wealth (see —). Federal government net worth (excluding land) is equal to -15.7 percent of national wealth (see —), while state and local government net worth is equivalent to 8.6 percent of US wealth (see —).

Liabilities

Federal government public debt totals $32.3 trillion in 2023 Q2, equivalent to 119.5 percent of GDP (see ○). This debt is **held by a mixture of investors**, including private domestic investors, overseas investors, the Federal Reserve, and government agencies and trusts (referred to as intragovernmental holdings).

In the fourth quarter of 2022, federal government public debt totals $31.4 trillion, equivalent to 119.0 percent of GDP. Of this, $11.7 trillion, or 37.3 percent of the total, is held by private domestic investors (see ■). An additional $7.3 trillion, or 23.2 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.



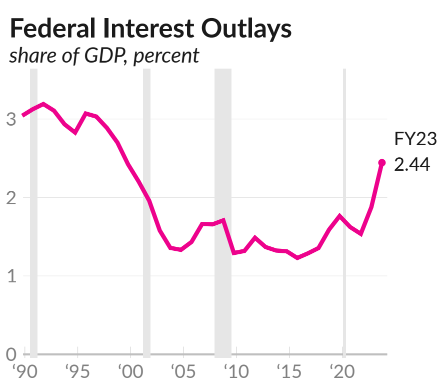
Source: Treasury

Interest Expense

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. The Federal Reserve has also absorbed some of the newly issued treasuries.

The Office of Management and Budget report **federal interest outlays** of $659 billion in fiscal year 2023 (the year beginning October 1, 2022), compared to $475 billion in fiscal year 2022.

Put into the context of the size of the economy, federal interest outlays in fiscal year 2023 were equivalent to 2.44 percent of GDP (see —), following 1.88 percent of GDP in FY2022 and 1.54 percent in FY2021, and compared to an average of 2.9 percent in the 1990s, when interest rates were substantially higher.



Source: OMB

Debt Sustainability

Changes in the ratio of federal government debt to GDP can be decomposed to understand how various economic forces affect the trajectory of the debt relative to our ability to service it. Specifically, **debt sustainability** is affected not only by borrowing but also by changes in real interest rates and economic growth.

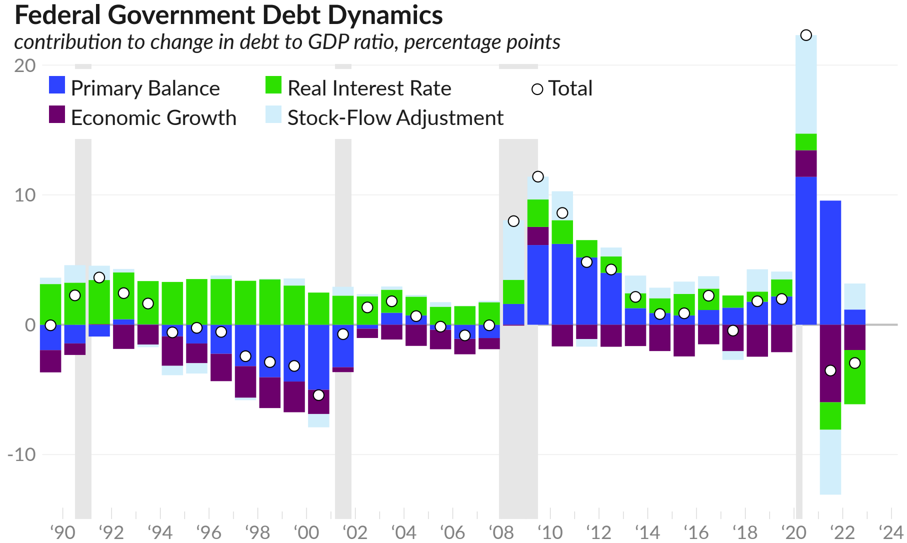
In a mechanical way, government debt is the result of the accumulation of past deficits. When the government spends more than it takes in through taxes, it borrows the difference, which adds to the debt. Importantly, some government spending is interest payments on the debt. The *primary balance* measures the gap between spending, excluding interest payments, and revenue. Interest payments are a product of the interest rate and the existing debt. Higher real interest rates mean larger interest payments which increase deficits and, in turn, increase debt.

Federal debt is often divided by GDP as a way to capture the ability to repay the debt. The basic idea is that **a growing economy gradually erodes the burden of its debt**. As the economy grows, it is better able to produce the resources needed to repay its debt. Finally, there are often discrepancies between when borrowing occurs and when spending occurs, and the account balances at the Treasury vary over time. For example, the Treasury Secretary made more cash available to cover any potential short-term needs during the peak of the COVID-19 pandemic. Stock-flow adjustments correct for the difference between the change in liabilities (the stock) and the current federal deficit or surplus (the flow).

In 2022, the debt to GDP ratio decreased by 2.9 percentage points (see o). The primary balance added 1.2 percentage points to the debt to GDP ratio (see ■), economic growth subtracted 1.9 percentage points (see ■), and real interest rates subtracted 4.2 percentage points (see ■). These combined factors were less than the actual change in liabilities; the adjustment to reconcile stocks and flows added two percentage points (see ■).

Federal Government Debt Dynamics

contribution to change in debt to GDP ratio, percentage points



Source: Author's Calculations, Federal Reserve, Bureau of Economic Analysis

Assets

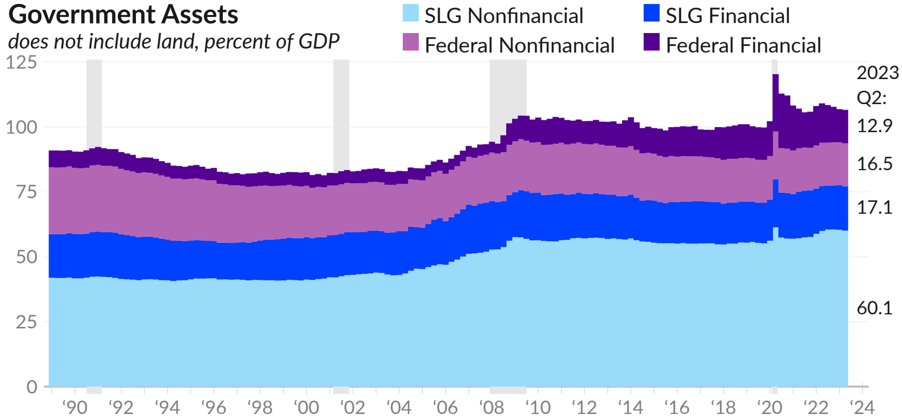
US government assets include financial assets but are mostly comprised of the non-financial assets of state and local governments (SLG), such as buildings and equipment. Land is not included in US measures of government assets.

In the second quarter of 2023, the market value of government assets, excluding land, is $28.8 trillion, equivalent to 106.6 percent of GDP. Of this, state and local government nonfinancial assets, such as buildings and equipment, are equivalent to 60.1 percent of GDP (see ■), and state and local government financial assets, such as insurance trust funds, are equivalent to 17.1 percent of GDP (see ■).

The market value of federal government nonfinancial assets is equivalent to 16.5 percent of GDP in 2023 Q2 (see ■). Federal government financial assets are valued at 12.9 percent of GDP (see ■).

Government Assets

does not include land, percent of GDP



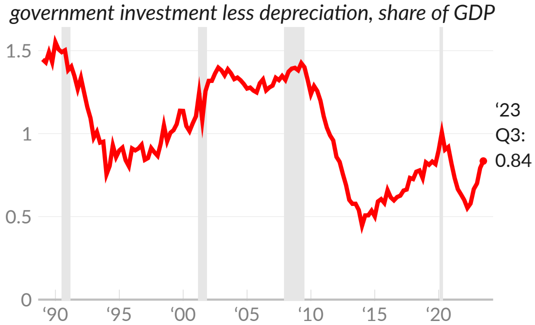
Source: Federal Reserve

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 2023 Q3, government net investment is $230.7 billion. Government net investment represents 0.84 percent of GDP in 2023 Q3 (see —), compared to 0.58 percent in 2022 Q3, and 0.67 percent in 2021 Q3.

Government Net Investment

government investment less depreciation, share of GDP



Source: Bureau of Economic Analysis

International Transactions

Transactions between US residents and the rest of the world are recorded in two main categories: the current account, which tracks nonfinancial transactions with economic value, and the financial account, which records financial transactions like lending and borrowing. This section delves into both accounts, with a focus on the balance of payments, the difference between payments from residents and payments to residents. The section also covers international trade and discusses trends in exchanges rates.

Balance of Payments

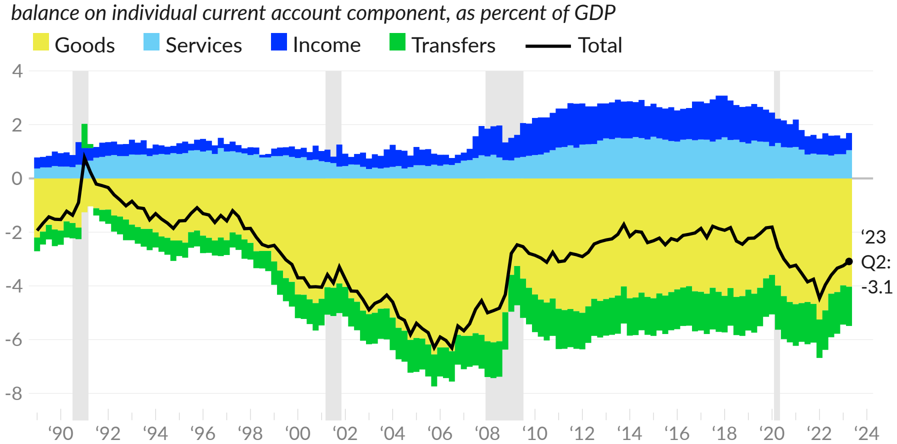
The **current account balance** reflects international transactions for goods and services, transfers such as remittances, and ownership income from foreign assets. It comprises current receipts–payments to US residents primarily for exports of goods and returns on foreign assets–and current payments–payments from US residents to the rest of the world for imports, returns on foreign investment in the US, and transfers such as remittances.

This balance is further broken down into four components: the trade balance for goods (see), the trade balance for services (see), the primary income balance (covering wages and asset income, see), and the secondary income balance (including remittances and taxes, see).

As of 2023 Q2, the US runs a current account deficit of 3.1 percent of GDP, primarily as the result of a trade deficit on goods of 4.0 percent of GDP. The initial GDP report for 2023 Q3 does not include the data needed to calculate the current account balance, however, the goods trade deficit for 2023 Q3 is equivalent to 3.9 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. Economic theory suggests that capital 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. Capital is flowing from less-developed countries with lower wages into the US, largely to finance additional US consumer spending on imported goods.

Components of Current Account

share of GDP, percent

	2023 Q3	'23 Q2	'23 Q1	'22 Q4	'22 Q3	'22 Q2	moving averages 3-year	10-year
Current Account Balance	–	-3.09	-3.25	-3.34	-3.60	-3.96	–	–
Current Receipts	–	17.01	17.31	17.31	17.53	17.46	–	–
Exports	10.99	10.94	11.43	11.41	11.87	11.92	11.19	11.83
Goods	7.33	7.27	7.80	7.75	8.23	8.28	7.64	7.87
Durable	4.09	4.07	4.16	4.10	4.19	4.14	4.11	4.68
Non-Durable	3.25	3.21	3.63	3.66	4.04	4.14	3.53	3.19
Services	3.66	3.67	3.63	3.66	3.63	3.64	3.55	3.96
Income Receipts	–	5.37	5.19	5.08	4.95	4.81	–	–
Transfer Receipts	0.67	0.70	0.69	0.82	0.72	0.73	0.74	0.78
Current payments	–	20.11	20.56	20.65	21.13	21.42	–	–
Imports	13.83	13.92	14.51	14.73	15.30	15.93	14.70	14.83
Goods	11.25	11.30	11.78	11.98	12.52	13.19	12.11	12.15
Durable	7.30	7.40	7.51	7.52	7.89	8.22	7.75	7.81
Non-Durable	3.96	3.90	4.27	4.45	4.63	4.97	4.36	4.34
Services	2.58	2.62	2.73	2.76	2.78	2.74	2.59	2.68
Income Payments	–	4.73	4.59	4.37	4.21	4.02	–	–
Transfer Payments	1.40	1.46	1.46	1.55	1.62	1.47	1.49	1.46

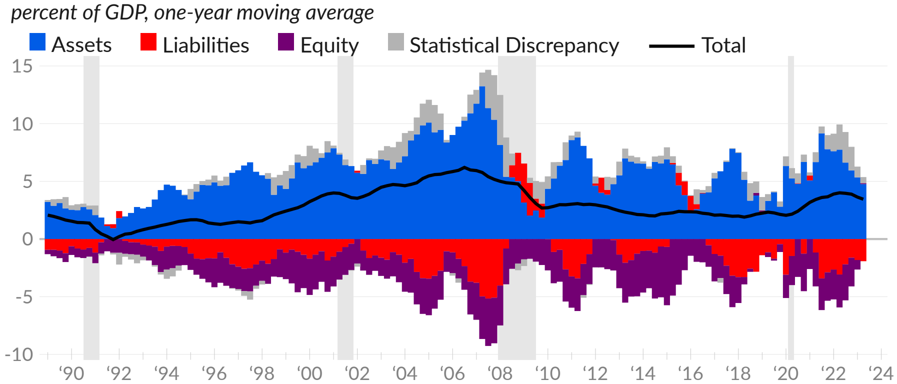
Source: Bureau of Economic Analysis

The financial account measures transactions between the US and the rest of the world that result in changes in the ownership of assets. The **financial account balance** captures the difference between capital inflows and capital outflows, and offsets the current account balance. Each quarter, the US acquires foreign goods and services, and the rest of the world acquires US assets, on a net basis.

In the second quarter of 2023, the rest of the world acquired $1.34 trillion in US assets, equivalent to 4.8 percent of GDP (see ■). The rest of the world incurred the equivalent of -1.9 percent of US GDP in liabilities (see ■) and issued 0.1 percent of US GDP of equity in foreign businesses (see ■).

Financial Account Balance

percent of GDP, one-year moving average



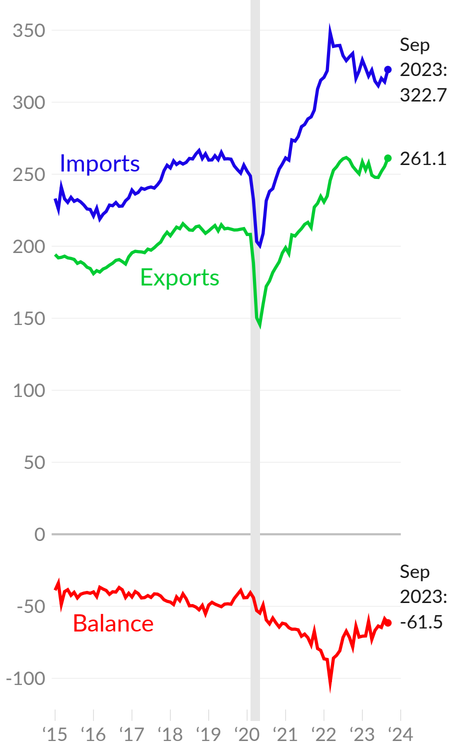
Source: Federal Reserve

International Trade

Each month, the Census Bureau report **goods and services trade** between the US and the rest of the world. US purchases of foreign goods and services are classified as imports and foreign purchases of US goods and services are exports. The trade of goods includes consumer goods, industrial equipment, and agricultural products. Services trade includes travel and tourism, business services, and charges for the use of intellectual property, among other services.

US Imports and Exports

billions of US dollars, seasonally adjusted



Source: Census Bureau

US goods and services imports total $322.7 billion in September 2023, following $314.1 billion in August (see —). Imports average $317.8 billion over the latest three months of data, and $330.9 billion during the same months, one year prior. In 2019, monthly US imports average $258.8 billion. For additional context, imports are equivalent to $961 per capita, in the latest month.

The US exported $261.1 billion of goods and services in September 2023, following $255.4 billion in August (see —). The three-month average was $256.1 billion in September, and $260.7 billion one year prior. Exports were $212.2 billion per month, on average, in 2019. In the latest month, exports are equivalent to $778 per capita or $1,616 per worker.

Spending on imports exceeds payments received for exports, resulting in a trade deficit. In September, the trade deficit was $61.5 billion, following $58.7 billion in August (see —). Over the past three months, the average trade deficit is $61.6 billion, compared to $70.2 billion one year prior. In 2019, the average monthly trade deficit is $46.6 billion.

International Trade

billions of US dollars, seasonally adjusted

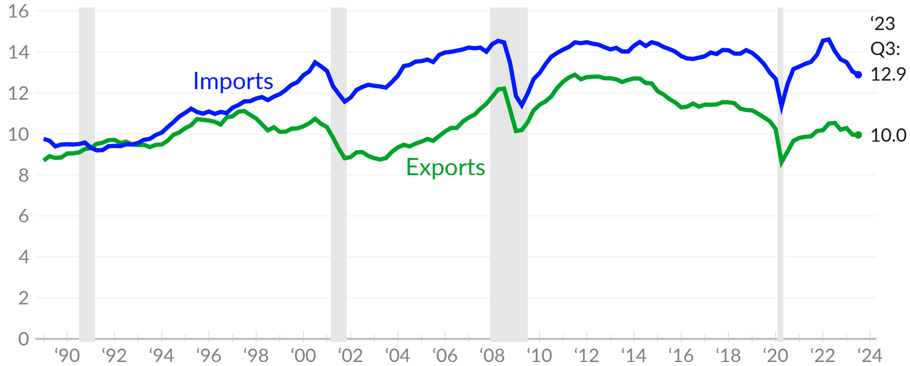
	Sep 2023	Aug 2023	Jul 2023	Sep 2022	Sep 2021	*quarterly average* 2023 Q3	2023 Q2	2023 Q1
Total Balance (—)	-61.5	-58.7	-64.7	-71.7	-76.8	-61.6	-67.8	-67.3
Goods Balance	-86.3	-84.6	-89.9	-90.5	-95.2	-86.9	-91.7	-87.8
Services Balance	24.8	25.9	25.2	18.8	18.4	25.3	23.9	20.5
Total Exports (—)	261.1	255.4	251.9	259.8	213.0	256.1	248.3	256.4
Goods Exports	176.7	171.4	168.4	180.8	144.9	172.2	165.9	175.5
Services Exports	84.4	84.0	83.5	79.1	68.2	84.0	82.4	80.9
Total Imports (—)	322.7	314.1	316.6	331.6	289.8	317.8	316.1	323.7
Goods Imports	263.0	256.0	258.3	271.3	240.0	259.1	257.6	263.3
Services Imports	59.6	58.1	58.3	60.3	49.8	58.7	58.6	60.4

Source: Census Bureau

Nonpetroleum goods and services imports (see —) were equivalent to 12.9 percent of GDP in the third quarter of 2023, while exports of nonpetroleum goods and services (see —) were equivalent to 10.0 percent of GDP. In 2019 Q4, nonpetroleum imports were 13.0 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

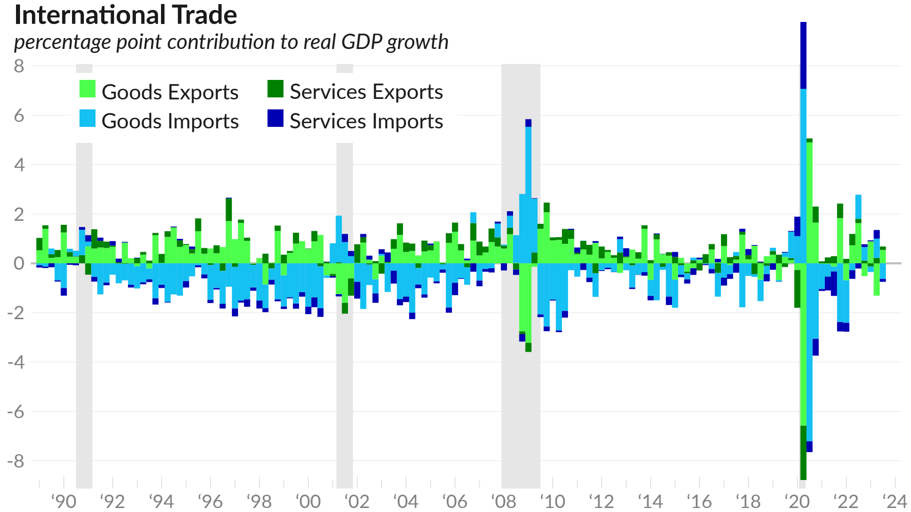
Contribution to Overall Growth

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 instead subtracted from spending data to calculate domestic production.

Goods exports contributed 0.54 percentage point to GDP growth in the third quarter of 2023 while services exports contributed 0.14 percentage point. Good imports subtracted 0.63 percentage point from GDP growth and services imports subtracted 0.12 percentage point.

International Trade

percentage point contribution to real GDP growth



Source: Bureau of Economic Analysis

Trade by Type

Numerous factors can influence the trade balance, including shifts in domestic and international preferences and incomes, fluctuations in exchange rates, and changes in trade policy. The table below presents key trade categories as a percentage of GDP at selected intervals over the past three decades.

Exports and Imports by Type

percentage point share of GDP *period averages*

	'23 Q3	'23 Q2	'22 Q3	2016	2012 –13	2005 –06	1998 –99	1989 –93
Exports of Goods & Services	10.99	10.94	11.87	11.89	13.60	10.31	10.41	9.42
Exports of Goods	7.33	7.27	8.23	7.70	9.34	7.30	7.52	6.84
Foods, Feeds, & Beverages	0.56	0.58	0.69	0.69	0.81	0.46	0.50	0.60
Industrial Supplies & Materials	2.54	2.52	3.27	2.06	2.94	1.92	1.55	1.65
Petroleum & Products	1.04	0.98	1.33	0.53	0.89	0.28	0.11	0.12
Capital Goods, Except Automotive	2.20	2.19	2.25	2.77	3.21	2.84	3.27	2.61
Automotive Vehicles, & Parts	0.70	0.66	0.63	0.80	0.90	0.77	0.79	0.67
Consumer Goods, Ex. Food & Auto	0.97	0.94	0.97	1.03	1.11	0.91	0.86	0.74
Durable Goods	0.43	0.43	0.45	0.55	0.61	0.49	0.44	0.39
Nondurable Goods	0.54	0.51	0.52	0.47	0.50	0.41	0.42	0.35
Exports of Services	3.66	3.67	3.63	4.19	4.26	3.01	2.90	2.58
Transport	0.36	0.37	0.36	0.43	0.54	0.46	0.49	0.59
Travel	0.67	0.63	0.56	1.03	0.98	0.71	0.93	0.90
Intellectual Property Charges	0.44	0.46	0.48	0.60	0.67	0.50	0.40	0.29
Other Business Services	2.06	2.08	2.11	2.00	1.92	1.19	0.92	0.60
Imports of Goods & Services	13.83	13.92	15.30	14.56	16.71	15.99	12.65	10.38
Imports of Goods	11.25	11.30	12.52	11.80	13.85	13.48	10.59	8.45
Foods, Feeds, & Beverages	0.73	0.72	0.80	0.70	0.69	0.54	0.46	0.43
Industrial Supplies & Materials	2.35	2.41	3.13	2.32	4.24	4.24	2.22	2.16
Petroleum & Products	0.95	0.87	1.25	0.85	2.49	2.15	0.65	0.87
Capital Goods, Except Automotive	3.11	3.16	3.39	3.16	3.35	3.00	3.03	2.04
Automotive Vehicles, & Parts	1.72	1.68	1.57	1.87	1.84	1.84	1.74	1.46
Consumer Goods, Ex. Food & Auto	2.78	2.80	3.14	3.11	3.17	3.20	2.47	1.83
Durable Goods	1.37	1.40	1.62	1.63	1.70	1.75	1.29	0.97
Nondurable Goods	1.41	1.40	1.52	1.48	1.47	1.46	1.18	0.86
Imports of Services	2.58	2.62	2.78	2.77	2.86	2.51	2.06	1.93
Transport	0.50	0.51	0.64	0.49	0.59	0.60	0.54	0.55
Travel	0.53	0.53	0.48	0.58	0.55	0.57	0.63	0.61
Intellectual Property Charges	0.15	0.16	0.19	0.22	0.21	0.18	0.13	0.06
Other Business Services	1.28	1.30	1.35	1.32	1.32	0.91	0.57	0.38

Source: Bureau of Economic Analysis

Import Penetration

Goods can be produced domestically, 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.

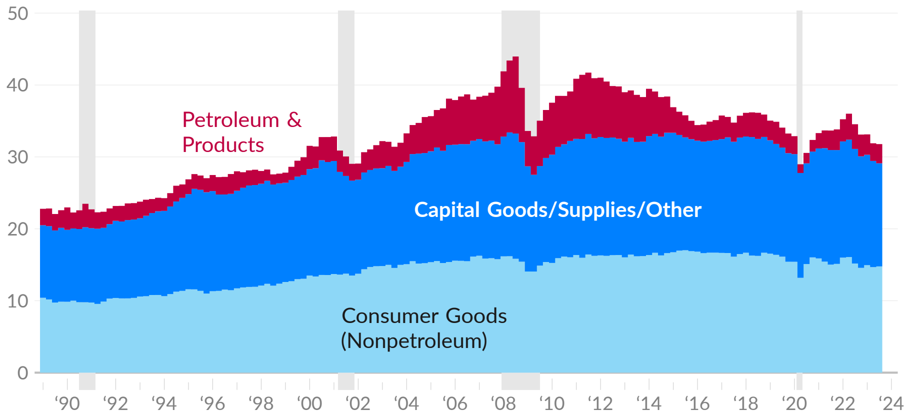
From 1989 to 2011, imports of consumer goods excluding petroleum increased by the equivalent of six percent of domestic consumption of goods, petroleum-related imports increased by the equivalent of 6.1 percent, and all other goods imports increased by the equivalent of 6.1 percent.

Since 2011, imports of consumer goods decreased by the equivalent of 1.6 percent of domestic goods demand, imports of petroleum products decreased by the equivalent of 5.7 percent, and other imports decreased by the equivalent of 1.8 percent.

In 2023 Q3, the US imported nonpetroleum consumer goods equivalent to 14.8 percent of domestic consumption of goods (see). Petroleum-related imports claim 2.7 percent (see), and imports of all other goods, primarily capital goods, industrial supplies, and materials, are equivalent to 14.3 percent (see).

Import Share of Goods

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



Source: Bureau of Economic Analysis

Trade by Partner

The US Census Bureau report monthly data on US trade in goods, including by partner country. In September 2023, trade with the top 25 trading partners (see table) comprises 99.5 percent of total US trade in goods. The top three US trading partners are Mexico, Canada, and China. These three countries account for 42.5 percent of US goods trade in September 2023.

US Trade in Goods
census basis, millions of USD, not seasonally adjusted

	September 2023			September 2022		
	Imports	Exports	Total	Imports	Exports	Total
Total, All Countries	$261,282	171,248	432,530	275,343	175,979	451,323
Mexico	39,543	27,569	67,112	39,565	27,904	67,470
Canada	35,019	29,683	64,702	35,940	30,355	66,295
China	40,281	11,834	52,116	49,250	11,819	61,069
Japan	12,700	6,715	19,415	11,546	6,661	18,208
Germany	12,565	6,737	19,302	12,788	5,983	18,772
South Korea	10,116	5,911	16,028	10,035	6,110	16,145
Vietnam	10,643	811	11,455	11,582	979	12,562
United Kingdom	5,077	5,991	11,069	5,483	7,385	12,869
India	7,377	3,528	10,906	7,232	4,326	11,558
Taiwan	8,006	2,829	10,836	7,516	3,323	10,840
Netherlands	3,046	6,295	9,342	2,328	6,677	9,006
Ireland	7,322	1,118	8,441	7,013	1,446	8,460
Italy	5,148	3,244	8,392	4,992	2,184	7,177
France	4,097	3,540	7,637	4,927	4,675	9,602
Brazil	3,858	3,675	7,533	3,445	4,971	8,417
Singapore	3,244	4,105	7,349	2,317	4,785	7,102
Thailand	4,654	1,500	6,154	5,137	1,404	6,541
Switzerland	3,997	1,976	5,974	4,675	2,559	7,235
Malaysia	3,751	1,759	5,511	4,994	1,483	6,477
Belgium	1,672	2,734	4,407	2,154	2,564	4,719
Australia	1,229	2,864	4,094	1,363	3,061	4,424
Hong Kong	421	3,560	3,982	394	2,349	2,743
Spain	1,644	2,188	3,833	1,701	2,247	3,949
Saudi Arabia	1,475	1,746	3,222	1,796	993	2,790
Indonesia	2,352	813	3,166	3,168	855	4,023

Source: Census Bureau

Over the year ending September 2023, nominal total trade increased among only 7 of the top 25 trading partners. The largest one-year increase in total trade was with Hong Kong. Monthly trade with Hong Kong grew by 1.2 billion, or 45.2 percent. The largest one-year decrease is with China, with monthly trade falling by nine billion, which is a drop of 14.7 percent. Total trade with all countries fell 4.2 percent over the year.

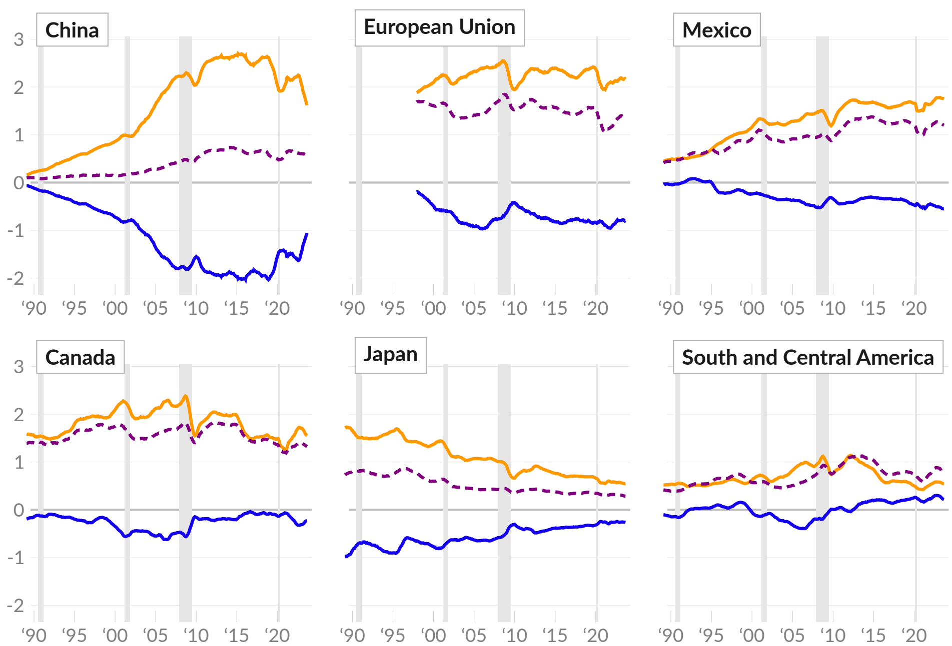
Trade data have large seasonal differences, and can swing from one month to the next. The following subsection uses 12-month moving sums to smooth the data and highlight longer-term trends.

Imports of goods have increased from 8.4 percent of GDP in 1989 to 11.5 percent of GDP in the year ending September 2023.Goods imports from China increased by 2.5 percent of GDP from 1989 to 2015, and have since fallen by 1.1 percentage points to 1.6 percent of GDP. Goods imports from Mexico have increased by 1.3 percent of GDP since 1989. Goods imports from Japan have fallen by 1.1 percent of GDP.

Exports of goods have increased by 1.1 percent of GDP since 1989. The largest buyers of US-made goods are Canada, Mexico, and China. Exports to these three countries make up 40.8 percent of exports and are equivalent to 3.1 percent of GDP over the year ending ltdt. Exports to the European Union currently total 1.4 percent of GDP.

Goods Trade by Partner

share of GDP, percent, 12-month moving sum

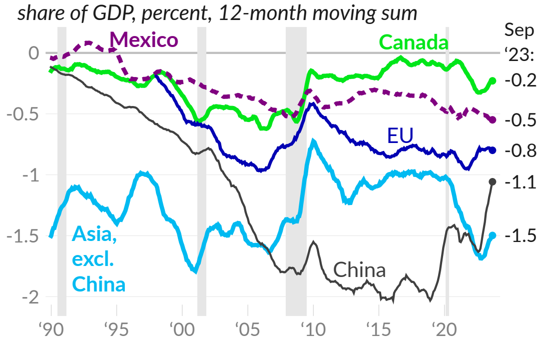


Source: Census Bureau

The trade balance, exports minus imports, has particular economic significance, and the breakdown by trading partner is no less interesting. Since 1989, the US goods trade deficit has increased by two percent of GDP, to four percent percent of GDP. In 2018, the deficit with China was two percent of GDP, but it has fallen to 1.1 percent of GDP.

Trade Balance on Goods by Partner

share of GDP, percent, 12-month moving sum



Source: Census Bureau

The US also runs a trade deficit with the European Union. In 1997, trade between the EU and US was relatively balanced. In the latest data, the goods trade deficit with the EU is 0.8 percent of GDP.

The US trade deficit with Mexico is currently 0.5 percent of GDP. In the early 1990s, the US had a trade surplus with Mexico. The US has a surplus with south and central American countries, equivalent to 0.2 percent of GDP.

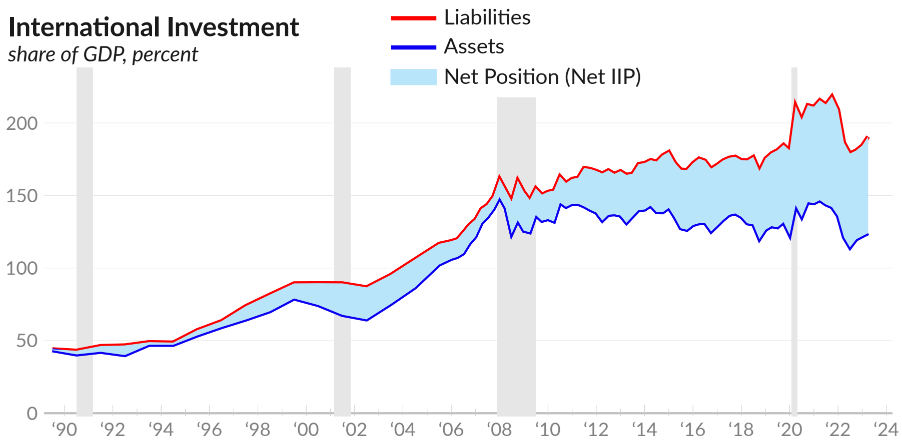
International Investment Position

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 2023 Q2, domestic holdings of foreign assets total $33.6 trillion, which is 124.1 percent of GDP (see —). These assets translate to 122.0 percent of GDP in 2023 Q1, and 128.8 percent in 2019. Domestic liabilities to the foreign sector total $51.6 trillion, or 190.6 percent of GDP, in 2023 Q2, following 184.4 percent in 2023 Q1, and 180.2 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 66.5 percent of GDP in 2023 Q2, following 62.4 percent in 2023 Q1, and 51.4 percent in 2019 (see).

International Investment
share of GDP, percent



Source: Bureau of Economic Analysis

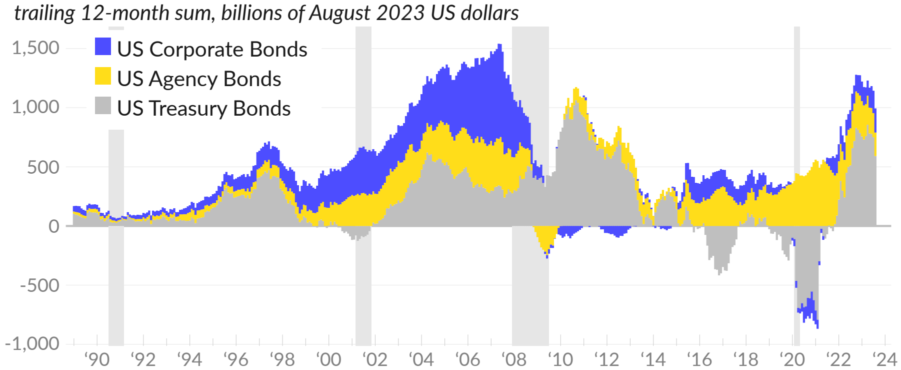
Capital Flows

The purchases and sales of US bonds by the rest of the world give insight into overall **capital flows** and appetite for different types of debt. During the 2000s, other countries were accumulating US corporate and government bonds, as the US was borrowing from the rest of the world and running a very wide trade deficit. In 2020, the rest of the world was a net purchaser of US government agency bonds but a net seller of treasuries.

Over the year ending August 2023, the rest of the world was a net buyer of $582 billion of US treasury bonds, equivalent to 2.1 percent of US GDP (see ■). Over the same period, the rest of the world was a net buyer of $196 billion of US agency bonds, (see ■), and a net buyer of $202 billion of US corporate bonds, (see ■).

Long-Term Bond Flows

purchases by foreigners minus sales by foreigners
trailing 12-month sum, billions of August 2023 US dollars



Source: Treasury International Capital, Setser

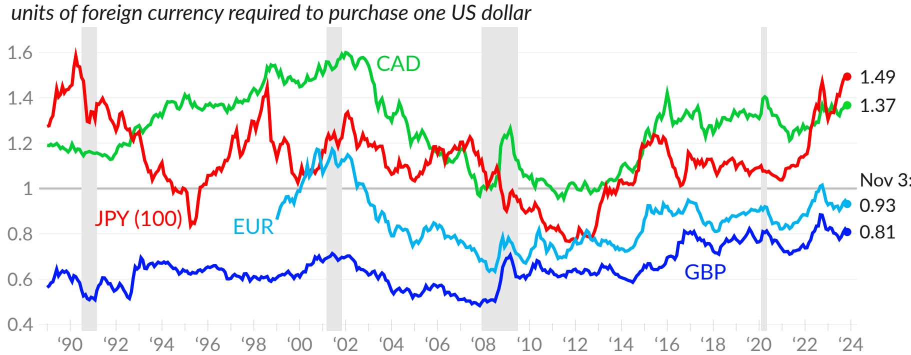
Exchange Rates

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 November 3, 2023, one US dollar buys approximately: 1.37 Canadian dollars (see —), 149 Japanese yen (see —), 0.93 euros (see —), and 0.81 British pounds (see —). Over the past three years, the nominal exchange rate between the US dollar and the Canadian dollar increased 0.3 percent, the USD-JPY rate increased 1.5 percent, the USD-EUR rate decreased eight percent, and the USD-GBP rate decreased 7.3 percent.

Selected Exchange Rates

units of foreign currency required to purchase one US dollar

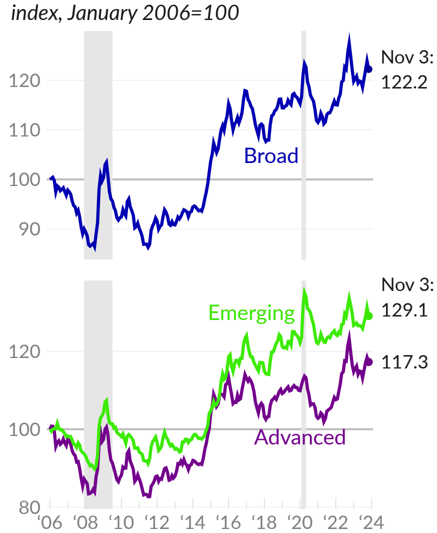


Source: Federal Reserve

The Federal Reserve **trade-weighted dollar** indices track weighted-average foreign exchange rates based on 26 currencies that are important to US trade. The weight of each currency in the index is based on the bilateral trade share of total trade in goods and services. These US dollar indices can simplify analysis of the overall role of foreign exchange rates on US trade.

Dollar Indices

trade-weighted foreign exchange rate, index, January 2006=100



Source: Federal Reserve

The **broad dollar index** (see —) summarizes foreign exchange rates between the US and trading partners by weighting foreign currencies in the index by the total amount of goods and services trade with the relevant countries.

As of November 3, 2023, the broad dollar index is 22.2 percent above its value at inception in 2006. Over the past three years, the index value has averaged 117.7, compared to an average of 114.9 over the previous three-years.

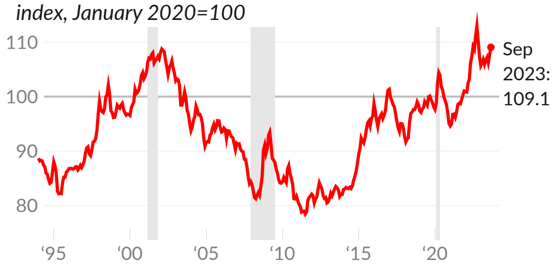
The Fed separately calculates the trade-weighted exchange rate with **advanced economies**, and with **emerging markets**. Since 2006, the dollar has increased 29.1 percent against emerging market currencies (see —), and increased 17.3 percent against advanced economy currencies (see —).

Shifts in relative consumer prices between the US and trading partners complicate analysis of exchange rates. For example, the US dollar-Japanese yen exchange rate is relatively stable from 2000 to 2020, but Japan has less inflation in consumer prices over the period. At the end of the period, 100 yen buys more consumer goods in Japan than one dollar will buy in the US.

Real effective exchange rates incorporate the inflation rate in the US and in trading partners, and are again weighted by the amount of trade with each partner. The real effective exchange rate captures the basket of goods that can be purchased by a unit of currency, as opposed to capturing the basket of other currencies that can be purchased.

USD Real Effective Exchange Rate

trade-weighted foreign exchange rate, index, January 2020=100



Source: BIS

The Bank for International Settlements (BIS) calculates **real effective exchange rates** for many countries, on a monthly basis. As of September 2023, the US dollar real effective exchange rate has increased 9.1 percent since 2010. In 2019, the index average was 98.6. Over the past three months, the index average value was 107.6.

Selected Exchange Rates

units of foreign currency required to buy one US dollar

	Nov 3, 2023	1-month moving average	1-year moving average	2019 average	1-month percent change	1-year percent change	5-year percent change
EUR	0.932	0.945	0.934	0.893	-2.6	-8.3	8.2
GBP	0.808	0.820	0.813	0.784	-2.5	-8.6	5.3
JPY	149.4	149.7	139.6	109.0	0.1	0.1	34.0
CAD	1.367	1.372	1.350	1.327	-0.4	-0.9	5.1
MXN	17.37	18.03	18.16	19.25	-3.0	-13.3	-6.7
CNY	7.30	7.31	7.07	6.91	0.1	1.4	6.8
CHF	0.898	0.902	0.913	0.994	-2.6	-9.8	-9.6
HKD	7.82	7.82	7.83	7.84	-0.1	-0.3	-0.3
INR	83.14	83.22	82.40	70.38	-0.1	1.0	21.1
AUD	1.537	1.572	1.506	1.439	-3.3	-3.5	13.4
NZD	1.669	1.697	1.630	1.518	-1.6	-5.5	12.8
BRL	4.89	5.04	5.06	3.94	-4.8	-7.6	30.2
KRW	1322.0	1349.6	1314.6	1165.8	-2.8	-7.0	17.3
MYR	4.72	4.75	4.54	4.14	0.1	0.2	16.0
DKK	6.95	7.05	6.96	6.67	-2.6	-8.0	8.3
NOK	11.05	11.05	10.46	8.80	0.3	4.4	34.4
SEK	10.91	11.03	10.64	9.46	-2.0	-1.9	22.9
ZAR	18.23	18.91	18.26	14.45	-5.8	0.4	36.2
SGD	1.354	1.368	1.350	1.364	-1.5	-4.8	-0.9
TWD	32.27	32.31	31.12	30.90	-0.2	0.7	5.1

Source: Federal Reserve

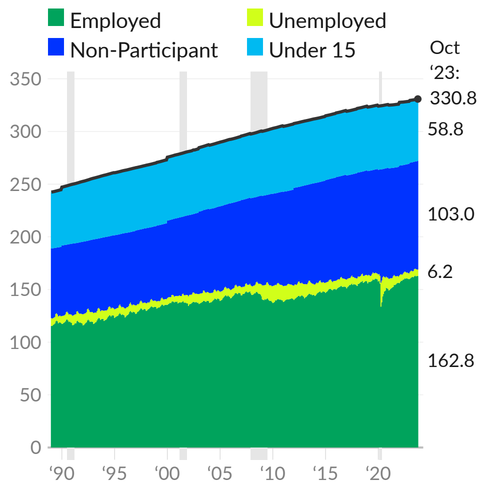
Labor Markets

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 October 2023, 162.8 million people are employed (including self-employment).

The number of people who are employed divided by the total population is the employment rate or employment-to-population ratio, which is 24.6 percent as of October 2023. 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, not seasonally adjusted



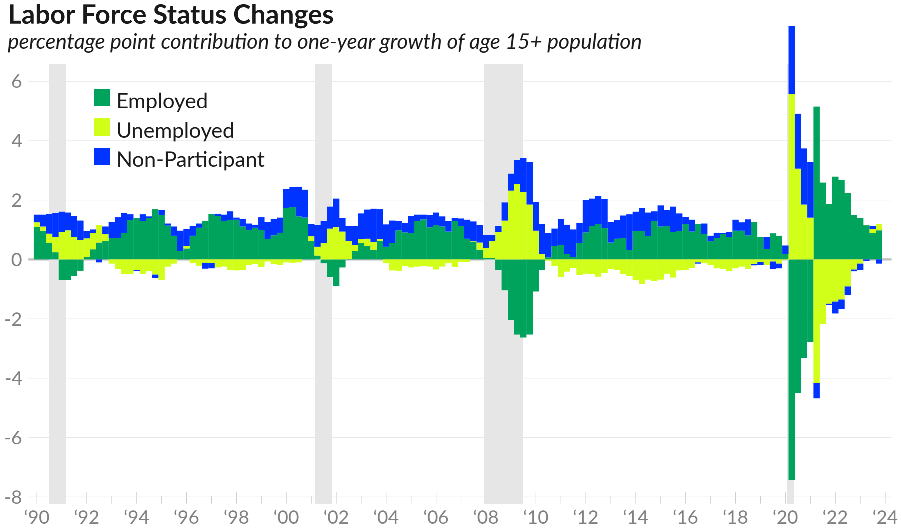
Source: Author's Calculations from CPS

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 October 2023, there are 6.2 million unemployed people. The combined group of employed and unemployed people is the labor force. The unemployment rate, unemployed people as a share of the labor force, is currently 3.7 percent. The labor force as a share of the population is the labor force participation rate, currently 25.5 percent.

People who are neither employed nor unemployed are considered *outside of the labor force*. Nonparticipants usually comprise about half of the population, and total 161.8 million in October 2023. The category includes children (58.8 million), students (18.5 million), unpaid caregivers (11.7 million), those unable to work due to disability or illness (13.6 million), those who want a job but have given up looking (5.1 million), and retirees and the elderly (51.8 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. Employment is the main source of income in the economy and is particularly important to overall levels of economic activity.

Labor Force Status

October 2023, 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	267,642	30,692	63,146	36,979	30,270	63,544	43,012
Employed	161,676	18,995	53,888	12,501	18,236	47,246	10,810
Multiple Jobs	8,550	718	2,710	618	1,022	2,977	505
Full-Time	118,794	13,040	45,567	8,806	10,651	34,437	6,292
Part-Time	42,882	5,955	8,321	3,695	7,585	12,809	4,518
Economic Reasons	3,978	908	1,178	182	595	916	199
Unemployed	6,098	1,490	1,571	284	1,200	1,265	288
Not in Labor Force	99,868	10,206	7,687	24,193	10,834	15,033	31,914
Discouraged	5,035	994	884	571	839	1,125	623
Disabled/Ill	13,693	935	3,686	2,186	670	3,619	2,597
Family/Care	11,687	390	742	108	2,058	7,468	921
School	14,911	7,194	370	31	6,834	438	44
Retirement	52,301	137	1,466	21,130	114	1,895	27,559

Source: Author's Calculations from CPS

Changes in labor force status can highlight both secular and cyclical trends in the economy. The following table presents the net four-year change in labor force status, in number of people, from October 2019 to October 2023.

Labor Force Changes

Change from October 2019 to October 2023, thousands of people

	Total, 16+	Men, 16–29	Men, 30–59	Men, 60+	Women, 16–29	Women, 30–59	Women, 60+
Population	7,797	265	1,812	3,052	65	-85	2,688
Employed	2,610	-341	1,445	363	-245	823	565
Multiple Jobs	200	-126	28	83	-101	323	-7
Full-Time	-1,993	-638	-541	184	-559	-705	267
Part-Time	4,602	297	1,985	180	315	1,528	298
Economic Reasons	-79	77	101	-30	-95	-119	-14
Unemployed	588	124	301	13	188	-51	13
Not in Labor Force	4,599	483	66	2,675	122	-856	2,109
Discouraged	629	198	73	88	113	86	71
Disabled/Ill	-582	89	-39	-181	147	-345	-254
Family/Care	-633	7	-42	36	-139	-486	-10
School	-119	-15	-88	17	-30	-21	18
Retirement	4,544	3	20	2,637	-82	-231	2,197

Source: Author's Calculations from CPS

The next table provides the net one-year change in labor force status, in number of people. The table summarizes more-recent changes in labor force status.

Labor Force Changes
Change from October 2022 to October 2023, thousands of people

	Total, 16+	Men, 16–29	Men, 30–59	Men, 60+	Women, 16–29	Women, 30–59	Women, 60+
Population	3,107	983	504	432	650	-365	902
Employed	2,532	335	445	-194	771	802	374
Multiple Jobs	878	87	55	63	148	514	11
Full-Time	1,170	37	194	-93	515	285	231
Part-Time	1,362	298	251	-101	255	517	143
Economic Reasons	624	310	204	-43	55	76	22
Unemployed	489	212	247	0	123	-142	50
Not in Labor Force	86	437	-188	626	-243	-1,024	478
Discouraged	-298	42	-144	-64	-40	-76	-15
Disabled/Ill	-274	93	5	-59	81	-235	-159
Family/Care	-916	-24	-159	-27	-49	-619	-38
School	-26	164	59	-1	-231	-18	0
Retirement	1,280	-4	8	722	-33	-100	687

Source: Author's Calculations from CPS

Finally, long-term changes in labor force status can be summarized by comparing the tight labor market of 2000 with the most recent data. The following table presents the net change in labor force status, in number of people, from October 2000 to October 2023.

Labor Force Changes
Change from October 2000 to October 2023, thousands of people

	Total, 16+	Men, 16–29	Men, 30–59	Men, 60+	Women, 16–29	Women, 30–59	Women, 60+
Population	54,237	4,356	6,320	17,749	3,747	4,268	17,798
Employed	24,144	363	4,078	7,328	1,531	4,155	6,690
Multiple Jobs	951	-172	-152	379	31	519	347
Full-Time	18,866	-28	2,781	5,694	1,125	4,878	4,417
Part-Time	5,278	391	1,297	1,634	406	-723	2,273
Economic Reasons	1,105	332	429	107	134	-19	123
Unemployed	946	182	331	132	51	61	188
Not in Labor Force	29,148	3,811	1,910	10,289	2,165	52	10,921
Discouraged	939	220	326	266	-130	-51	308
Disabled/Ill	3,536	439	561	1,015	334	286	902
Family/Care	-503	231	401	88	-644	-529	-50
School	5,257	2,630	92	28	2,421	54	33
Retirement	19,012	96	291	8,761	63	143	9,660

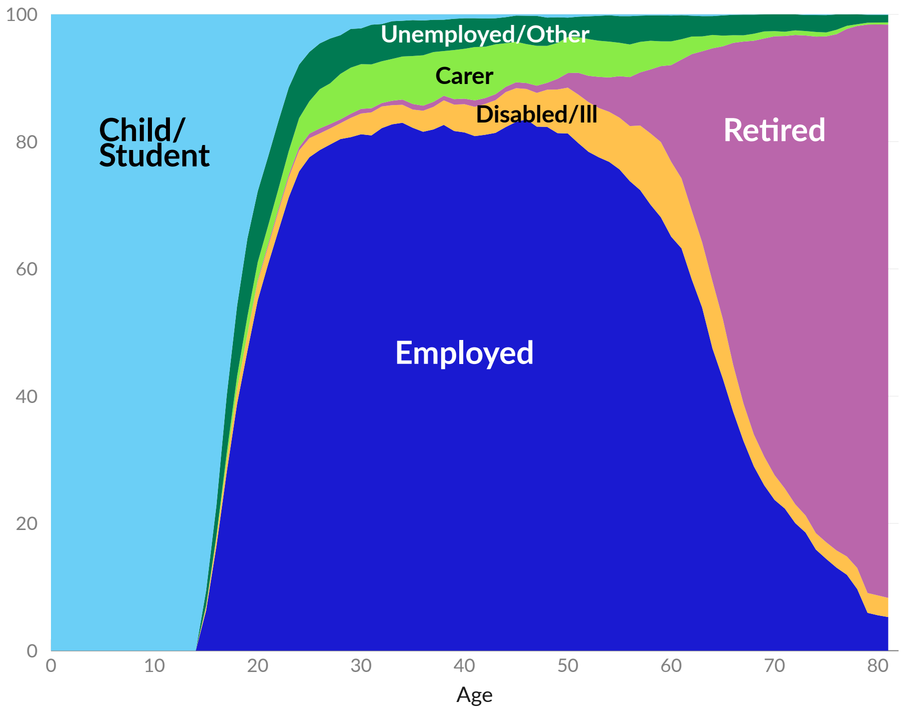
Source: Author's Calculations from CPS

Labor Force Status and Age

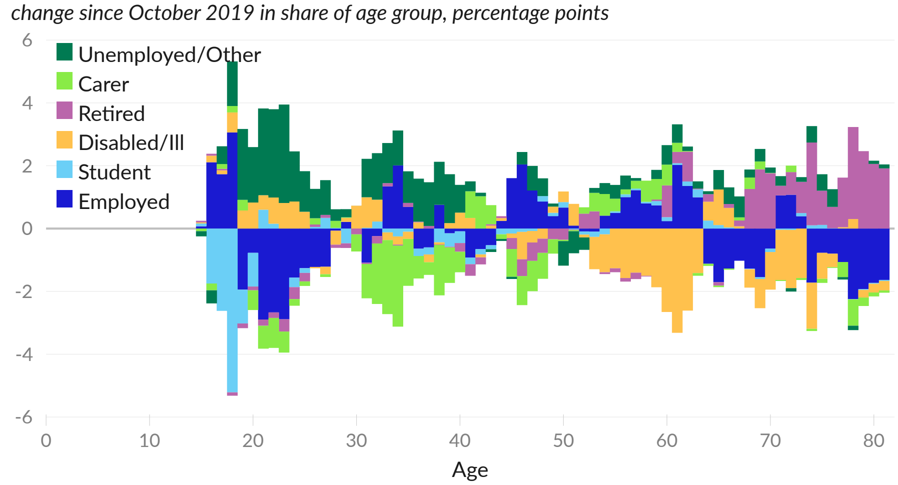
There is a clear relationship between age and employment. Children are not permitted to work and many young people attend school full time. During ages 25 to 54, around 80 percent of the population is employed. The remaining 20 percent include caregivers and those unable to work due to disability or 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, October 2023



change since October 2019 in share of age group, percentage points

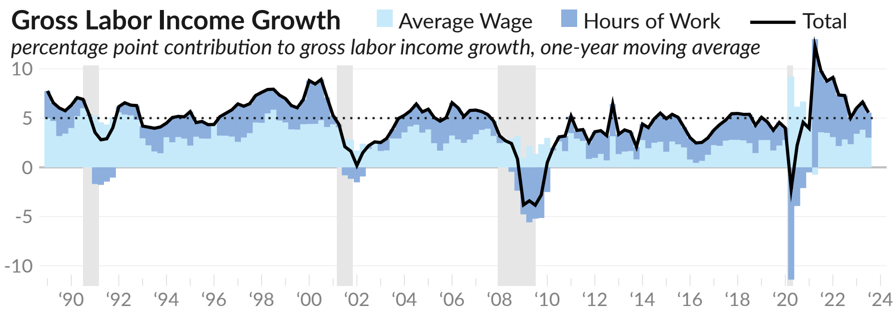


Source: Author's Calculations from CPS, Bruenig

Gross Labor Income

Businesses do not usually cut wages in response to an economic downturn, and will instead typically 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 and the rate of compensation, increased at an average annualized rate of 5.6 percent over the year ending 2023 Q3. Changes in wages contributed three percentage points, and changes in total hours worked contributed 2.5 percentage points.

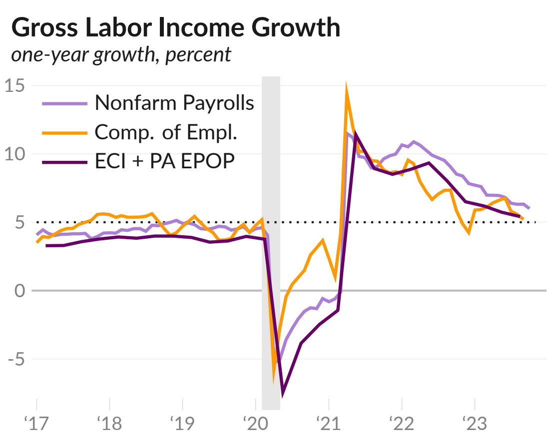


Source: BLS, BEA, Author's Calculations

Historically, the US economy can sustain gross labor income of at least five percent. For example, assuming a stable labor share of income, this could be inflation of two percent and real output growth of three percent. Gross labor income growth of under five percent may indicate weak aggregate demand.

Among measures of overall economic activity, gross labor income has the added benefit that it can be calculated using multiple independent data sources. The measure can be calculated from timely measures such as nonfarm payrolls and average earnings, from compensation of employees data from BEA, or from more-comprehensive measures that reduce effects of composition, such as the employment cost index combined with the prime-age employment rate.

Using the nonfarm payrolls approach (see —), the one-year growth rate of gross labor income is 6.0 percent in October 2023, following 8.5 percent one-year prior, in October 2022.



Source: BLS, BEA, Author's Calculations

The monthly data on compensation of employees from BEA (see —) shows one-year gross labor income growth of 5.2 percent in September 2023, and 7.4 percent in September 2022, one-year prior.

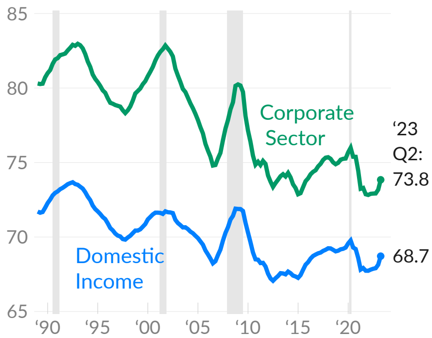
Calculating gross labor income from the employment cost index for private industries and the prime age employment rate (see —), one-year growth is 5.4 percent in 2023 Q3, following 8.0 percent one year prior.

Labor Share of Income

The **labor share** measures the portion of available income that is paid to workers. Labor income is measured in the national accounts as employee compensation, and net income is measured as employee compensation plus the net operating surplus. Net income, or income after depreciation, is used instead of gross income because depreciation expenses are not available to labor or capital.

Labor Share of Net Income

percent, one-year moving average



Source: Bureau of Economic Analysis

Over the year ending 2023 Q2, labor receives 68.7 percent of net domestic income (see —). Labor's share increased 0.9 percentage point over the past year. For context, one percent of net domestic income translates to $204 billion per year, which is $1,310 per worker.

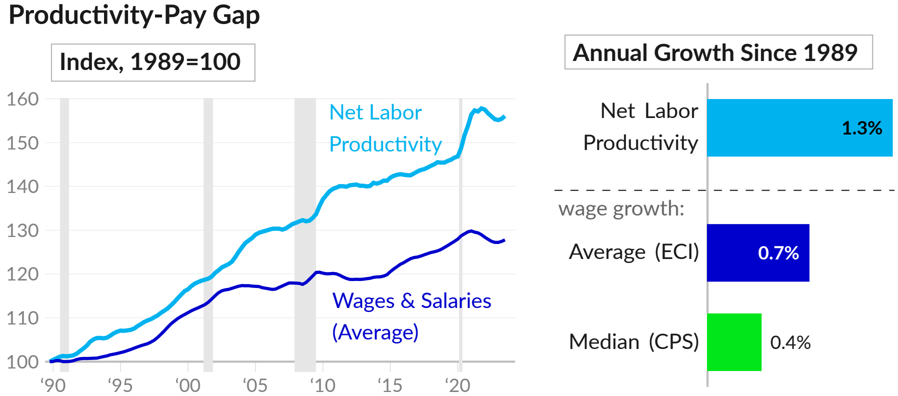
Labor's share in the corporate sector is 73.8 percent percent in 2023 Q2 (see —). The corporate sector has well-defined accounting, which is useful for this analysis. The corporate labor share is currently 9.1 percentage points below its 30-year high of 83.0 percent in 1993 Q1.

Productivity-Pay Gap

When analyzing the fall in labor share of income, it's useful to consider the **gap between labor productivity and pay**. Behind long-term output growth is productivity growth and population growth. Since 1989, annualized net output growth is 2.3 percent, net productivity growth is 1.3 percent, and population growth is 0.9 percent.

While the US has modest labor productivity growth over the past few decades, wages have not kept pace. The average wage has grown by 0.7 percent per year since 1989, and the median wage has increased by 0.4 percent per year.

Productivity-Pay Gap



Source: BEA, BLS, Author

Net Labor Productivity is Net Domestic Product divided by total hours worked from the CPS. Average wages and salaries is from the ECI, and covers all civilian workers. Median usual weekly earnings from the CPS cover full-time civilian wage and salary workers.

More-complete analysis finds that the productivity-pay gap emerged around 1979; between World War II and 1979, employee compensation kept pace with productivity growth. Researchers argue that the post-1979 gap is tied to policies that weaken unions and reduce bargaining power for the typical worker.

Employment

Employment is critical to production and as a source of income. This subsection covers payrolls and employment rates for different groups and places. Related topics, such as work arrangements, hours worked, and wages, are covered in later subsections.

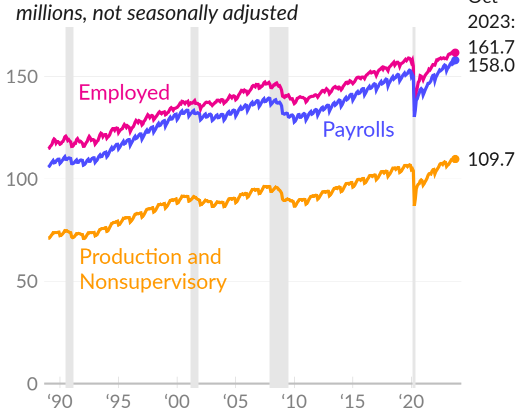
Overview

Two primary sources of employment data are households and employers. Households report activities, including employment and self-employment, while employers report payrolls.

In October 2023, establishments report 158.0 million **nonfarm payroll employees** (see —). The pre-COVID peak was 153.1 million in November 2019. Households report 161.7 million employed people, including the self-employed but not including armed forces, in the latest month, compared to a pre-COVID peak of 159.1 million (see —).

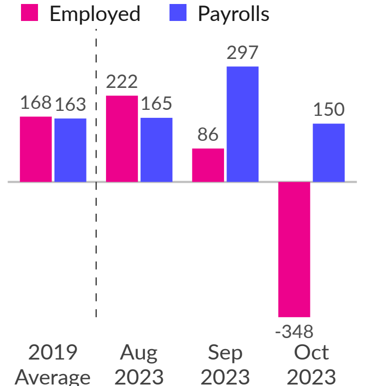
Private production and nonsupervisory workers are engaged in production, including working supervisors, or in other activities but not above the working supervisor level. In October 2023, this group totals 109.7 million, compared to a pre-COVID peak of 106.9 million (see —). Production and nonsupervisory workers comprise 81.4 percent of private nonfarm payrolls in October 2023.

Employment Level
millions, not seasonally adjusted



Source: Bureau of Labor Statistics

Monthly Change
thousands, seasonally adjusted



In October 2023, seasonally-adjusted civilian employment decreased by 348,000 (see ■), far below the 2019 average increase of 168,083 jobs per month. The US added a net total of 150,000 nonfarm payroll jobs in October 2023 (see ■), compared to a monthly average of 163,250 in 2019. The average of both surveys over the past three months shows an increase of 95,300 employees per month.

Employment Level

millions	*seasonally adjusted*		*not seasonally adjusted*				
	Oct 2023	Sep 2023	Oct 2023	Sep 2023	2019 Avg.	2017 Avg.	2000 Avg.
Employed	161.2	161.6	161.7	161.7	157.5	153.3	136.9
Nonfarm Payrolls	156.9	156.8	158.0	156.9	150.9	146.6	132.0
Private Nonfarm Payrolls	134.0	133.9	134.7	134.0	128.3	124.3	111.2
Production & Nonsuperv.	109.0	109.0	109.7	109.0	105.6	102.4	90.5

Source: Bureau of Labor Statistics

Payroll Employment

The Current Employment Statistics Program surveys around 130,000 businesses and government agencies each month. Payroll data from this survey provide insight into the overall health of the economy by indicating the pace of job growth. The payroll data also reliably identify changes in employment in individual industries.

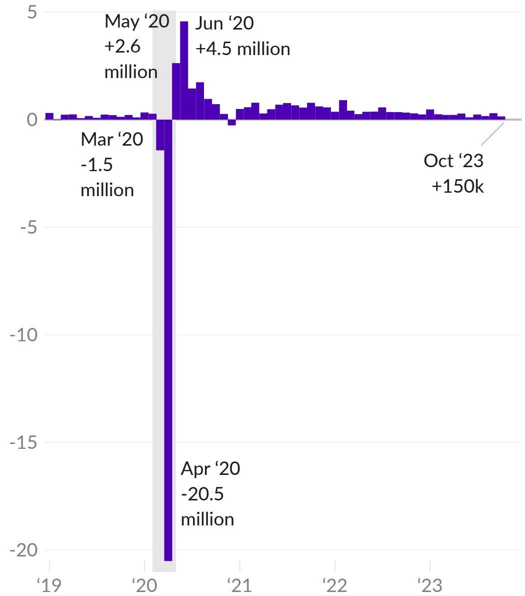
Nonfarm payrolls increased by 150,000 in October 2023, following 297,000 jobs added in September, and 165,000 added in August (see ■). Average payroll growth was 204,000 over these three months, in line with the average of 207,300 during the previous three months.

During March and April 2020, the US lost a combined 22 million jobs. Since May 2020, a total of 26.5 million jobs have been added, equivalent to 120.7 percent of those lost.

To maintain a steady payroll employment rate with population growth, the US needed to add 151,000 jobs in October 2023. Pre-pandemic, in 2019, the US was adding an average of 163,200 jobs per month.

Nonfarm Payroll Growth

one-month change, in millions, seasonally adjusted



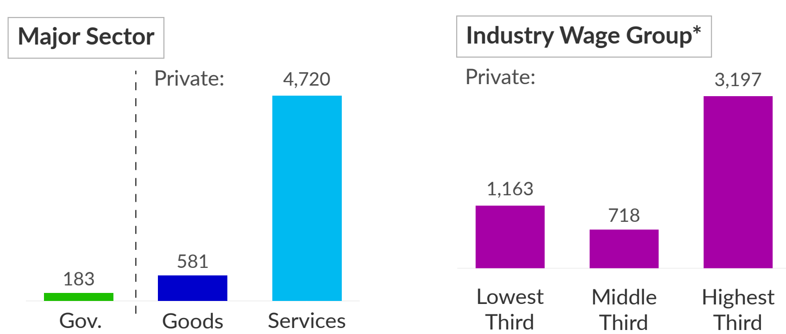
Source: Bureau of Labor Statistics

Over the four years ending October 2023, nonfarm payrolls increased by a total of 5,484,000. By sector, combined government payrolls grew by 183,000 (see ■), and private payrolls increased by a total of 5,301,000 over the four-year period. Private goods-producing industries added 581,000 jobs (see ■), and private service-providing industries added 4.7 million jobs (see ■).

Dividing the private industries into three wage groups, the lowest-wage industries added 1,163,000 jobs since October 2019, the middle-wage industries gained 718,000 jobs, and the highest-wage industries added 3.20 million jobs (see ■).

Four-Year Change in Payrolls (October 2019 to October 2023)

not seasonally adjusted, thousands of jobs



*Wage groups are derived from 2019 average hourly earnings by 3-digit NAICS industry. Private industries without wage information added 225,400 jobs over the period.

Source: Bureau of Labor Statistics

The establishment survey provides reliable industry-level estimates of payroll employment. Household surveys have a higher potential to misclassify industries and are considered less-reliable for industry-level estimates of payroll employment.

Over the four years ending October 2023, the industry groups with the largest increase in payrolls were professional and technical services (+1,361,600), transportation and warehousing (+979,800), health care (+782,900), and construction (+472,000). The private industry groups with the least least job growth were accommodation (-209,900), mining and logging (-76,000), and retail trade (+20,200).

Nonfarm Payrolls by Industry Group

in thousands	*seasonally adjusted*				*not seas. adjusted*	
	October 2023	1-month change	Aug '23–Oct '23 average	May '23–Jul '23 average	October 2023	4-year change
Total nonfarm	156,923	150	204	207	157,984	5,484
Total Private	134,031	99	153	162	134,741	5,301
Goods-Producing	21,639	-11	15	23	21,805	581
Mining & Logging	646	1	1	1	651	-76
Construction	8,033	23	22	22	8,193	472
Manufacturing	12,960	-35	-8	-1	12,961	185
Private Service-Providing	112,392	110	138	139	112,936	4,720
Wholesale Trade	6,091	9	9	5	6,099	196
Retail Trade	15,546	1	3	4	15,563	20
Transportation & Warehousing	6,686	-12	-9	-2	6,735	980
Information	3,027	-9	-12	-11	3,037	154
Financial Activities	9,153	-2	0	10	9,178	359
Real Estate & Rental & Leasing	2,444	5	5	4	2,462	114
Professional & Technical Services	10,953	17	14	27	10,972	1,362
Management	2,524	-2	2	-1	2,523	36
Administrative & Support	9,055	2	-2	-22	9,291	182
Educational Services	3,963	12	10	3	4,111	204
Health Care	17,124	58	59	63	17,175	783
Social Assistance	4,605	19	22	24	4,622	388
Arts, Entertainment, & Recreation	2,506	20	15	7	2,475	58
Accommodation	1,892	7	8	4	1,875	-210
Food Services & Drinking Places	12,325	-8	10	19	12,326	163
Other Services	5,887	-1	7	8	5,890	-13
Utilities & waste management	1,056	-1	1	1	1,061	57
Government	22,892	51	51	45	23,243	183

Source: Bureau of Labor Statistics

Summarizing employment changes by grouping industries can have the adverse effect of hiding changes within these industry groups. Additionally, industry groups can be vague or overly broad. The government and business chartbook sections contain more information on industry-level employment trends.

Employment Rates

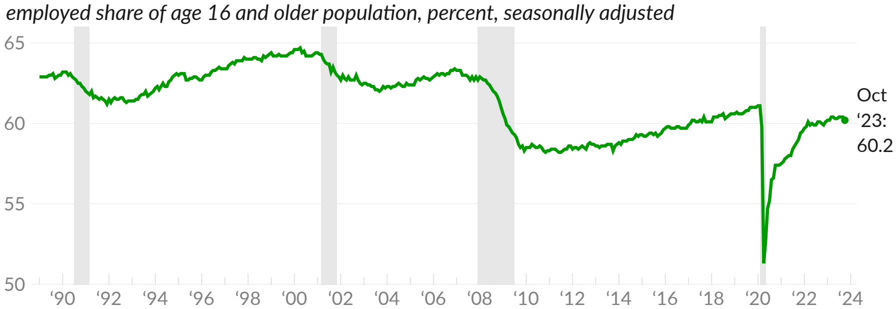
The **employment rate**, or the employment-population ratio, is the share of a group that is employed. Employment rates can provide useful insight into macroeconomic conditions. A high employment rate means available labor are being utilized in the productive process. All else equal, higher employment results in both increased supply, as the result of more labor being used for production, and increased demand, as the result of higher levels of income.

Economists are interested in both the overall employment rate and in the employment rates for individual groups of people. The overall employment rate provides insight into the overall utilization of labor of a society and is affected by demographic and macroeconomic factors. Employment rates for individual groups can tell us about macroeconomic conditions and even tell us about differences in local economic conditions.

As of October 2023, the Bureau of Labor Statistics report an overall (age 16 and older) employment rate of 60.2 percent (see —), a one-year increase of 0.2 percentage point, but a 0.6 percentage point decrease since 2019.

Employment Rate, Age 16 and Older

employed share of age 16 and older population, percent, seasonally adjusted



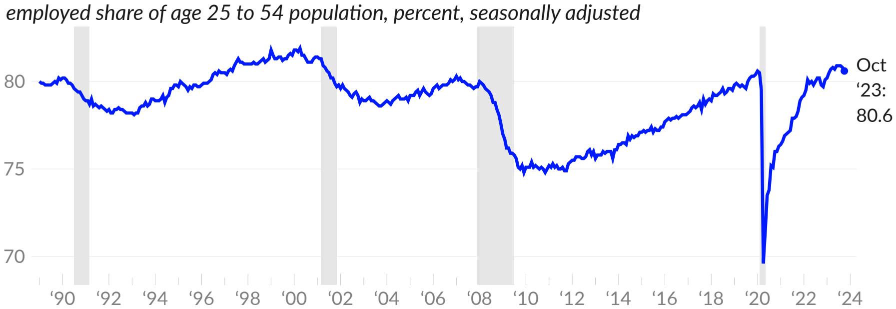
Source: Bureau of Labor Statistics

Importantly, a larger share of the US population is of retirement age, reducing the overall US employment rate. To examine macroeconomic conditions separate from demographic developments, BLS report the employment rate for a more-narrow age group, specifically, those age 25 to 54. This group has the highest employment rate and are sometimes considered the "prime" age for labor market purposes.

The **age 25 to 54 employment rate** is an important measure of labor market utilization. In a tight labor market, the age group is employed at a very high rate. In October 2023, 80.6 percent of 25 to 54 years olds were employed (see —), the lowest level since February 2023. Over the past year, the age 25 to 54 employment rate increased 0.8 percentage point. The October 2023 rate is 0.8 percentage point (equivalent to 1.1 million workers) below the average rate of 81.4 during the tight labor market of 1999–2000.

Employment Rate, Age 25 to 54

employed share of age 25 to 54 population, percent, seasonally adjusted



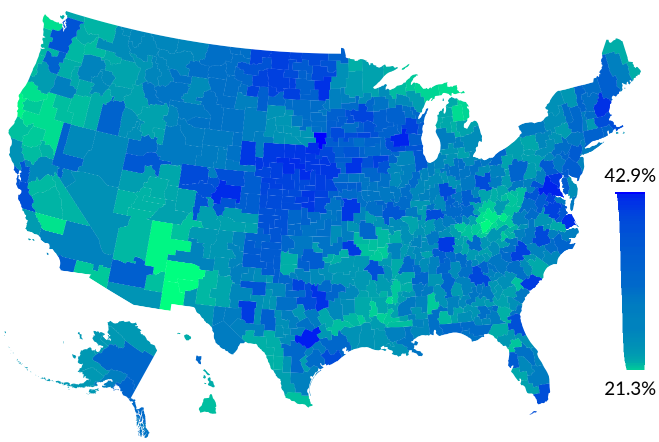
Source: Bureau of Labor Statistics

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 121.4 million fully-employed people in 2022, equivalent to 36.7 percent of the US population, compared to 117.4 million (35.7 percent) in 2021.

Employment rates vary dramatically by location. In 2021, 37.5 percent of commuter zones have at least a third of their population working full-time and full-year. A total of 19 commuter zones (out of 741), covering 2.6 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, 2021



Top 10:

42.9% Sioux Falls, SD
40.3% Austin, TX
39.9% Madison, WI
39.9% Washington, DC
39.2% Denver, CO
38.9% Virginia Beach, VA
38.7% Fargo, ND
38.7% Manchester, NH
38.6% Dallas, TX
38.6% Des Moines, IA

Bottom 10:

21.9% Hazard, KY
22.1% Gallup, NM
23.3% Pikeville, KY
23.7% Bakersfield, CA
23.8% Roseburg, OR
24.1% Port Angeles, WA
24.2% Altamont, OR
24.9% Marquette, MI
25.8% Bluefield, WV
25.8% Huntington, WV

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

Employment Rates of Largest Commuter Zones, 2021

	all ages		*age 25 to 54*	
	full-time & full-year	employed	full-time & full-year	employed
Los Angeles, CA	31.9	58.7	55.1	88.7
New York, NY	32.3	59.9	55.9	90.0
Chicago, IL	35.5	61.1	62.3	91.2
Houston, TX	34.1	58.3	59.4	89.0
Newark, NJ	35.2	61.4	61.3	91.0
Philadelphia, PA	35.0	61.8	61.9	91.2
Washington, DC	39.9	64.3	67.5	93.4
Boston, MA	36.4	65.5	63.0	93.4
Atlanta, GA	36.8	61.7	63.3	91.2
Detroit, MI	31.0	59.9	55.4	89.8
San Francisco, CA	35.7	62.9	61.0	91.5
Dallas, TX	38.6	61.0	65.7	90.6
Phoenix, AZ	34.8	59.0	61.9	89.6
Seattle, WA	35.9	63.7	60.1	92.4
Miami, FL	36.3	59.6	62.2	90.2

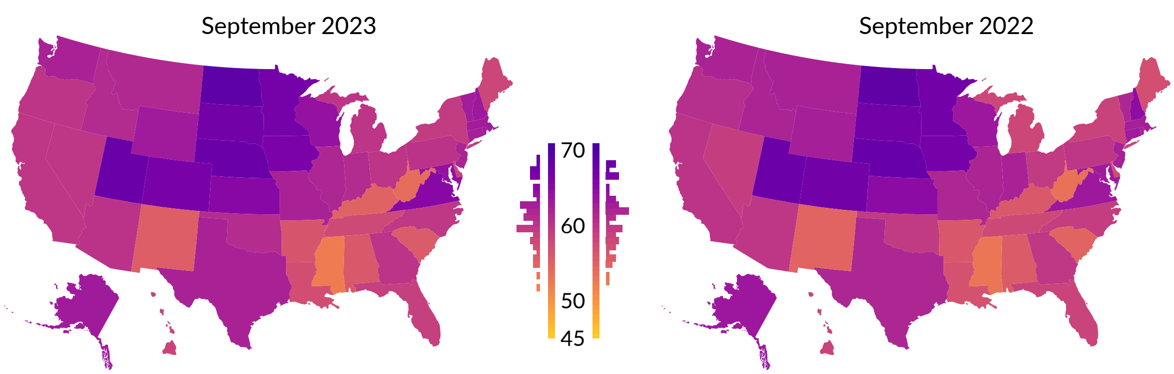
Source: American Community Survey, Dorn, Author's Calculations

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 September 2023, the age 16 and older employment rate is below 60 percent in 22 states. One year prior, in September 2022, the employment rate was below 60 percent in 23 states. The rate is above 65 percent in eight states, in the latest month, and in eight states in September 2022.

The states with the highest employment rates in September 2023 are North Dakota (68.5%), the District of Columbia (68.1%), and Nebraska (67.6%). The states with the lowest employment rates are Mississippi (51.9%), West Virginia (53.5%), and Kentucky (54.6%).

Employment Rate by State

employed share of age 16+ population, percent



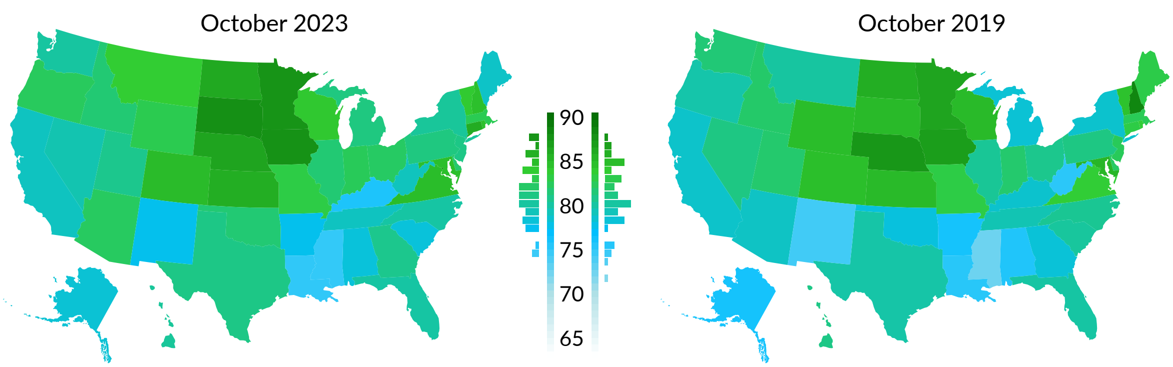
Source: Bureau of Labor Statistics

A tight local labor market will employ those ages 25 to 54 at a very high rate, barring any local labor supply constraints, for example availability or cost of child care or high rates of disability. In October 2023, the states with the highest employment rates for 25 to 54 year olds are South Dakota (87.5 percent), District of Columbia (87.4 percent), and Iowa (87.4 percent).

The age 25 to 54 employment rate is higher in October 2023 than it was in October 2019 in 32 states, and lower in 19 states. Comparing the latest three months to the previous three months, the seasonally-adjusted age 25 to 54 employment rate decreased in 30 states, increased in 18 states, and was unchanged in three states.

Age 25 to 54 Employment Rate by State

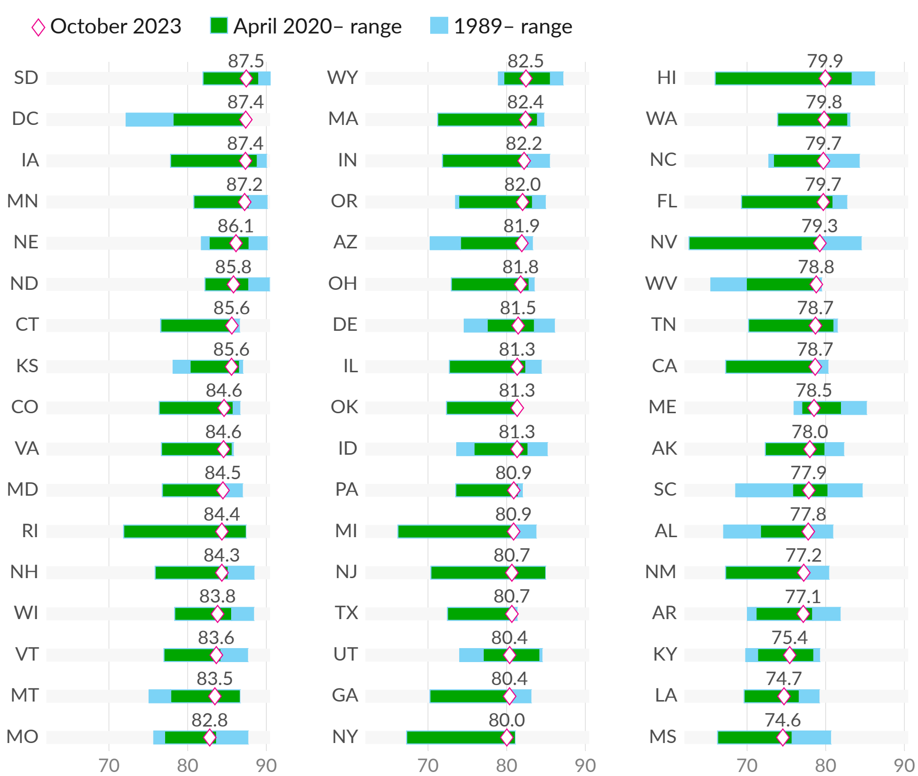
employed share of age 25 to 54 population, percent, seasonally adjusted, three-month moving average



Source: Author's Calculations from CPS

Employment Rate by State

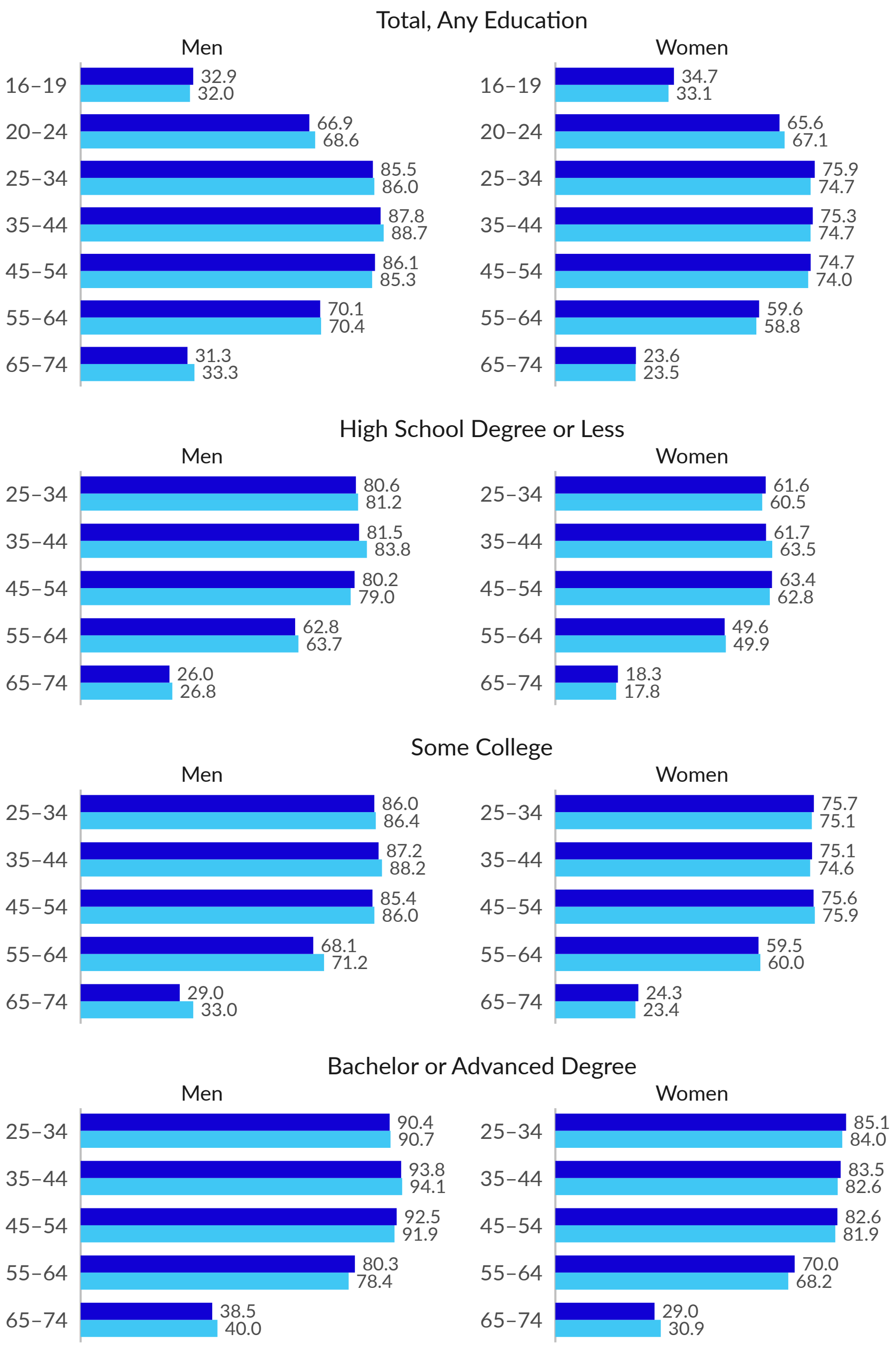
employed share of age 25 to 54 population, percent, seasonally adjusted, three-month moving average



Source: Author's Calculations from CPS

Employment rates vary over time, but also by age, gender, and education, among other factors. Over the three months ending October 2023, the employment rate for most subgroups is about the same as it was before the pandemic. At a given point in time, employment rates tend to increase with education and tend to peak during ages 25 to 54. Within most age groups, employment rates are higher for men, though the gap has narrowed over the long-run.

Employment Rates October 2023 October 2019
employed share of age group, percent, three-month average



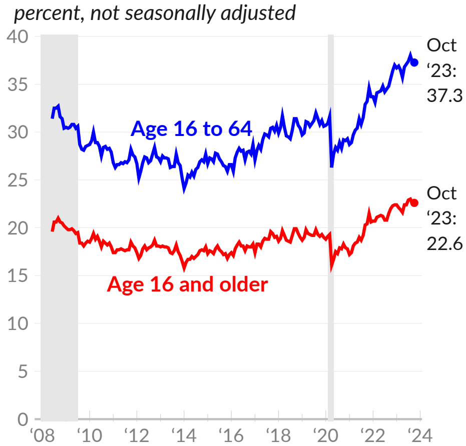
Source: Author's Calculations from CPS

The Bureau of Labor Statistics (BLS) also report the **employment rate for people with disabilities**. People with disabilities may be limited in their ability to participate in labor markets and can also face discrimination during hiring. Labor market prospects for the group are also affected by economic conditions. A tight labor market pushes businesses to accommodate disabilities and to discriminate less in hiring.

Beginning in June 2008, the Current Population Survey (CPS) asks respondents age 16 and older whether they have difficulty with any of the following: hearing, seeing (even while wearing glasses), walking or climbing stairs, concentrating, remembering, making decisions, dressing or bathing, or running errands alone. In October 2023, 33.6 million people age 16 and older report at least one such disability, of which 16.9 million are under age 65.

Employment Rate, with Disability

employed share of age group, with disability, percent, not seasonally adjusted



Source: BLS; Author

As of October 2023, BLS reports a 22.6 percent employment rate for individuals aged 16 and over with at least one disability (see —). This marks a 0.6 percentage point increase over the past year, and a jump of 3.5 percentage points since October 2019.

For those age 16 to 64 with disabilities, the employment rate is 37.3 percent in October 2023 (see —), a one-year increase of 1.7 percentage points, and a 6.5 percentage point increase since 2019.

In 2013, during the sluggish recovery from the great recession, the employment rate for those age 16 to 64 with a disability averaged 26.8 percent.

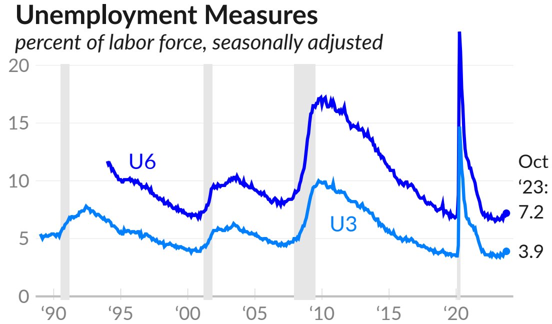
Unemployment

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 (the employed and unemployed). BLS reports 6.5 million unemployed people in October 2023, and an unemployment rate of 3.9 percent (see —), in line with the September 2023 rate of 3.8 percent, but slightly above the October 2022 rate of 3.7 percent.

BLS also report a broader measure of unemployment, known as U6 or labor under-utilization. Labor under-utilization includes U3 unemployment, as well as people who have given up looking for work and people who work part-time but want to work full-time. In October 2023, the labor under-utilization rate is 7.2 percent (see —).

Unemployment Measures

percent of labor force, seasonally adjusted

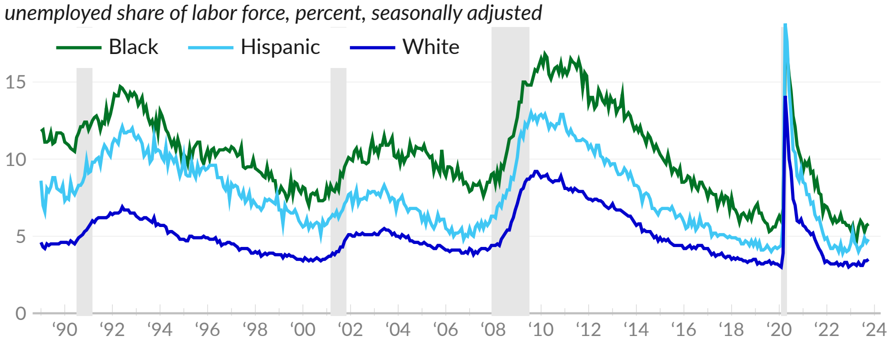


Source: BLS

Periods of unemployment are more common for disadvantaged groups. The black or African American unemployment rate is typically double the white unemployment rate. Employment opportunities for disadvantaged groups are more-dependent on current labor market conditions. A very tight labor market reduces racial discrimination in hiring, while disadvantaged groups are more likely to lose jobs in a downturn. Since February 2020, the black unemployment rate has decreased by 0.2 percentage point to 5.8 percent (see —).

Unemployment Rate

unemployed share of labor force, percent, seasonally adjusted



Source: Bureau of Labor Statistics

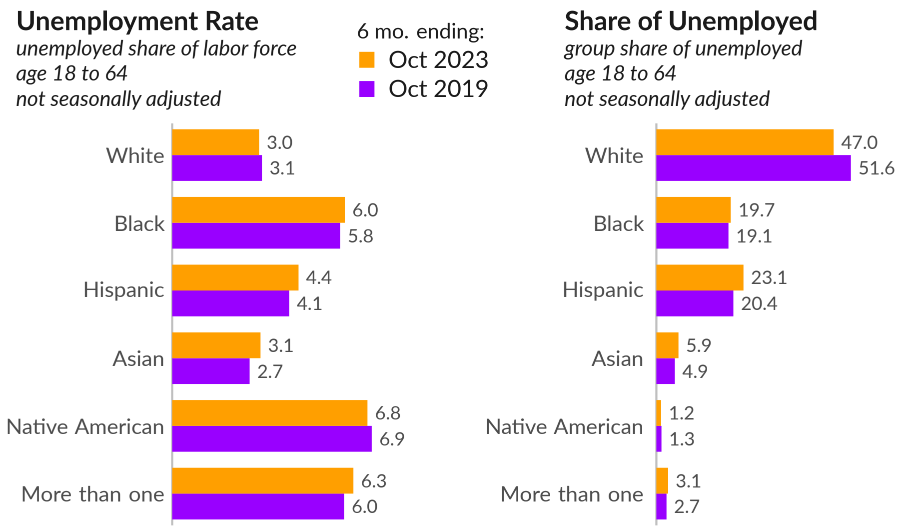
Unemployment Measures

seasonally adjusted, percent

	Oct '23	Sep '23	Aug '23	Jul '23	Oct '22	Oct '21	GFC peak	Date of peak
Under-utilization Rate (U6)	7.2	7.0	7.1	6.7	6.7	8.2	17.2	Dec '09
Unemployment Rate (U3)	3.9	3.8	3.8	3.5	3.7	4.5	10.0	Oct '09
by race/ethnicity:								
White	3.5	3.4	3.4	3.1	3.3	4.0	9.2	Oct '09
Black	5.8	5.7	5.3	5.8	5.9	7.7	16.8	Mar '10
Hispanic	4.8	4.6	4.9	4.4	4.2	5.7	13.0	Aug '09
Asian	3.1	2.8	3.1	2.3	2.9	4.2	8.4	Dec '09

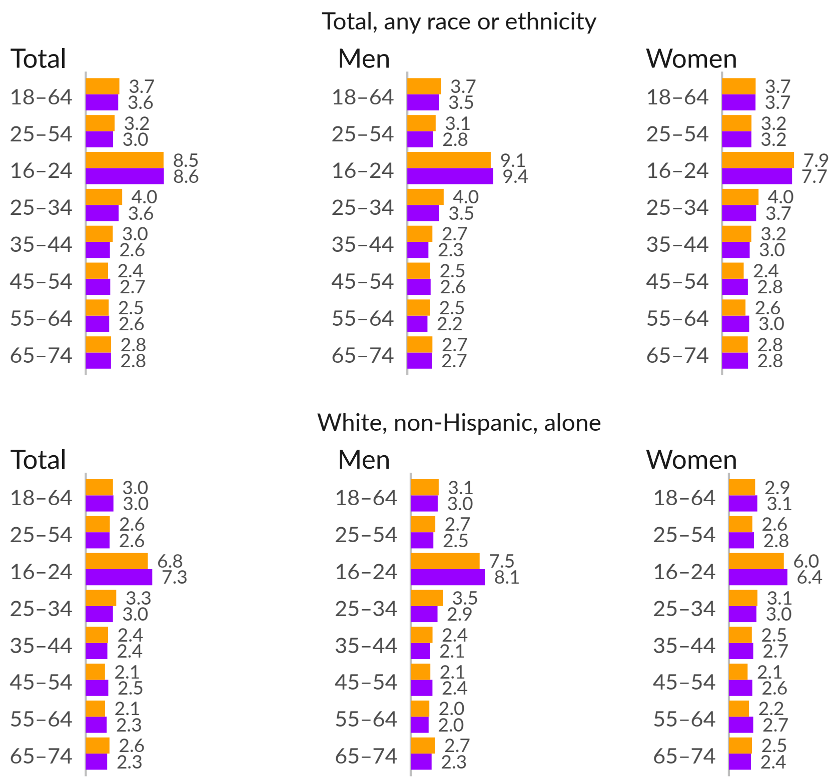
Source: Bureau of Labor Statistics

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.

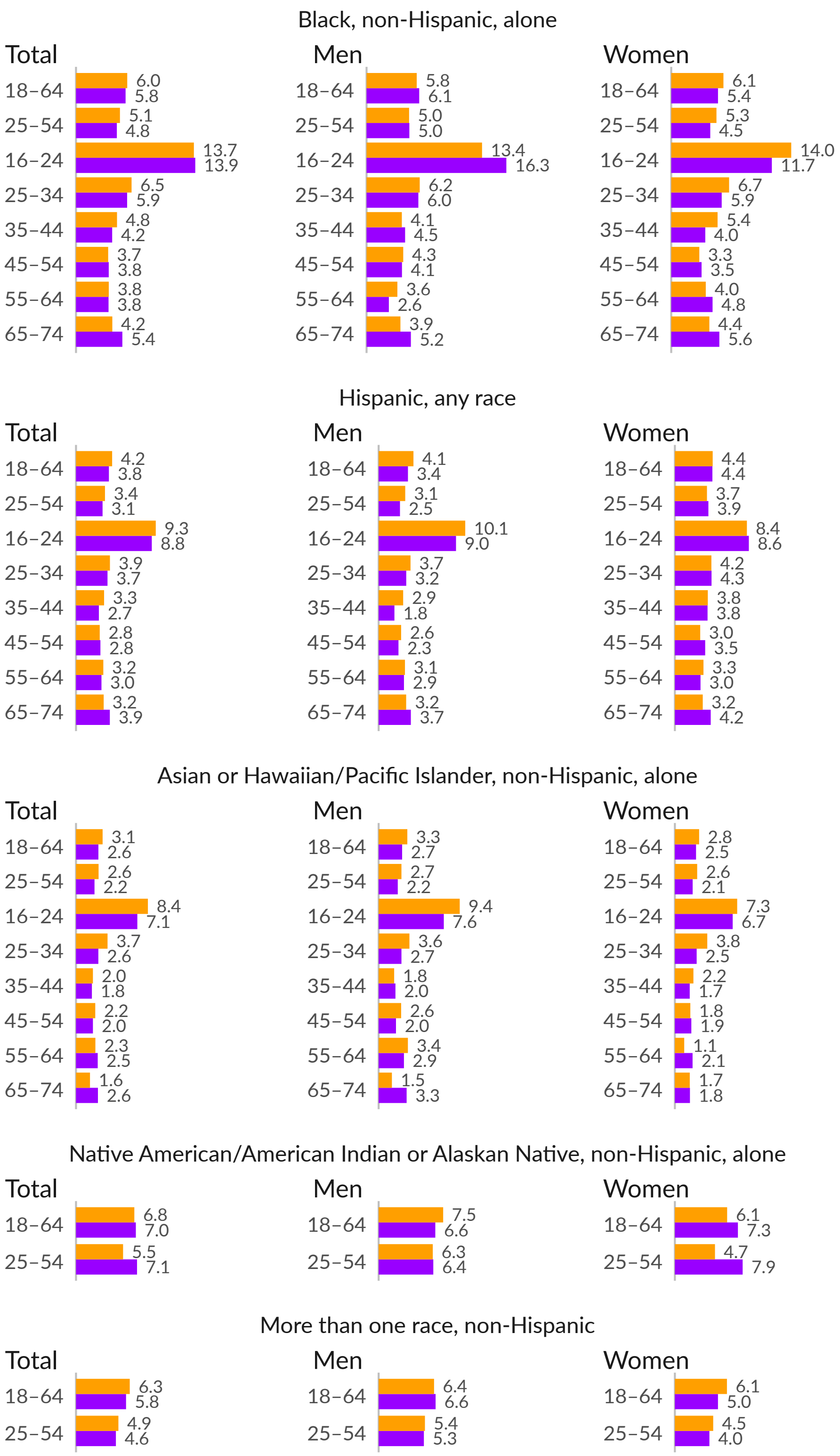


Source: Author's calculations from CPS

Unemployment Rate



Unemployment Rate, Continued



Source: Author's Calculations from CPS

Reasons for Unemployment

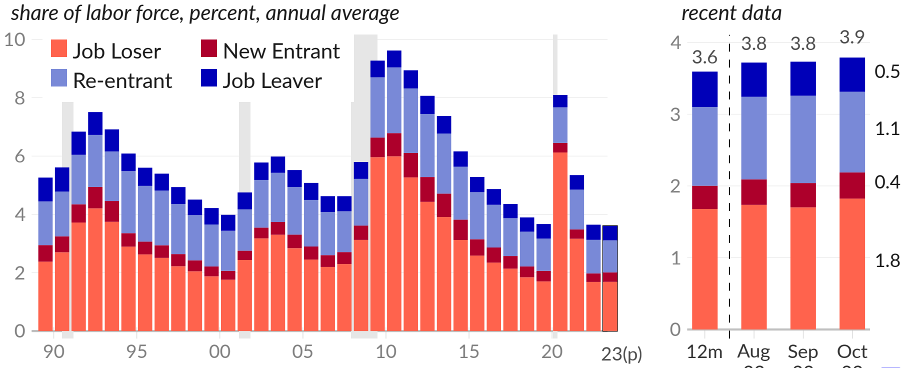
There are several **reasons for unemployment**. In October 2023, 3.1 million people, or 1.8 percent of the labor force, were unemployed from losing their job (see ■). An additional 0.5 percent voluntarily left a job (see ■). Re-entrants, people who left the labor force but are looking for a new job, comprised 1.1 percent (see ■). Lastly, 0.4 percent of the labor force were new entrants to the labor market, looking for their first job (see ■).

The mixture of reasons for unemployment may reflect the existing economic conditions. In a downturn, workers who lose jobs are a larger share of the unemployed. A downturn also makes it harder for young people to find their first job, increasing their share of the total. In contrast, an economic boom reduces job losses and improves job-finding.

Other reasons for unemployment claim a larger share of the total during a boom. An economic boom can entice people to re-enter the job market, and encourage workers to quit and look for a new job. The overall prevalence of these categories, however, is also *reduced* during a boom, by an improved job-finding rate.

Unemployment by Reason

share of labor force, percent, annual average



Source: Bureau of Labor Statistics

Many job losses are temporary, particularly during the COVID-19 recession. Other job separations are permanent. In October 2023, temporary layoffs were 0.5 percent of the labor force. Permanent job losses were 1.0 percent of labor force.

Unemployment by Reason

share of labor force, percent

	Oct 2023	Sep 2023	Aug 2023	12m Avg.	Apr 2020	2020	2019	2009 –‘11
Unemployed, Any Reason	3.9	3.8	3.8	3.6	14.7	8.1	3.7	9.3
■ Job Loser	1.8	1.7	1.7	1.7	13.2	6.1	1.7	5.7
Temporary Layoff	0.5	0.5	0.5	0.5	11.5	4.0	0.5	0.9
Permanent Separation	1.0	0.9	0.9	0.9	1.2	1.7	0.8	3.9
■ Re-entrant	1.1	1.2	1.1	1.1	0.9	1.2	1.1	2.2
■ New entrant	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.8
■ Job Leaver	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.6
See also:								
Employed, Not at Work*	3.1	2.9	4.8	3.6	7.4	4.2	3.2	3.3

Source: Bureau of Labor Statistics, Author
* During the COVID-19 shutdowns some unemployed were incorrectly counted as employed but not at work.

Duration of Unemployment

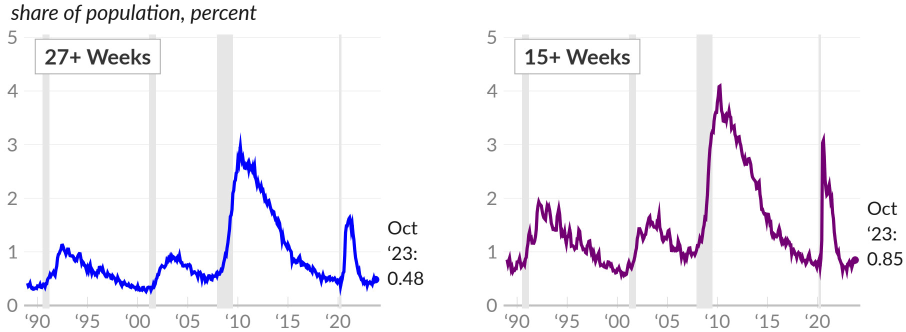
US unemployment benefits are available for a relatively short duration, compared with other advanced countries. Therefore, the long-term unemployed risk running out of unemployment benefits, causing a sharp reduction in income. Additionally, long periods of unemployment can make re-entering the labor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

As of October 2023, BLS reports that 0.48 percent of the age 16 and older population have been unemployed for 27 weeks or longer, compared to 0.44 percent in October 2022 (see —). This measure of **long-term unemployment** peaked at 2.96 percent of the population in April 2010, but had fallen to 0.42 percent in December 2019.

In October 2023, 0.85 percent of those age 16 and older have been unemployed for at least 15 weeks (see —), following 0.81 percent in September 2023, and 0.81 percent in August 2023. One-year prior, in October 2022, 0.71 percent are unemployed for 15 weeks or more.

Long-Term Unemployed

share of population, percent

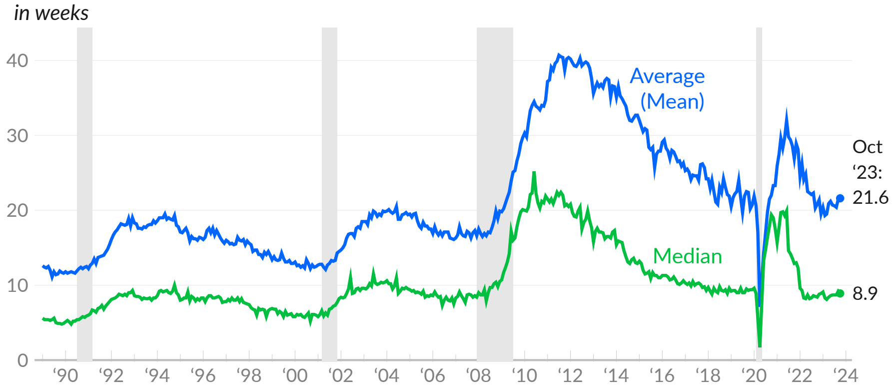


Source: Bureau of Labor Statistics

Among those who are unemployed in October 2023, the average (mean) **duration of unemployment** is 21.6 weeks (see —), and the typical (median) duration of unemployment is 8.9 weeks (see —). 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

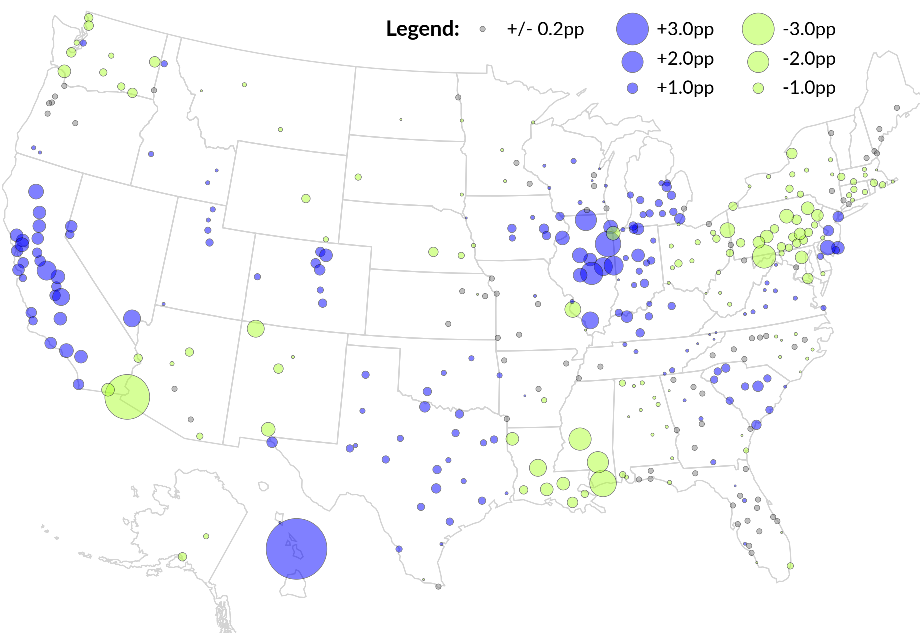
Unemployment by Metro Area

The Bureau of Labor Statistics produce local area estimates of unemployment, including the **unemployment rate for metro areas**. The following map shows changes since 2019 in metro area unemployment rates. An increase in the unemployment rate is shown by a blue circle and a decrease is shown by a light green circle; circle size is the magnitude of the change.

From September 2019 to September 2023, unemployment rates fell by 0.3 percentage point or more in 139 metro areas, and increased by 0.3 percentage point or more in 172 metro areas. Recent local unemployment rates were within 0.2 percentage points of their pre-pandemic level in 76 metro areas.

Change in Unemployment Rate by Metro Area

from September 2019 to September 2023, percentage points



Largest MSAs:

	Core City	Sep 23	Sep 19	Labor Force	Pct Ch*
+1.0	New York, NY	4.4	3.4	10,307,500	-0.8
+1.3	Los Angeles, CA	5.3	4.0	6,643,400	-1.3
+1.3	Chicago, IL	4.7	3.4	4,894,600	-1.7
+0.7	Dallas, TX	3.9	3.2	4,464,500	13.0
+0.7	Houston, TX	4.4	3.7	3,630,500	6.9
unch.	Washington, DC	2.6	2.8	3,510,800	0.6
-0.6	Miami, FL	2.5	3.1	3,295,900	4.5
+0.3	Atlanta, GA	3.4	3.1	3,274,700	5.5
-0.4	Philadelphia, PA	3.5	3.9	3,258,100	1.9
unch.	Boston, MA	2.4	2.6	2,762,300	-3.9
unch.	Phoenix, AZ	3.8	3.9	2,676,300	10.7

Source: Bureau of Labor Statistics; Full Table:

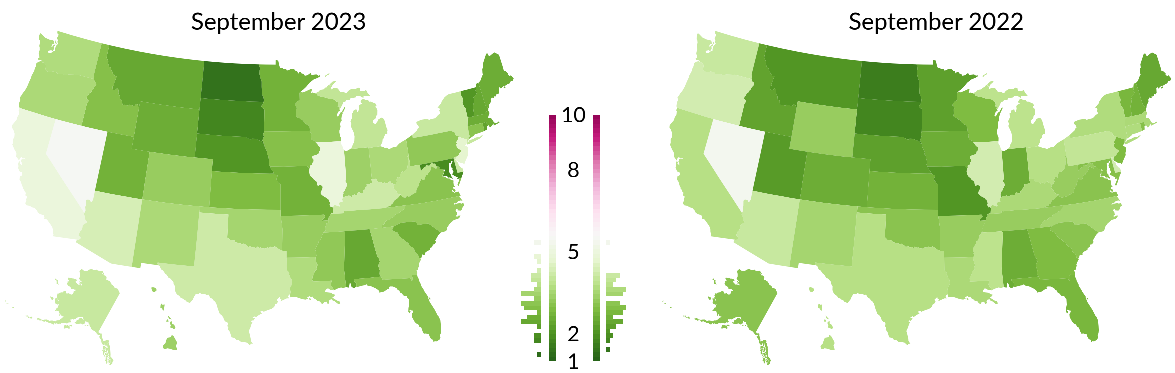
*Pct Ch is percent change in labor force from September 2019 to September 2023

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 three weeks after reporting the national unemployment rate. In September 2023, all 50 states and DC had unemployment rates below eight percent, and the unemployment rate was above five percent in two states. Three months prior, in June 2023, no states unemployment rate was above eight percent, and two states were above five percent. In the peak of the COVID-19 pandemic shutdowns, in April 2020, the unemployment rate was above eight percent in 48 states, and above five percent in every state.

The states with the highest unemployment rates in September 2023 are Nevada (5.4%), the District of Columbia (5.3%), and California (4.9%). The states with the lowest unemployment rates are North Dakota (1.3%), South Dakota (1.7%), and Maryland (1.8%).

Unemployment Rate by State
unemployed share of labor force, percent, not seasonally adjusted



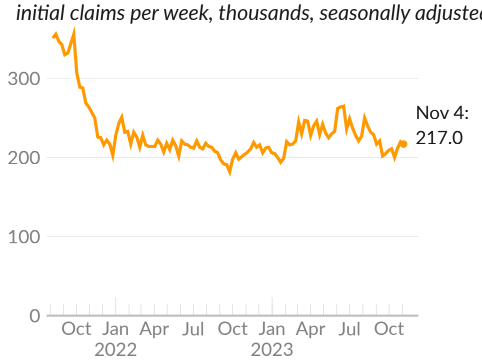
Source: Bureau of Labor Statistics

Jobless Claims

Each week, the Department of Labor present the unemployment insurance (UI) claims reported by state unemployment offices. An initial claim for UI is filed by an unemployed person, after a separation from an employer, to determine eligibility for benefits.

New Jobless Claims

initial claims per week, thousands, seasonally adjusted



Source: Department of Labor

In the week ending November 4, 2023, seasonally-adjusted initial claims for UI total 217,000 (see —), virtually no change from the previous week. Initial claims average 212,200 per week over the past four weeks, 224,900 per week over the past year, and 217,500 per week during 2019.

Initial claims are considered a leading indicator of labor market conditions. An increase in jobless claims suggests a deterioration in economic conditions.

The Labor Department additionally report continued claims for UI, also referred to as insured unemployment. Insured unemployment is the number of people receiving UI benefits during a given week.

Insured Unemployed

continuing claims, thousands, seasonally adjusted

Source: Department of Labor

During the week ending October 28, 2023, seasonally-adjusted insured unemployment totals 1,834,000 (see —), an increase of 22,000 from the previous week. These continued claims average 1,789,000 over the past four weeks, 1,713,000 over the past year, and 1,698,500 during 2019.

UI only covers some workers. In October 2023, the Bureau of Labor Statistics classify 6.5 million people as unemployed, and identify another 5.0 million who want a job but do not count as unemployed.

Jobless Claims

thousands per week

	Nov 4, 2023	Oct 28, 2023	Oct 21, 2023	*period averages* Oct 2023	Sep 2023	Nov 2022	Nov 2021
Initial Claims (SA)	217	220	212	211	211	212	240
Initial Claims (NSA)	213	199	194	194	179	214	242
Continued Claims (SA)	–	1,834	1,812	1,789	1,677	1,512	1,994
Continued Claims (NSA)	–	1,608	1,574	1,574	1,606	1,349	1,781

Source: Department of Labor

Labor Force Participation

Individuals who are employed, actively seeking employment, or on temporary layoff constitute participants in the labor force. The share of the US population that participates in the labor force at a given point in time, or the **labor force participation rate**, is affected by many factors, including demographic shifts and economic conditions.

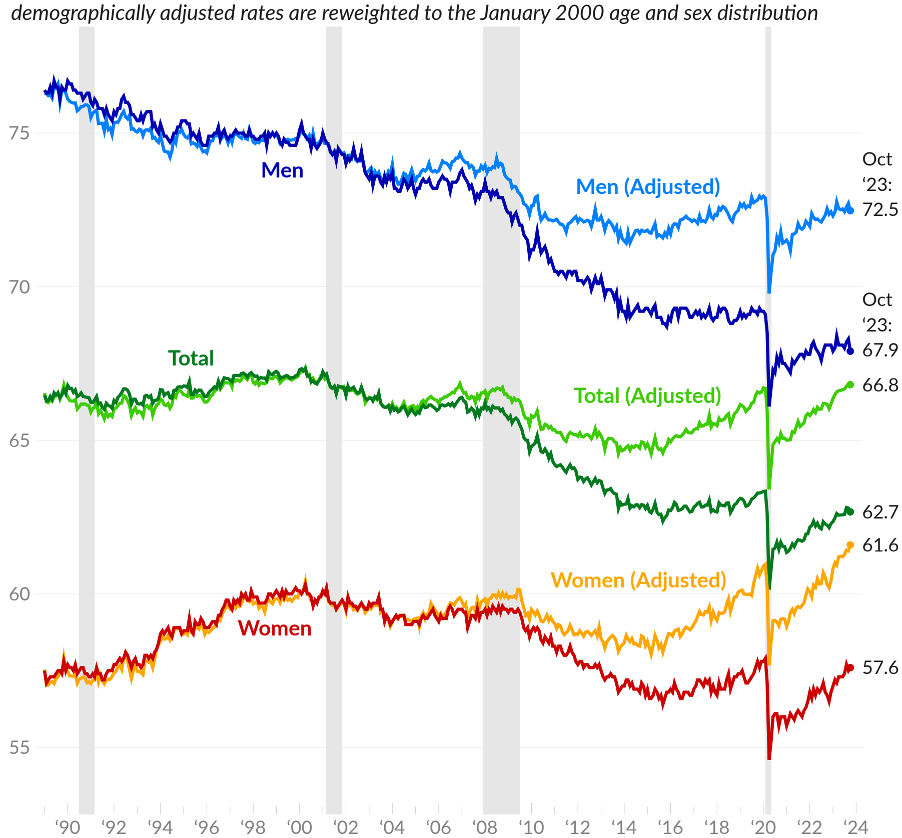
Over the past two decades, the age composition of the population has lowered labor force participation rates, all else equal. Reweighting the population to match the age composition in 2000 suggests the aging of the US population since 2000 has reduced total labor force participation by 4.1 percentage points.

As of October 2023, 62.7 percent of those aged 16 and over are part of the labor force (see —), following 62.8 percent in both September and August. Pre-pandemic, in February 2020, the rate stood at 63.3 percent.

In October 2023, 67.9 percent of men age 16 and older are in the labor force (see —), compared to 57.6 percent of women (see —). Since February 2020, labor force participation has decreased 1.3 percentage points among men, and decreased 0.2 percentage point among women.

Labor Force Participation Rate

labor force as share of age 16 and older population, percent, seasonally adjusted
demographically adjusted rates are reweighted to the January 2000 age and sex distribution

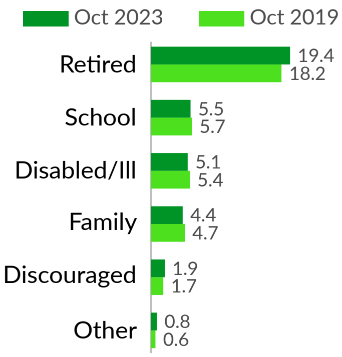


Sources: BLS (Latest: October 2023); CPS (Latest: October 2023)

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.

Nonparticipants
share of age 16+ population, percent



Source: Author's CPS calculations

Nonparticipants age 16 and older total 99.1 million in October 2023, and make up 37.0 percent of the age 16 or older population, compared to 36.2 percent in October 2019. About half of nonparticipants, and 19.4 percent of the population, are retirees in October 2023 (see ■), compared to 18.2 percent in October 2019 (see ■).

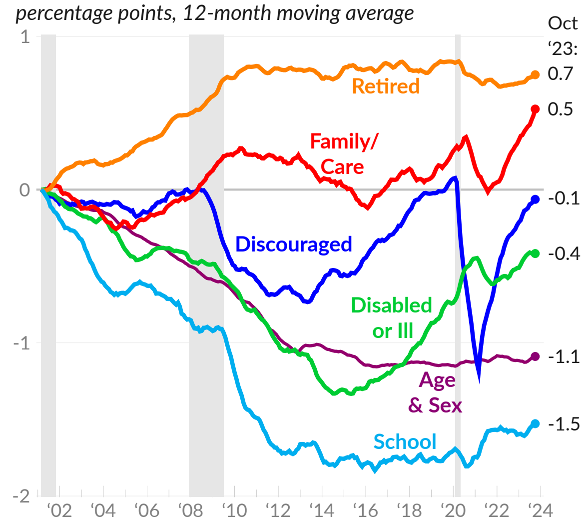
Disability or illness keeps an additional 5.1 percent out of the labor force in October 2023, compared to 5.4 percent in October 2019. Students who are out of the labor force make up 5.5 percent in October 2023 and 5.7 percent in October 2019, while unpaid caregivers are 4.4 percent in October 2023 and 4.7 percent in October 2019.

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 October 2023, a cumulative total of 2.0 percent of the age 18 to 64 population left the labor force. Demographic shifts partially account for this change. Notably, the sizable post-World War II birth cohort has been entering retirement age during this timeframe. 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 to 64 labor force by 1.5 percent (see —). Disability and illness reduce the labor force by another 0.4 percent (see —). Less retirement among those age 18 to 64 increases participation by 0.7 percent, over the period (see —).

Contribution to Labor Force Participation
Age 18 to 64, cumulative contribution since March 2001, percentage points, 12-month moving average



Source: Author's Calculations from CPS

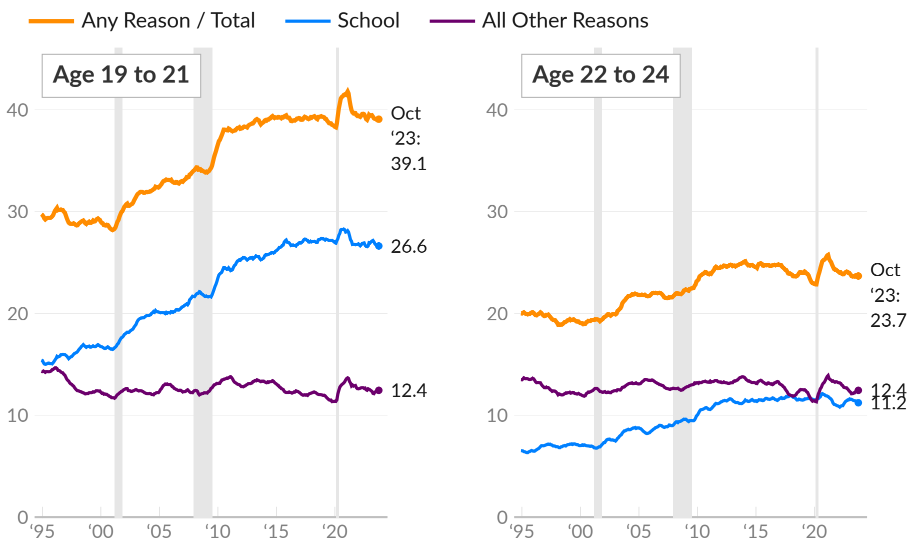
Series in the chart are adjusted so that the distribution of the age 18 to 64 population by age and sex is constant and equal to its March 2001 value. The total effect of this adjustment on labor force participation is included separately in the chart, as Age/Sex.

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, 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 October 2023, the rate of non-participation is 39.1 percent for 19 to 21 year olds and 23.7 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

Non-Participation Due to School

share of age group population, percent, 12-month moving average

	Oct 2023	Sep 2023	Aug 2023	Oct 2022	2019	2015	2010	1994
Total, 19 to 21	26.6	26.7	26.7	26.5	27.1	27.0	24.5	15.4
Men	26.5	26.4	26.2	25.6	26.6	27.0	24.2	15.8
Women	26.7	27.0	27.2	27.5	27.5	27.0	24.7	15.1
Total, 22 to 24	11.2	11.2	11.3	11.4	11.5	11.7	10.6	6.5
Men	11.3	11.2	11.3	11.3	11.7	12.0	10.8	6.7
Women	11.2	11.2	11.3	11.6	11.4	11.3	10.4	6.4
Total, 25 to 27	4.3	4.3	4.3	4.4	4.6	5.2	4.6	2.9
Men	4.1	4.1	4.1	4.3	4.7	5.0	4.4	2.5
Women	4.6	4.5	4.6	4.5	4.4	5.4	4.7	3.2

Source: Author's Calculations from CPS

Labor Force Flows

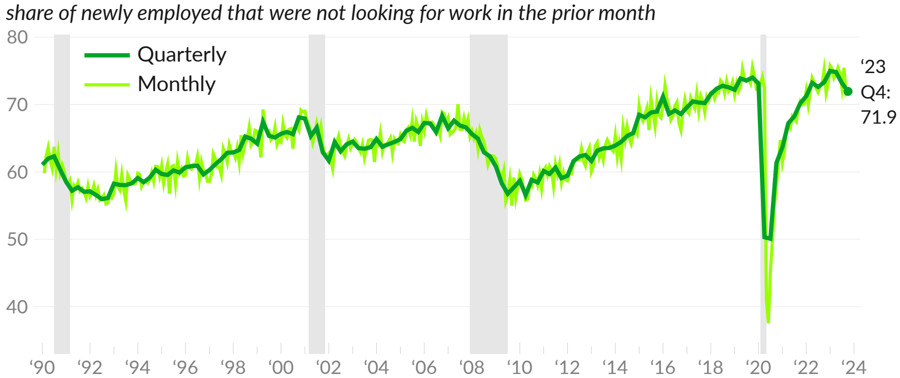
The current population survey interviews households up to eight times over 16 months, allowing insight into the labor force status of the same individual over time, and in particular, into **flows between employment, unemployment, and other categories**. The Bureau of Labor Statistics publish many monthly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

Among newly-employed workers, some considered unemployed the month prior, while others were not in the labor force. In October 2023, 6.0 million people were newly employed (on a gross basis). Of these, 71.9 percent were not looking for work in the prior month (see —). Over the past three months, an average of 71.9 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. Four years ago, in October 2019, 75.5 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.

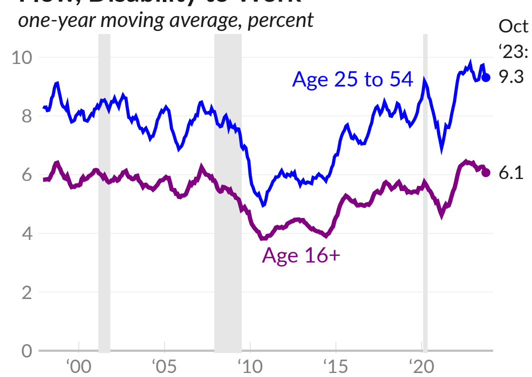
Over the year ending October 2023, 9.3 percent of 25 to 54 year olds who were out of the labor force due to disability or illness one year prior became employed (see —).

Pre-pandemic, in 2019, 8.0 percent of those in the category found a job. The one-year rate of job-finding has increased substantially from its 2010–2013 average of 5.8 percent.

For those age 16 and older, the rate is 6.1 percent for the year ending October 2023 (see —), and 5.5 percent in 2019.

Flow, Disability to Work

one-year moving average, percent



Employed share of individuals who were out of the labor force due to disability or illness one year prior

Source: Author's Calculations from CPS

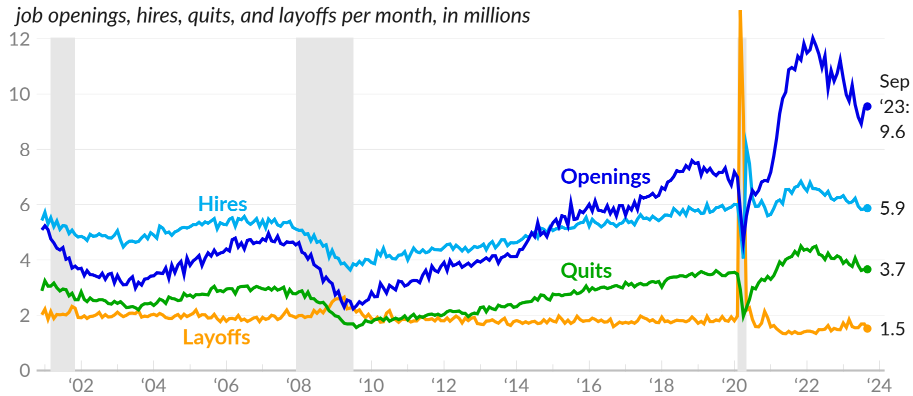
Job Openings and Labor Turnover Survey

Healthy labor market **turnover** indicates that workers can readily find new employment if they are dissatisfied with their current jobs. Moreover, the availability of job opportunities outside a company can enhance the negotiating power of its employees. The Bureau of Labor Statistics releases monthly data on job openings, hires, and separations across various industry groups. *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 September 2023, there were 9.6 million total nonfarm job openings (see –) and 5.9 million hires completed (see –). In the same month, there were 5.5 million nonfarm separations, including 1.5 million layoffs (see –), 3.7 million quits (see –), and 352,000 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 per month, in millions

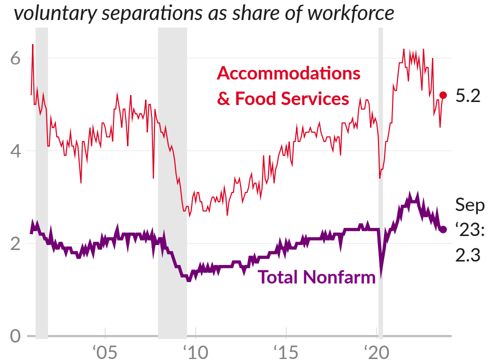


Source: Bureau of Labor Statistics

The number of people who voluntarily separate from 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

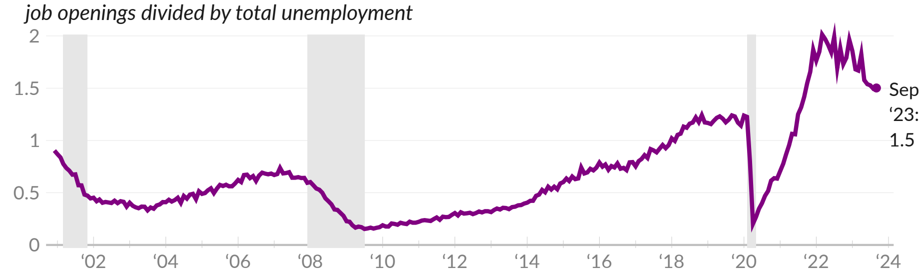
The quits rate is cyclical within the accommodations and food services industries (which includes restaurants), and tends to rise when a tight labor market pulls people out of restaurant jobs and into higher paying jobs in other industries.

In September 2023, the total quits rate in all industries was 2.3 percent (see –). The accommodations and food services quits rate was 5.2 percent (see –); the series high for the industry group was 6.3 percent in January 2001.

A high ratio of job openings to unemployed indicates a tight labor market, for example from low levels of unemployment, or if completing a new hire is taking more time. In September 2023, there were 6.4 million unemployed people and 9.6 million job openings, therefore the ratio of job openings per unemployed person was 1.5 (see —). In August 2023 the ratio was 1.5, and during 2019 the average ratio was 1.2.

Job Openings Per Unemployed Person

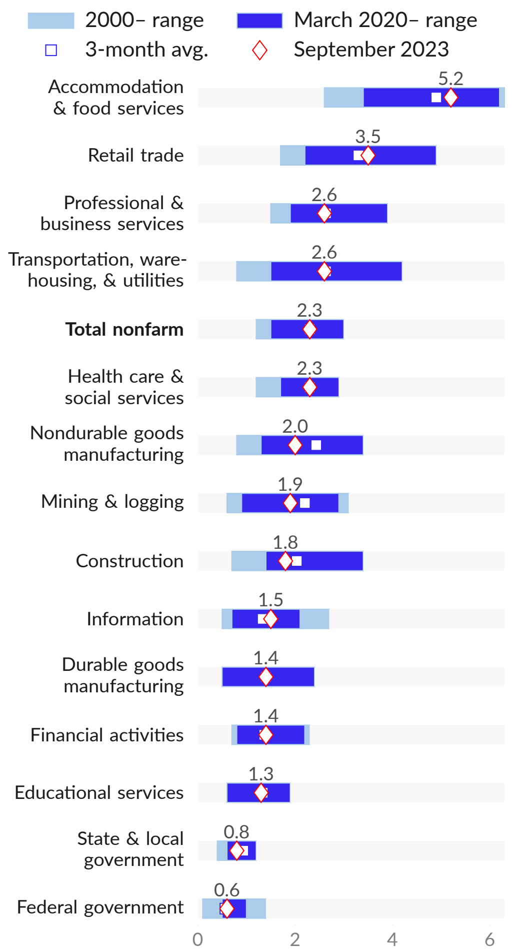
job openings divided by total unemployment



Source: Bureau of Labor Statistics

Monthly Quits Rate by Industry

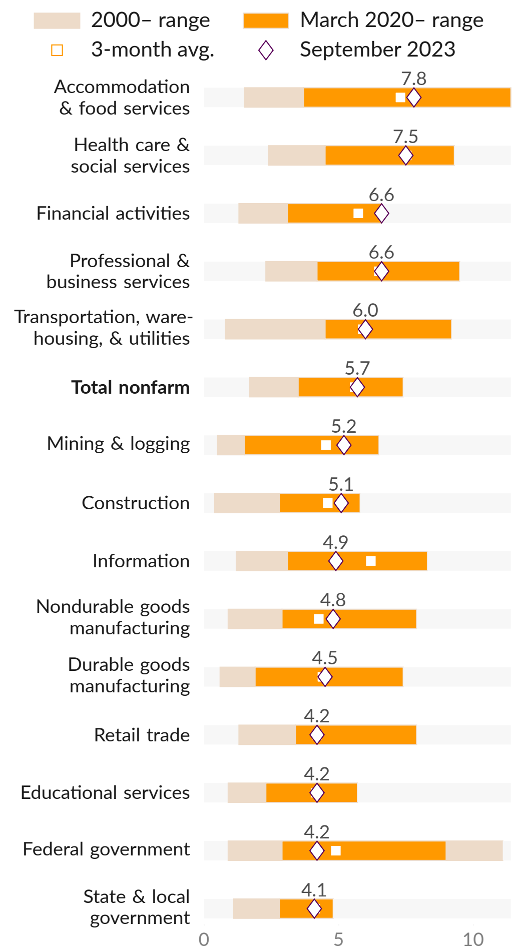
share of employment, percent



Source: Bureau of Labor Statistics

Monthly Job Openings Rate by Industry

share of employment, percent



Source: Bureau of Labor Statistics

Job Switching

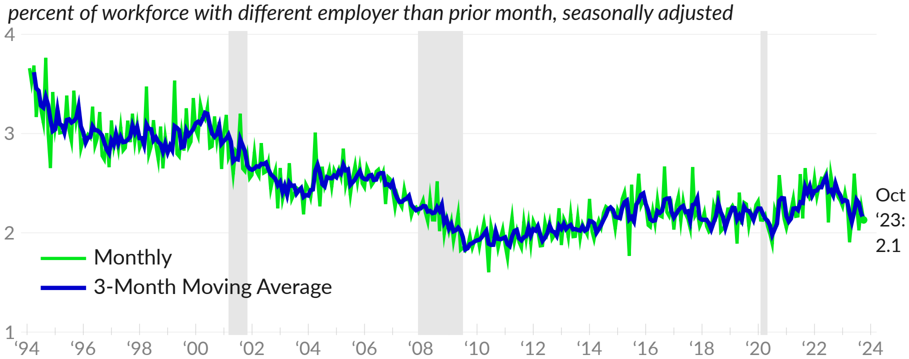
Job switching is important for getting people into the jobs where they are most productive. Individuals boost labor productivity by switching to a more productive industry or moving from a less-productive firm to a more-productive firm.

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.

More recent data show a slight increase in job switching rates. In October 2023, 2.1 percent of the workforce had a different employer than the previous month, after seasonal adjustment (see –). Smoothed data also show an average of 2.1 percent of the workforce with a new employer during the three months ending October 2023 (see –). Prior to COVID-19, in 2019 Q4, a monthly average of 2.2 percent of the workforce switched jobs.

New Employer

percent of workforce with different employer than prior month, seasonally adjusted



Source: Author's Calculations from CPS

Expectations

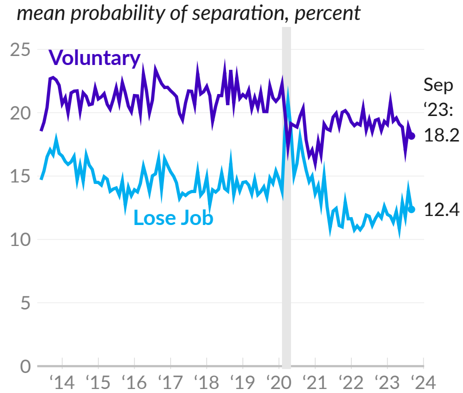
The monthly Survey of Consumer Expectations from the Federal Reserve Bank of New York asks people how likely they are to either lose or leave a job. **Expected separations** are specifically the average perceived probability, or likelihood, of separating from a job in the next 12 months.

In September 2023, the perceived likelihood of leaving one's job voluntarily in the next 12 months averages 18.2 percent, compared to 21.0 percent in 2019 (see –). In the latest month, the perceived probability losing one's job is 12.4 percent, compared to 14.3 percent in 2019 (see –).

During the pandemic, in April 2020, job loss expectations exceeded job leaving expectations. In September 2023, job leaving expectations exceed job loss expectations by 5.8 percentage points, compared to 6.8 percentage points in 2019.

Expected Separations

mean probability of separation, percent



Source: Federal Reserve Bank of New York

Hours Worked

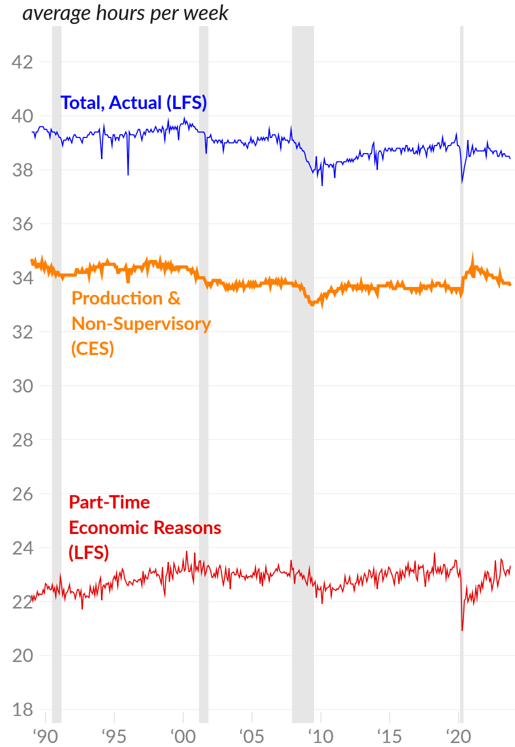
The Bureau of Labor Statistics (BLS) report **average hours worked per week** in both Current Employment Statistics (CES) and Labor Force Statistics (LFS), the two surveys used to produce the monthly jobs report. Additionally, using the Current Population Survey (CPS), the source for LFS, it is possible to calculate the average hours worked for subgroups of the population.

Actual hours worked by people at work in all industries during the survey reference week average 38.4 in October 2023 (see —), slightly below the 38.8 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 work fewer hours on average, with 34.8 average weekly hours in October 2023, slightly below the 35.2 average in February 2020. Those part-time for economic reasons (see —) work an average of 23.3 hours per week in October 2023.

In October 2023, production and non-supervisory workers (see —), about four of every five employees, worked 33.7 hours per week on average, in line with the 33.6 average weekly hours in February 2020 and substantially 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

	Oct 2023	Sep 2023	Aug 2023	Oct 2022	2019	2015	2010
Total Actual, CES	34.3	34.4	34.4	34.6	34.4	34.5	34.1
Production & Non-Supervisory, CES (—)	33.7	33.8	33.8	34.0	33.6	33.7	33.4
Total Actual, LFS (—)	38.4	38.5	38.5	38.7	39.0	38.8	38.1
Part-Time for Economic Reasons, LFS (—)	23.3	23.0	23.2	22.9	23.2	23.0	22.4
Services Occupations, LFS	34.8	34.7	34.8	34.8	35.2	34.7	34.2
Total Usual, CPS	38.5	38.4	38.5	38.7	38.8	38.7	38.3
Full-Time, All Ages, CPS	42.0	42.0	42.0	42.2	42.4	42.6	42.5
Full-Time, Age 25 to 54, CPS	42.0	42.1	42.1	42.3	42.5	42.8	42.6
Part-Time, All Ages, CPS	28.4	28.0	28.1	28.5	27.7	28.3	28.0
Part-Time, Age 25 to 54, CPS	31.7	31.3	31.4	31.8	30.8	31.1	30.6

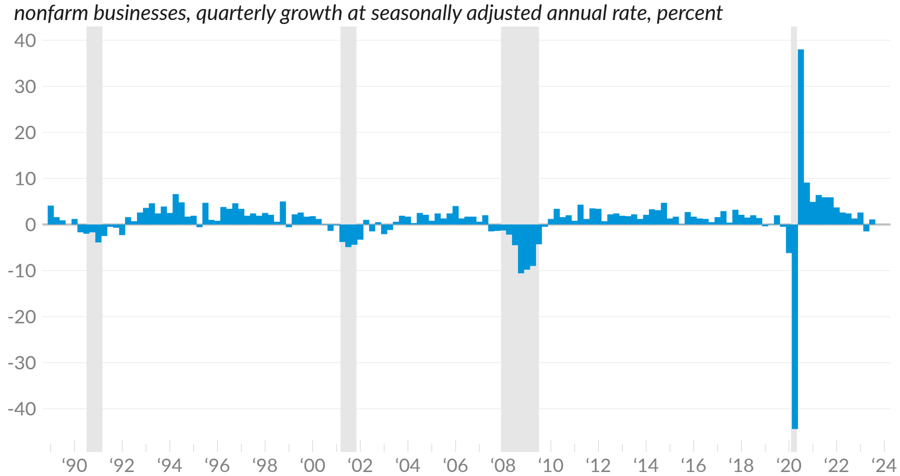
Source: Bureau of Labor Statistics, Author

Aggregate Hours Worked

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 1.1 percent in 2023 Q3, following a decrease of 1.5 percent in 2023 Q2. From 2017 through 2019, total hours worked increased at an average rate of 1.4 percent. Since 2019, hours worked have increased by a total of 2.6 percent.

Aggregate Hours Worked

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



Source: Bureau of Labor Statistics

Nonstandard Work Arrangements

Many workers do not have standard work arrangements, either by choice or as the result of not being able to find standard work arrangements. Many workers are employed part-time, part-year, or both. Some workers have more than one job. Additionally, a portion of the workforce is considered self-employed.

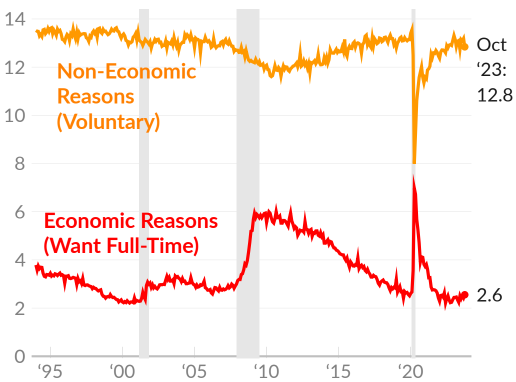
Part-Time Work

Around 26 million people work part-time, defined as fewer than 35 hours per week, and the reasons for doing so vary. The Bureau of Labor Statistics classify part-time workers who would prefer full-time work as involuntary or **part time for economic reasons**. 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.

Voluntary part-time workers, or those **part-time for non-economic reasons**, do not necessarily want more hours of work. The category includes those who work fewer hours for health, childcare, personal or family reasons, those who are retired or have a limit on earnings, and those with jobs where full-time is less than 35 hours per week.

Part Time, by Reason

percent of labor force



Source: Bureau of Labor Statistics

In October 2023, 4.3 million people worked part-time for economic reasons, equivalent to 2.6 percent of the labor force (see —). In 2019, an average of 2.7 percent of the labor force worked part-time for economic reasons. In 2010, following the great recession, the rate was 5.8 percent.

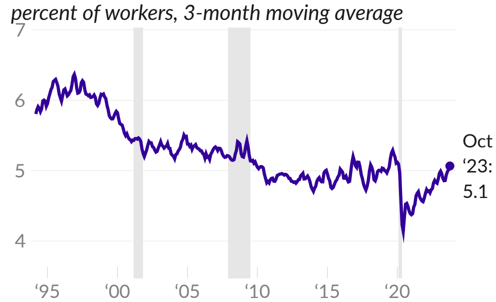
Voluntary part-time workers total 21.5 million in October 2023, or 12.8 percent of the labor force (see —). The category is 13.1 percent of the labor force in 2019, on average.

More Than One Job

Over a given period of time, some people work more than one job. The household survey identifying people with more than one job asks about employment during a specific reference week. Respondents who work more than one job during the reference week are considered multiple jobholders; those who work multiple jobs over a month or year, but work one job in the survey reference week, are not.

Multiple Jobholders

percent of workers, 3-month moving average



Source: Bureau of Labor Statistics

In October 2023, a seasonally-adjusted total of 8.4 million people **worked more than one job** during the survey reference week, equivalent to 5.2 percent of workers. Over the three months ending October 2023, an average of 5.1 percent of workers were multiple jobholders (see —). In 2019, an average of 5.1 percent of workers had more than one job during the survey reference week.

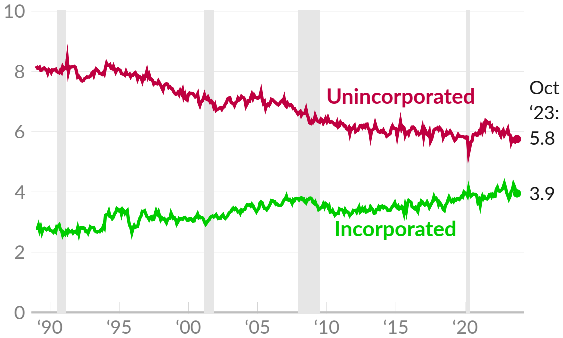
Self-Employment

Workers are considered **self-employed** if they work for profit or fees in their own business, profession, trade, or farm. Some self-employed have incorporated their business, and are similar to wage and salary workers in that they are paid by their business. Self-employment can offer more flexibility than traditional jobs, in some cases, but can also be less stable. The category includes people who work for profit but do not make any profits, for example.

As of October 2023, there are 9.7 million **unincorporated self-employed**, equivalent to 5.8 percent of the labor force (see —). Over the past year, the unincorporated self-employed made up an average of 5.8 percent of the labor force, compared to an average of 5.8 percent in 2019. From 1989 to 1994, the category made up an average of 8.0 percent of the labor force.

Self-Employed

percent of labor force



Source: Bureau of Labor Statistics, Author

The **incorporated self-employed** total 6.6 million in October 2023, equivalent to 3.9 percent of the labor force (see —). In 2019, the category made up 3.8 percent of the labor force.

Incorporated self-employed are not reported by BLS prior to 2000, but can be calculated from the CPS, and make up a average of 2.8 percent of the labor force from 1989 to 1994.

Wages

Economists consider wages to be an important economic indicator. Wages are the majority of personal income and the main expense of businesses. Wage growth is particularly closely monitored as it affects quality of life and can affect inflation rates.

The US measures wages in several ways. As two examples, average hourly earnings comes from the monthly establishment, and usual weekly earnings are derived from three combined months of household surveys. This subsection first provides an overview of wage measures and recent results, and then discusses individual measures.

Overview

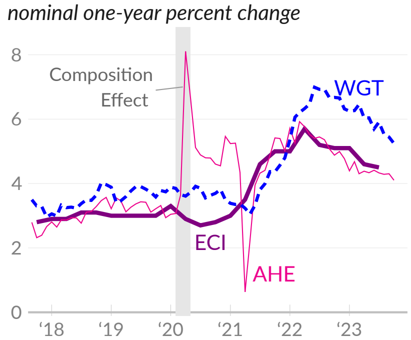
The various US wage measures each have advantages; average hourly earnings from the payroll survey are timely and cover detailed industry groups, while median earnings from the household survey are unaffected by outliers and cover demographic groups.

Likewise, wage measures come with caveats. For example, both average and median wages are subject to *composition effects* during and after a recession. Low-wage workers are more likely to lose a job during a recession, and therefore move out of (and later into) the sample of a wage survey. This drives up the central tendency of wages during a recession and drives down the central tendency after a recession.

Illustrating the composition effect, several measures show nominal one-year wage growth of three to four percent during 2018 and 2019. During the COVID-19 recession in 2020, average hourly earnings (AHE) growth (see —) jumps to eight percent, while wage growth is stable when tracked (WGT) at the level of individuals (see - -), or calculated from the industry- and occupation-adjusted employment cost index (ECI, see —).

In the latest data, nearly all measures show one-year nominal wage growth that is falling but still above the pre-pandemic rate.

Wage Growth Measures
nominal one-year percent change



Source: BEA, BLS, Author

The following tables consolidate recent wage growth rates from different measures. In addition to measures discussed above, the table includes average wages and salaries per worker, calculated as national accounts aggregate wages and salaries divided by the number of employees on nonfarm payrolls.

Wage Growth Measures
nominal one-year percent change

	Oct '23	Sep '23	Aug '23	Jul '23	Jun '23	May '23	Oct '22	Oct '21
Average Hourly Earnings (AHE), Private	4.1	4.3	4.3	4.3	4.4	4.3	4.9	5.4
Production & Nonsupervisory	4.4	4.5	4.5	4.7	4.7	4.9	5.7	6.4
Goods-Producing Industries	5.4	5.7	5.7	5.6	5.7	5.3	5.7	5.2
Service-Providing Industries	4.2	4.2	4.3	4.5	4.5	4.8	5.8	6.7
Usual Weekly Earnings, Median	5.1	4.5	1.8	3.9	7.3	3.7	7.0	2.1
Usual Weekly Earnings, Median (3M Avg)	3.8	3.4	4.3	5.0	5.7	5.0	6.9	2.9
Wage Growth Tracker, Median	5.0	5.2	5.6	5.6	5.4	6.7	6.5	4.5
Wage Growth Tracker, Median (3M Avg)	5.2	5.4	5.5	5.9	5.7	6.0	6.7	4.4
Wages & Salaries, Average (NIPA)	–	3.2	3.6	3.7	4.6	4.2	2.5	5.3
Wages & Salaries, Average (3M Avg)	–	3.5	4.0	4.2	4.3	3.9	3.3	5.7

Source: BLS, BEA, Federal Reserve Bank of Atlanta, Author

The second wage growth summary table captures quarterly measures, such as the ECI discussed above, which is particularly high-quality. Lastly, unit labor costs measure the cost a business pays to produce one unit of output.

Wage Growth Measures
nominal one-year percent change

	'23 Q3	'23 Q2	'23 Q1	'22 Q4	'22 Q3	'21 Q3	'20 Q3	'19 Q3
Wages & Salaries (ECI)	4.6	4.6	5.0	5.1	5.1	4.1	2.6	2.9
Usual Weekly Earnings, Median	4.5	5.6	6.1	7.3	6.9	0.7	7.9	3.4
Unit Labor Cost	1.9	3.7	4.2	4.4	5.7	6.5	1.5	0.5

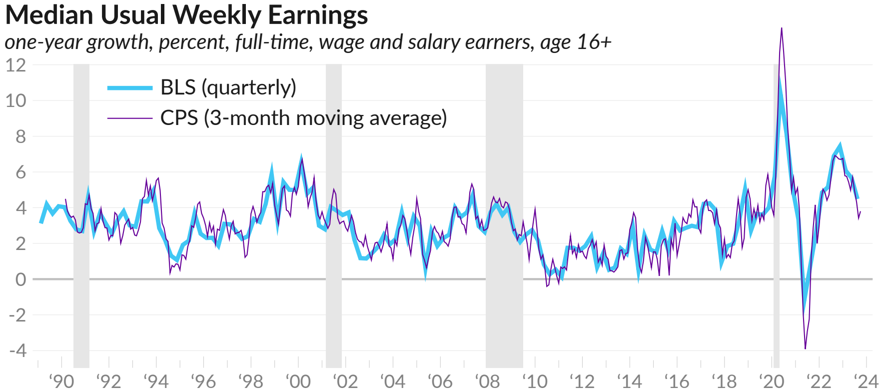
Source: BLS

Usual Weekly Earnings

The Bureau of Labor Statistics (BLS) report the **usual wages of full-time workers** at various points in the income distribution, including by decile and by quartile. The most commonly used of these measures is the median usual weekly earnings, which represents the middle wage; half of wages are above and half are below.

In the third quarter of 2023, median usual earnings of full-time wage and salary workers are $1,118 per week, compared to $1,070 per week in 2022 Q3, a nominal one-year increase of 4.5 percent (see —). In 2023 Q2, the median full-time worker receives $1,100 per week, a one-year increase of 5.7 percent.

Median Usual Weekly Earnings
one-year growth, percent, full-time, wage and salary earners, age 16+



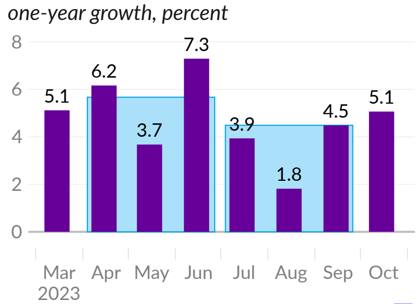
Source: Bureau of Labor Statistics, Author's Calculations

The primary source for BLS quarterly estimates of usual weekly earnings is the Current Population Survey (CPS). Using the CPS, more-volatile monthly estimates can be calculated before the next BLS quarterly estimate ( ) is available.

In October 2023, the median full-time worker receives $1,137 per week, following $1,149 per week in September 2023 and $1,083 per week in August 2023. The average over these three months is $1,123 per week, a 3.8 percent increase over the same three months, one year prior (see —).

Median usual weekly earnings increased 5.1 percent over the year ending October 2023 (see ■), following a 4.5 percent increase in September, and a 1.8 percent increase in August.

Median Usual Weekly Earnings
one-year growth, percent



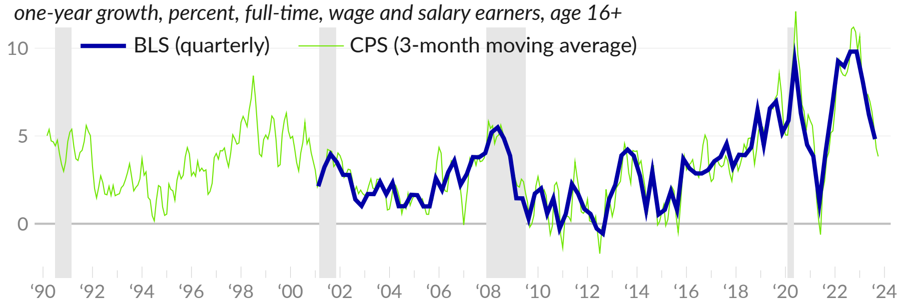
Source: BLS, Author

The income distribution also tells us the earnings of low-wage workers, represented here by the first decile. Only ten percent of workers earn less than the first decile wage. BLS report first decile usual earnings for full-time workers of $587 per week in 2023 Q3 and $560 per week in 2022 Q3, a nominal one-year increase of 4.8 percent (see —). Over the year ending 2023 Q2, first decile usual weekly earnings increased 6.2 percent.

The more-volatile CPS-based monthly measure shows first decile usual earnings of $590 per week in October 2023, $598 per week in September 2023, and $585 per week in August 2023. The three-month average is $591 per week; first decile earnings increased 3.8 percent over the same months, one year prior (see —). By month, over the year ending October 2023, first decile earnings increased 5.6 percent, following 3.1 percent in September 2023, and 2.9 percent in August 2023.

First Decile Usual Weekly Earnings

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



Source: Bureau of Labor Statistics, Author's Calculations

The following tables present the BLS published estimates for usual weekly earnings of full-time wage and salary earnings. The first table presents the earnings in levels, and the second table shows the one-year percent change.

Usual Weekly Earnings

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

	2023 Q3	2023 Q2	2023 Q1	2022 Q4	2022 Q3	2021 Q3	2020 Q3	2019 Q3	2018 Q3
First Decile	$587	581	574	571	560	510	490	461	431
First Quartile	754	741	739	736	724	683	667	611	592
Median	1,118	1,100	1,100	1,085	1,070	1,001	994	919	887
Third Quartile	1,767	1,735	1,751	1,709	1,696	1,577	1,575	1,462	1,408
Ninth Decile	2,781	2,705	2,718	2,584	2,583	2,412	2,383	2,275	2,107

Source: Bureau of Labor Statistics

Weekly Earnings Growth

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

	2023 Q3	2023 Q2	2023 Q1	2022 Q4	2022 Q3	2021 Q3	2020 Q3	2019 Q3	2018 Q3
First Decile	4.8	6.2	8.1	9.8	9.8	4.1	6.3	7.0	4.4
First Quartile	4.1	4.4	5.4	5.6	6.0	2.4	9.2	3.2	3.0
Median	4.5	5.7	6.1	7.4	6.9	0.7	8.2	3.6	3.3
Third Quartile	4.2	4.8	7.1	8.3	7.5	0.1	7.7	3.8	3.8
Ninth Decile	7.7	5.6	8.2	5.7	7.1	1.2	4.7	8.0	4.1

Source: Bureau of Labor Statistics

Wages and Education

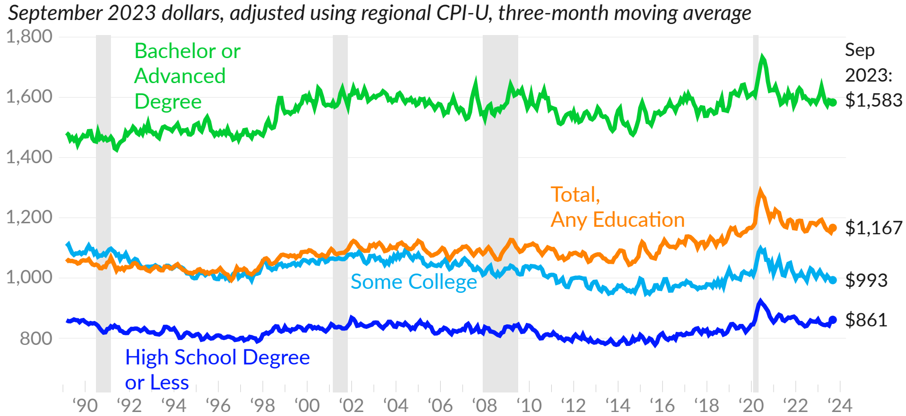
The US has increasingly invested in education, boosting productivity and earnings. This subsection discusses the relationship between **wages and education**, over the long-term and in recent data.

Over the three months ending September 2023, the median usual earnings of full-time wage and salary workers age 25 to 54 average $1,167 per week. After adjusting for inflation, median earnings have increased by 10.8 percent, in total, since 1989. Over this same period, which features a sharp increase in education in the US, labor productivity increased by 94.2 percent.

Not only is the long-term increase in median wages low, but some of the increase is explained by the median person having more education. Wage growth within education groups is lower than overall wage growth. Real median wages increased 6.8 percent over the same period for workers with a bachelor's degree or more, decreased 10.2 percent for workers with some college or an associate degree, and increased 0.2 percent for those with a high school degree or less.

Real Earnings by Level of Education

median usual weekly earnings, full-time wage and salary workers age 25 to 54
September 2023 dollars, adjusted using regional CPI-U, three-month moving average



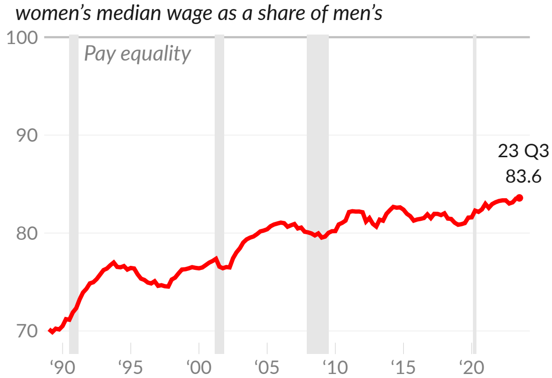
Source: Author's Calculations from CPS

Gender Wage Gap

Men are paid significantly more than women, both in general, and for a given job. The US **gender wage gap** has narrowed but is large and persistent. The US is not expected to achieve gender pay equality until 2053.

Gender Wage Gap

women's median wage as a share of men's



Source: Bureau of Labor Statistics

In 1989, the gender wage gap was 30 percent; women were paid 70 cents for each dollar men were paid. From 1989 to 2006, the gap closed at a rate of 0.74 percentage point per year. From 2006 to 2019 Q4, the gap closed at a rate of only 0.03 percentage point per year.

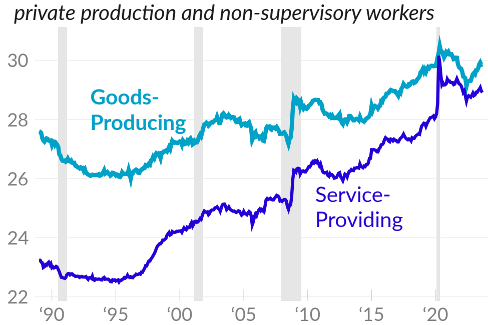
Over the year ending 2023 Q3, the gender wage gap is 16.4 percent; women are paid 83.6 cents on the dollar. Pre-pandemic, in 2019 Q4, the gap was 18.4 percent.

Average Hourly Earnings

Each month, the Bureau of Labor Statistics report wages of employees on private nonfarm payrolls. The earnings data are also available for industries and for major sectors. Industry- and sector-level earnings are reported for production and non-supervisory workers, who make up about four in every five workers.

Real Wages by Major Sector

average hourly earnings, September 2023 dollars
private production and non-supervisory workers



Source: Bureau of Labor Statistics

Hourly wages for production and non-supervisory workers in private goods-producing sectors average $29.87 in September 2023 (see —). In September 2019, the average hourly wage for the sector is $29.82, after adjusting for inflation.

Private service-providing industry wages average $28.92 for production and non-supervisory workers in September 2023. The inflation-adjusted equivalent is $28.07 in September 2019 (see —).

Growth Rate

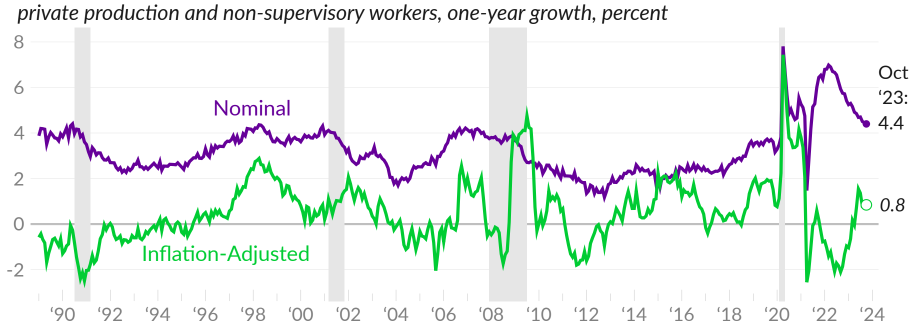
As with other measures of wages, economists are interested in the rate of wage growth. The following chart presents the one-year change in seasonally-adjusted average hourly earnings for private production and nonsupervisory employees on nonfarm payrolls. The chart includes both nominal, or unadjusted, wage growth and real, or inflation-adjusted wage growth, which is adjusted using the CPI-U.

Over the year ending October 2023, nominal average hourly earnings increased 4.4 percent for production and non-supervisory workers (see —), following an increase of 4.5 percent in September 2023. Comparing the latest three months to the previous three months, nominal earnings increased at an annual rate of 3.8 percent.

The October CPI is not yet published, but the one-year real wage growth estimate based on the CPI nowcast is 0.8 percent (see ○). The real rate for September is 0.7 percent (see —). Using the nowcast, the annualized real growth rate for the latest three months compared to the previous three months is negative 0.7 percent.

Average Hourly Earnings Growth

private production and non-supervisory workers, one-year growth, percent



Source: Bureau of Labor Statistics, FRB Cleveland

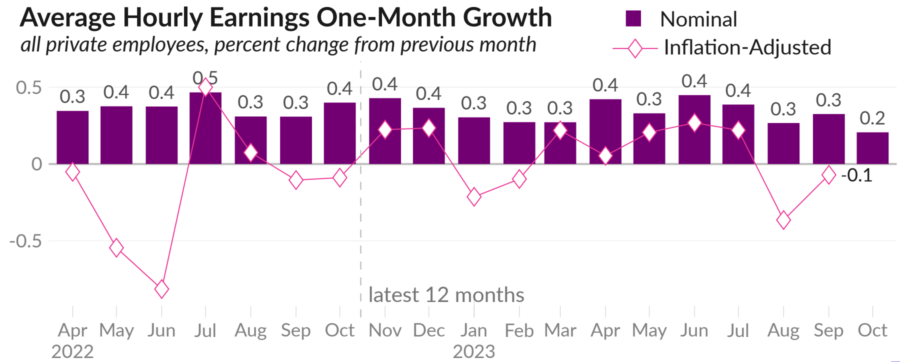
While one-year wage growth rates are relatively less-volatile, the latest month of data only represents one-twelfth of the data that determines the rate. To help identify trends during recent months, the one-month growth rate is presented next.

Turning to **one-month growth**, in October 2023, nominal average hourly earnings for all private sector employees increased by 0.2 percent, following an an increase of 0.3 percent in September, and 0.3 percent in August (see ■).

Adjusting for inflation shows one-month growth of -0.1 percent in September, -0.4 percent in September, and 0.2 percent in August (see ◊).

Average Hourly Earnings One-Month Growth

all private employees, percent change from previous month



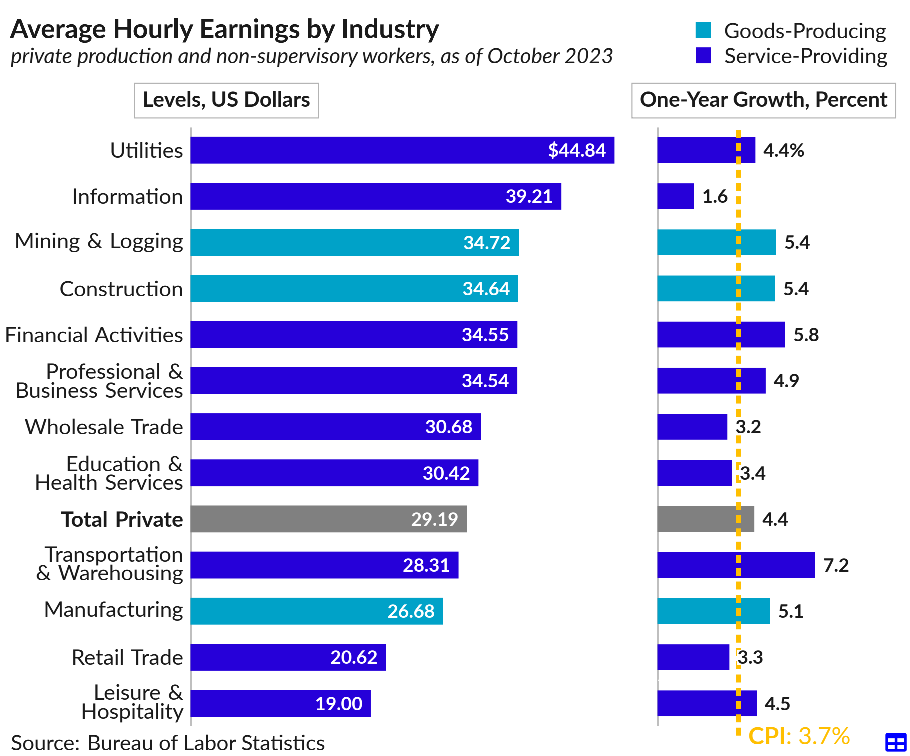
Source: Bureau of Labor Statistics, FRB Cleveland

The average wage varies between **industry groups**. For production and nonsupervisory workers, the highest average hourly earnings in October 2023 are in the utilities industry ($44.84), followed by the information industry ($39.21), and the mining and logging industry ($34.72). The lowest wage industries in the latest data, by average hourly earnings, are leisure and hospitality ($19.00) and retail trade ($20.62).

Over the past year, eight of the 12 industry groups have wage growth above the increase in prices indicated by the consumer price index (see —). The transportation and warehousing industry had the fastest nominal growth rate, at 7.2 percent, followed by 5.8 percent in financial activities and 5.4 percent in mining and logging.

Average Hourly Earnings by Industry

private production and non-supervisory workers, as of October 2023



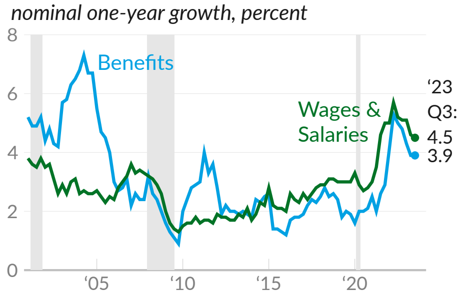
Source: Bureau of Labor Statistics

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 Index
private industry wage and salary workers
nominal one-year growth, percent



Source: Bureau of Labor Statistics

Over the year ending 2023 Q3, private industry wage and salary costs increased 4.5 percent (see —), following an increase of 4.6 percent in 2023 Q2, and an increase of 5.1 percent in 2023 Q1. In 2019, private wages and salaries costs increased by three percent.

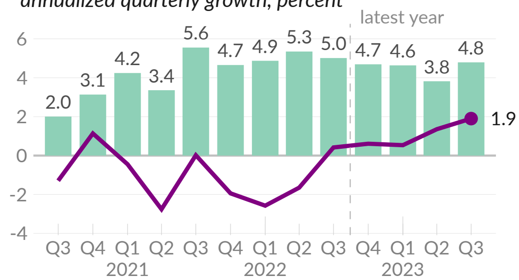
The cost of private sector benefits increased 3.9 percent (see —) over the year ending 2023 Q3, following an increase of 3.9 percent in 2023 Q2. In 2019, private-sector benefits costs increased by two percent.

Quarterly ECI growth can highlight recent developments. Next, we examine seasonally-adjusted annualized quarterly wage and salary growth for all civilian workers.

In 2023 Q2, wages increased 4.8 percent, following 3.8 percent in 2023 Q2 and 4.6 percent in Q1 (see). Growth is currently below the 2021 highs and above the pre-COVID average.

Adjusted for inflation using the PCE deflator, growth is 1.9 percent in 2023 Q3, following 1.4 percent in 2023 Q2 and 0.5 percent in Q1 (see —). Real wage growth is above the long-term average.

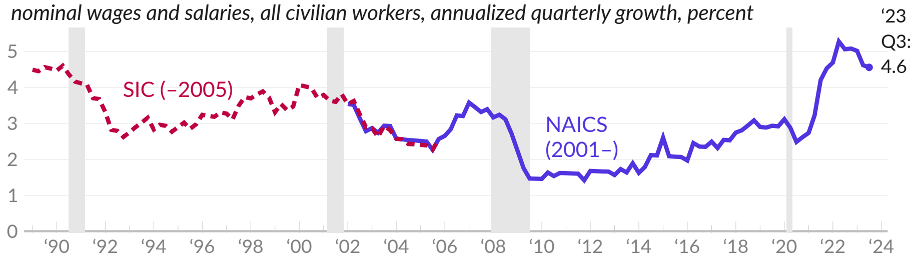
Employment Cost Index
wages and salaries, all civilian workers
annualized quarterly growth, percent



Source: Bureau of Labor Statistics

Lastly, longer-term trends in ECI wage growth can add context to recent developments. Prior to 2001, ECI growth is calculated using a different industry classification (SIC). Combining the two sets, one-year growth since 1989 is presented below.

Employment Cost Index
nominal wages and salaries, all civilian workers, annualized quarterly growth, percent



Source: Bureau of Labor Statistics

Wage Growth Tracker

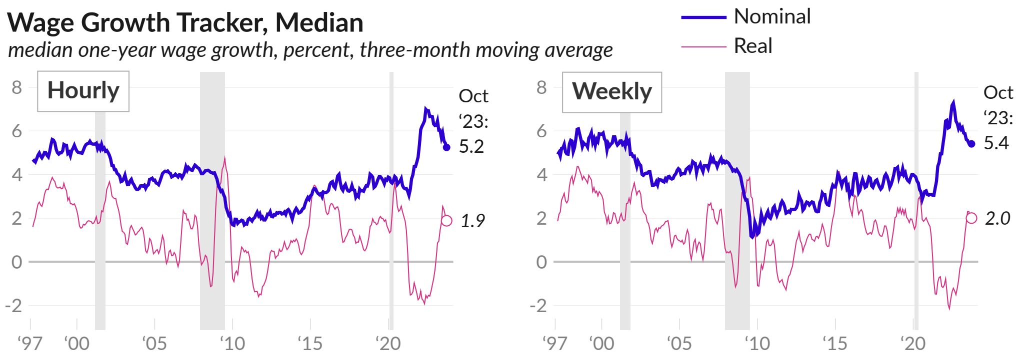
The Federal Reserve Bank of Atlanta publish a **wage growth tracker** that captures the distribution of one-year changes in the wages of the same people. This approach avoids some of the compositional changes that affect aggregate wage growth measures, though the sample used to calculate the data is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

Replication of the wage growth tracker shows matched-observation nominal median wage growth of 5.2 percent over the three months ending October 2023, on an hourly basis, and 5.4 percent on a weekly basis (see —). One year prior, in October 2022, three-month moving average nominal median wage growth was 6.7 percent, on an hourly basis, and 6.5 percent on a weekly basis.

The inflation-adjusted one-year median wage growth (see —) can also be calculated using the wage growth tracker approach. Real wages are deflated using the regional CPI-U for each CPI household. The October CPI is not yet published, but the real median wage growth estimate based on the CPI nowcast is 1.9 percent on an hourly basis, and two percent on a weekly basis (see ○).

Wage Growth Tracker, Median

median one-year wage growth, percent, three-month moving average



Source: Author, FRB Atlanta, Census, BLS, FRB Cleveland

Zero Wage Change

By observing the same person's wage at two points in time, 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 CPS data, and smoothed with a three-month moving average.

In October 2023, 12.1 percent of individuals had no hourly wage growth, compared to 12.2 in September 2023 (see —). One year prior, in October 2022, 11.8 percent of individuals had no wage growth.

Zero Wage Change

share of individuals with one-year wage growth between -0.5 and 0.5 percent, three-month average

Source: Author's Replication of FRB Atlanta

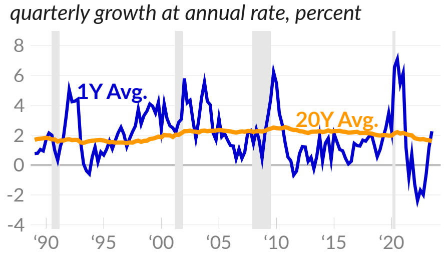
Labor Productivity

Labor productivity is reported by the Bureau of Labor Statistics and measured as **real output per hour of work**. The measure captures the rate at which people, with all of the resources and equipment and infrastructure available to them, are able to work together to produce goods and services. Labor productivity growth 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.

Over the longer-term, US labor productivity growth averages two percent per year. The trailing 20-year average growth rate is 1.6 percent in 2023 Q3 (see —). During the 1990s and early 2000s, labor productivity growth was above its long-term average. In contrast, from 2010 to 2017, productivity growth was below average. Over the year ending 2023 Q3, growth averages 2.3 percent (see —).

Labor Productivity Growth

quarterly growth at annual rate, percent

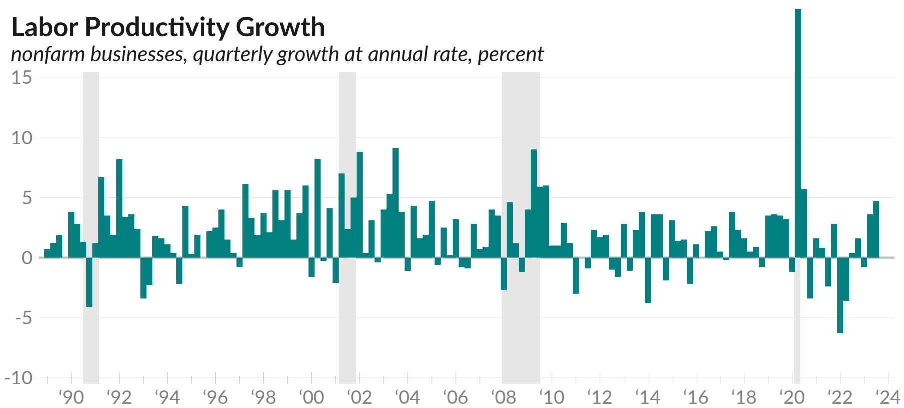


Source: Bureau of Labor Statistics

In 2023 Q3, nonfarm business labor productivity increased at an annual rate of 4.7 percent (see ■), as the result of an increase of 5.9 percent in real output and an increase of 1.1 percent in hours worked. In the prior quarter, 2023 Q2, labor productivity increased at an annual rate of 3.6 percent, as real output increased two percent and hours of work decreased 1.5 percent. Productivity has increased at an annual rate of 1.9 percent over the past five years, in line with the 1989-onward rate of 1.9 percent.

Labor Productivity Growth

nonfarm businesses, quarterly growth at annual rate, percent



Source: Bureau of Labor Statistics

In the short-term, productivity growth is affected by changes in the composition of the workforce, and by 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.

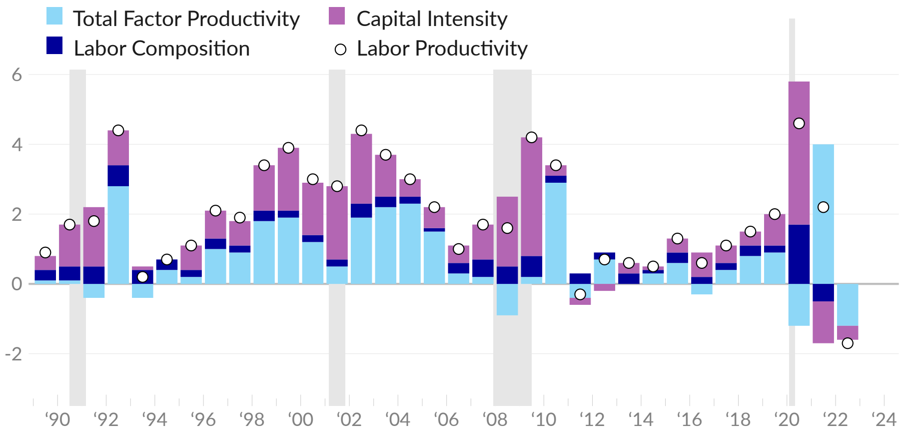
Productivity Growth Decomposition

The Bureau of Labor Statistics report **contributions to nonfarm business labor productivity growth**. Some portion of productivity growth can be explained by businesses adding capital such as equipment and IT improvements. Additionally, the age, education, and gender composition of the labor force changes over time, which affects the average output per hour of work.

In 2022, labor productivity decreased by 1.7 percent (see o). Capital intensity subtracted 0.4 percentage point (see ■), and labor composition did not contribute (see ■). The remainder, called total factor productivity, subtracted 1.2 percentage points (see ■).

Decomposition of Labor Productivity Growth

contribution to labor productivity, percentage points



Source: Bureau of Labor Statistics

Union Membership

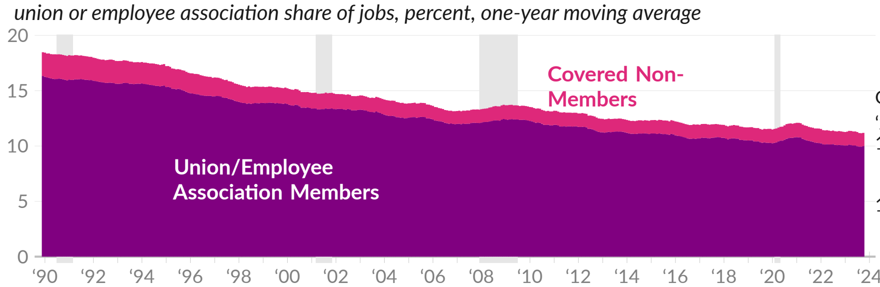
Membership in **unions and employee associations** has diminished in the United States over the past fifty years. Unionized jobs typically offer higher wages and better benefits and union membership tends to increase wages and benefits even in nonunion jobs. Research shows that lower union membership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

Over the 12 months ending October 2023, the union membership rate averaged 10.0 percent (see ■). The coverage rate, which includes nonmembers that are covered under a union contract, was 11.2 percent. During the 12-month period, an average of 129.7 million workers were not represented by a union, 14.4 million workers were union members, and an additional 1.7 million workers, or 1.2 percent of the workforce, reported no union affiliation but were covered by a union contract (see ■).

One year prior, over the 12 months ending October 2022, the union membership rate was 10.1 percent, and the coverage rate was 11.4 percent. From October 2022 to October 2023, the 12-month average number of nonunion workers increased by 2.7 million, while the number of workers represented by unions increased by 89,000.

Union Membership and Coverage

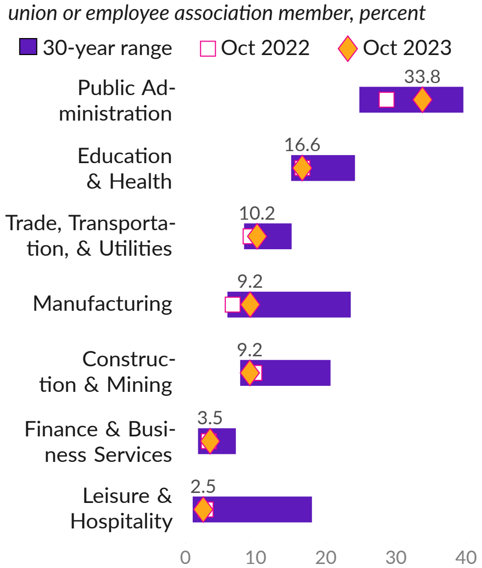
union or employee association share of jobs, percent, one-year moving average



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 33.8 percent as of October 2023, followed by education and health with 16.6 percent, and trade, transportation, and utilities with 10.2 percent.

The leisure and hospitality industry experienced the largest overall percentage point decrease in union membership rates over the past 30 years, and is currently 15.5 percentage points below its January 1989 rate of 18.0 percent.

The manufacturing industry union membership rate was 9.2 percent in October 2023, 6.7 percent in October 2022, and 9.4 percent in October 2019.

Financial Markets

The US financial markets provide funding for borrowers' activities and offer potential income to lenders. The US equity and bond markets are the largest in the world, with daily trading volumes of several hundred billion dollars. This section discusses equity markets, interest rates and bond markets, and money and monetary policy.

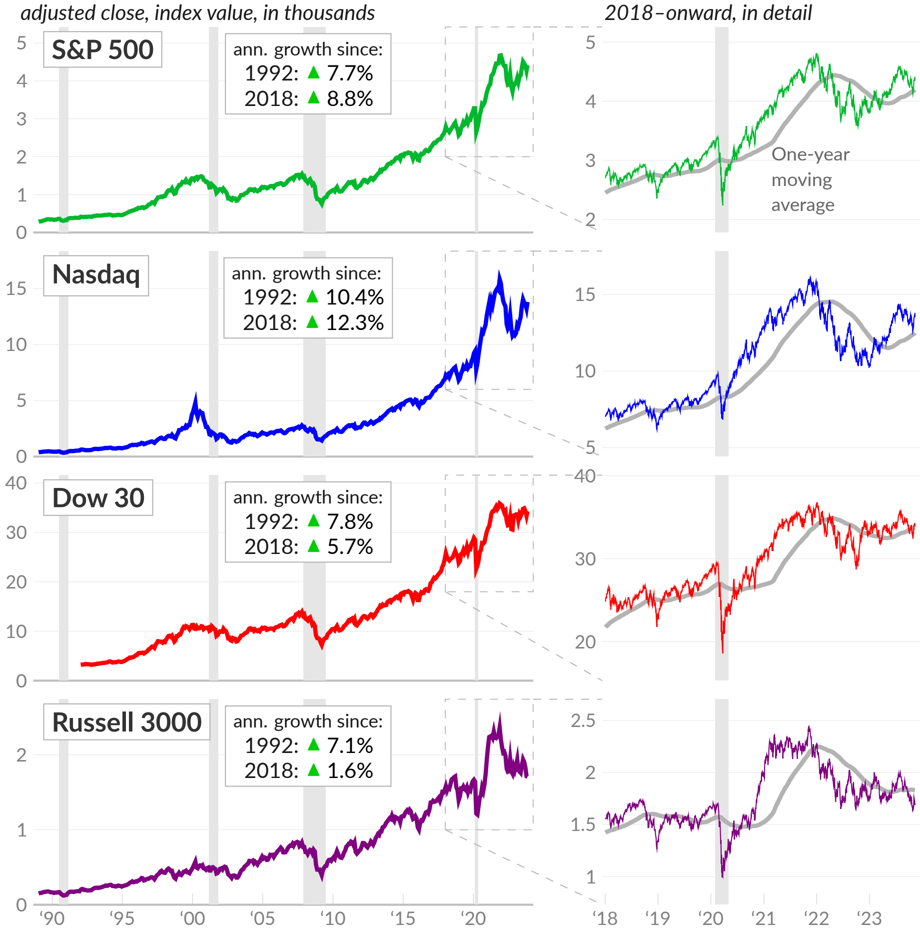
Equity Markets

Equity markets, or **stock markets**, provide a method for businesses to raise capital by selling shares, which represent ownership claims on the business. Equity markets also provide a place for people to buy and sell existing shares. Investors purchase shares in hopes that the price will go up, allowing them to sell the shares at a higher price and receive capital gains, or to gain access to a stream of dividends, which are payments from businesses to shareholders.

In the US, several stock market indices track the share price of a basket of companies. These measures are weighted by the market capitalization of the companies in the basket, which is the share price multiplied by the number of shares. Market capitalization is the market value of a company. The following charts and tables capture the *adjusted* close price, which is adjusted to include splits, dividends, and capital gains distributions.

Stock Market Indices

adjusted close, index value, in thousands



Source: Yahoo! Finance

The S&P 500 (see —) is a market-cap-weighted stock market index based on 500 large companies listed on US exchanges. As of November 10, 2023, the S&P 500 has increased at an annual rate of 7.7 percent since 1992, and 8.8 percent since 2018. The Nasdaq composite index (see —) includes nearly all companies listed on the Nasdaq stock exchange, and is heavily-weighted towards large tech companies. The Nasdaq index increased at an annual rate of 10.4 percent since 1992, and 12.3 percent since 2018.

The Dow 30 industrial average (see —) is an index based on 30 large and prominent companies listed on US exchanges. The measure is used as a proxy for the performance of the largest companies, and increased at an annual rate of 7.8 percent since 1992 and 5.7 percent since 2018. Lastly, the Russell 3000 (see —) is a broad measure of the US stock market that seeks to be a benchmark of the performance of the overall market. Since 1992, the Russell 3000 has increased at an annual rate of 7.1 percent. Since 2018, the measure increased at an annual rate of 1.6 percent.

Stock Market Indices

	adjusted close		*annual index returns, including dividends*					
	Nov 10, 2023	1-year moving average	2023 YTD	2022	2021	2020	2019	2018
— S&P 500	4,415	4,192	15.0	-19.4	26.9	16.3	28.9	-6.2
— Nasdaq	13,798	12,496	31.8	-33.1	21.4	43.6	35.2	-3.9
— Dow 30	34,283	33,776	3.4	-8.8	18.7	7.2	22.3	-5.6
— Russell 3000	1,705	1,829	-3.2	-21.6	13.7	18.4	23.7	-12.2

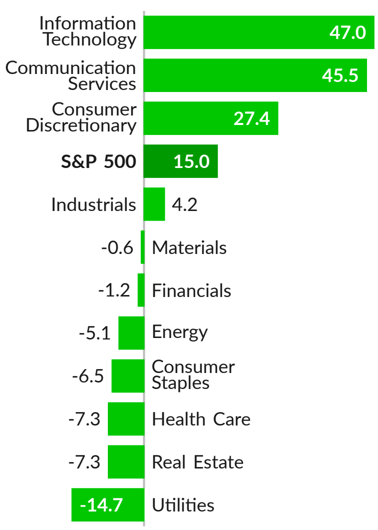
Source: Yahoo! Finance

Sector Returns

The S&P 500 companies are broadly categorized into 11 industrial sectors, which are tracked independently. The largest sector is information technology, which makes up 28.1 percent of the index, by market cap, as of October 31, 2023. The health care sector makes up 13.1 percent, the financials sector makes up 12.8 percent, and the consumer discretionary sector makes up 10.6 percent.

S&P 500 Sector Returns

year to date, percent, as of Nov 10, 2023



Source: Yahoo! Finance

In the latest full year of data, 2022, the S&P 500 adjusted loss was 19.4 percent. The communication services sector lost 40.4 percent, the consumer discretionary sector lost 37.6 percent, and the information technology sector lost 28.9 percent. The largest gain in 2022 was in the energy sector, with a total increase of 59.0 percent.

As of November 10, 2023, the **year-to-date total return** for the S&P 500 is 15.0 percent. The information technology sector returned 47.0 percent, the communication services sector returned 45.5 percent, and the consumer discretionary sector gained 27.4 percent. The largest loss is in the utilities sector, with a total decrease of 14.7 percent.

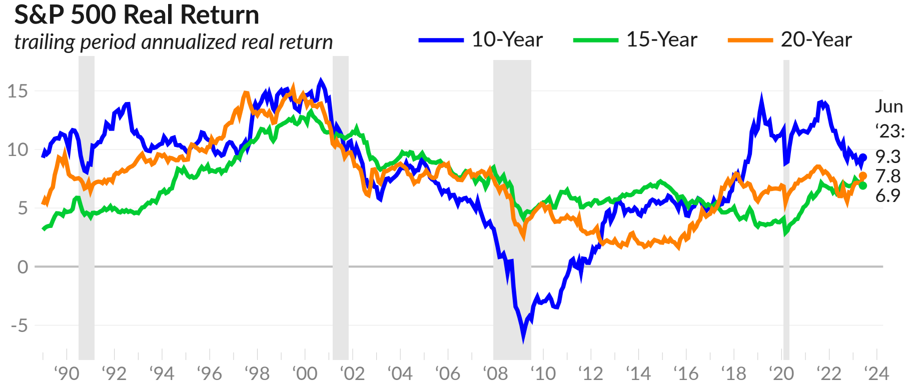
Over the past month, the S&P 500 has returned three percent. The information technology sector returned 9.9 percent, the energy sector lost 8.1 percent, and the communication services sector returned 4.4 percent.

Real Return

Next, for the typical investor saving for retirement, long-term and inflation-adjusted returns are particularly important. Over the long-term, US equities markets have traditionally returned around seven percent per year, after adjusting for inflation.

According to historical stock market data from Robert Shiller, the **inflation-adjusted trailing twenty-year annual rate of return** of the S&P 500 is 6.9 percent as of June 2023 (see –). Ultra-long-term real returns are currently low relative to the average trailing twenty-year real annual return of 10.1 percent during 1995–2005. The trailing ten-year real return was 9.3 percent, as of June 2023, and 10.7 percent during 1995–2005 (see –).

S&P 500 Real Return
trailing period annualized real return



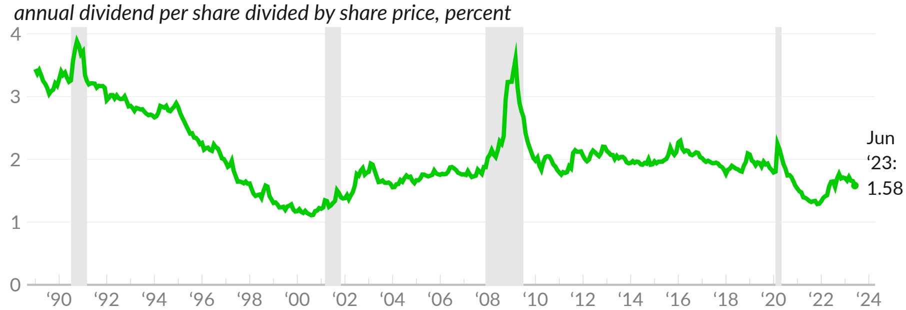
Source: Shiller, Baker, Author's Calculations

Dividends

One component of total returns is **dividend payments to shareholders**. The dividend payments per share over the previous four quarters divided by the share price is the dividend yield. The S&P 500 dividend yield has averaged around two percent, over the past few decades.

In June 2023, the dividend yield for the S&P 500 is 1.58 percent (see –), compared to 1.65 percent in May 2023, and 1.64 percent in June 2022. From 1990 to 2015, the dividend yield averaged 2.09 percent.

S&P 500 Dividend Yield
annual dividend per share divided by share price, percent



Source: Shiller

Corporate Equity Payout

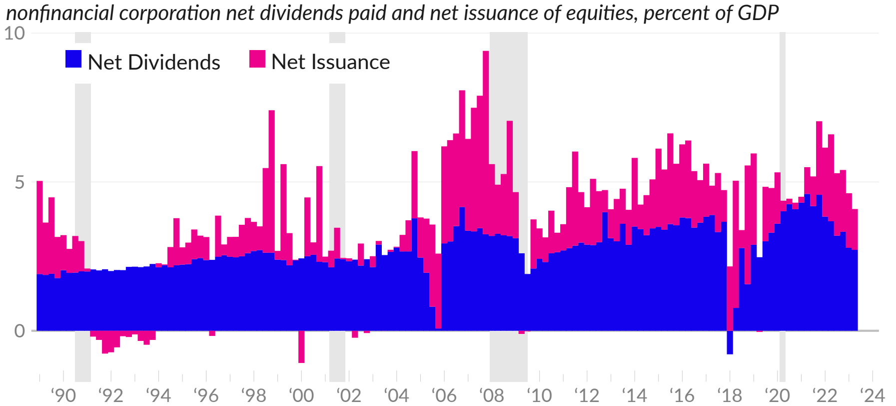
As seen above, investors achieve returns through price appreciation and dividends. Corporations, likewise, can return money to shareholders with dividends, or by repurchasing shares of their own stock. These share buybacks increase the share price, allowing investors to sell their shares at the higher price.

Investors like that share buybacks allow flexibility on the timing of tax payments. Dividends generate tax liabilities when the dividend is issued; share buybacks generate tax liabilities when the shares are sold. Additionally, corporations may prefer share buybacks over higher dividends because cutting dividends in the future would be viewed negatively.

The financial accounts track the **total payout from corporate equities**, which includes dividends and share buybacks. In the second quarter of 2023, nonfinancial corporation net dividends are equivalent to 2.7 percent of GDP (see ■) and net equities issuance is equivalent to 1.4 percent of GDP (see ■). In 2019, net dividends were 2.9 percent of GDP and net issuance was 1.6 percent. From 1990 to 2015, net dividends averaged 2.6 percent of GDP and net issuance averaged 1.2 percent.

Corporate Equity Payout

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



Source: Federal Reserve, Bureau of Economic Analysis

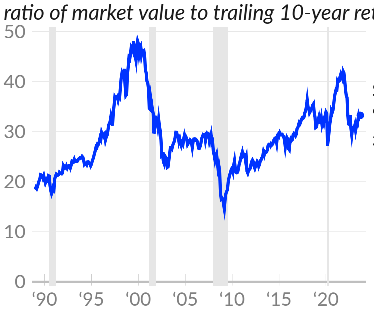
Valuation

The cyclically-adjusted price to earnings (CAPE) ratio 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 ratio covers ten years (a normal business cycle) so that valuations are less-affected by the idiosyncrasies of current economic conditions.

In September 2023, the Shiller total return CAPE ratio was 33.3, compared to 32.9 in August 2023 and 30.6 in September 2022 (see —). In 2019, the Shiller CAPE ratio was 32.1, on average. In 2000, during the stock market bubble, the ratio averaged 45.1.

Price to Earnings Ratio

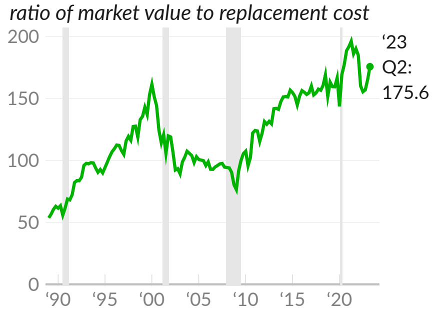
ratio of market value to trailing 10-year returns



Source: Shiller

Tobin's Q

ratio of market value to replacement cost



Source: Federal Reserve

A second measure, Tobin's Q, is the ratio of market value to replacement value. A ratio below 100 means the market value is below the replacement value and stocks may be undervalued. A ratio above 100 means the market value is above the replacement cost and stocks may be overvalued. As of 2023 Q2, the ratio is 175.6 (see —), following 165.2 in 2023 Q1, and compared to an average of 162.2 in 2019.

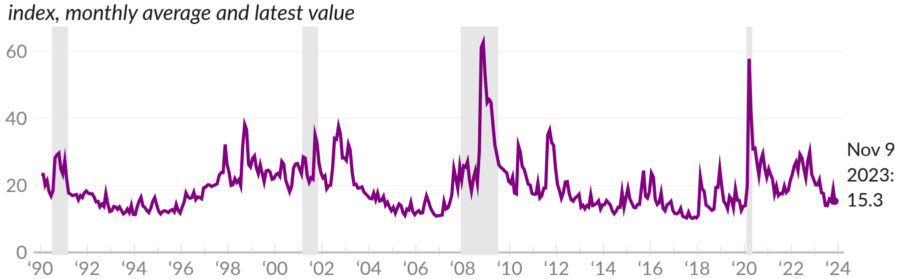
Volatility

The Chicago Board Options Exchange uses S&P 500 options data to identify expectations of future volatility. When investors are uncertain about the future, they will pay a premium for the insurance-like qualities of options. The CBOE volatility index, popularly known as the VIX, captures overall changes in options prices to identify the market-implied volatility in the S&P 500 index over the following 30 days.

The latest value for the VIX is 15.3 on November 9, 2023 (see —), slightly below the average index value of 21.1 over the past three years, and in line with the typical index value of 17.8 since 1990. The VIX decreased by 0.4 point over the past week.

CBOE Volatility Index

index, monthly average and latest value



Source: Chicago Board Options Exchange

Interest Rates

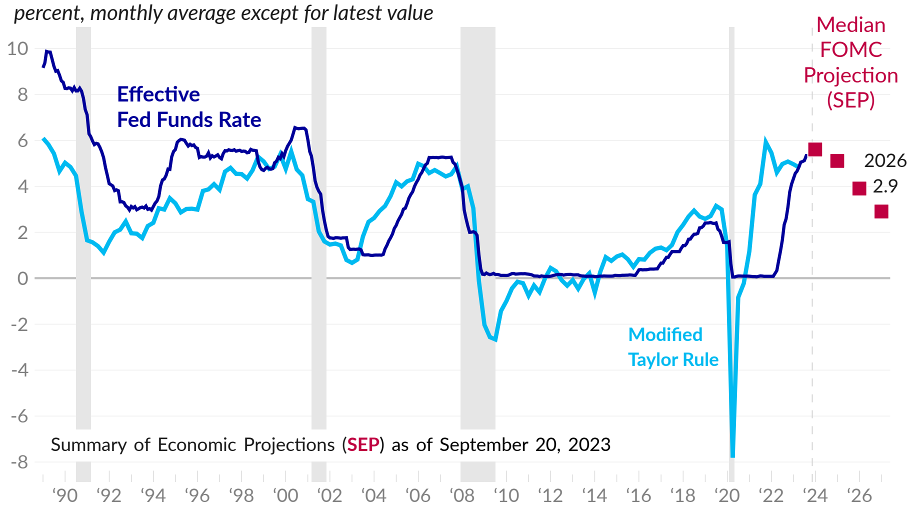
The US Federal Reserve System (Fed) has a congressional mandate to promote price stability and maximum employment. In practice, a Fed committee (the FOMC) determines the **federal funds rate**, which aims to influence interest rates in the broader economy. There are several channels through which interest 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. Through its influence on interest rates, the Fed's monetary policy can aim to be neutral or to stimulate or slow the economy.

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 at near zero, the Fed adopted several additional measures to increase liquidity in the global financial system.

In March 2022, the FOMC raised the base interest rate by 25 basis points. In May 2022, the FOMC raised the base interest rate by another 25 basis points. In June, July, September and November 2022, the FOMC raised rates by 75 basis points, in each meeting, followed by a 50 basis point increase in December, and 25 basis point increases in February, March, May, and July 2023. The effective Fed funds rate is 5.33 percent, as of November 8, 2023 (see —).

Federal Funds Rate

percent, monthly average except for latest value



Source: Federal Reserve, Author's Calculations

Economist John Taylor described a rule for setting the federal funds rate based on inflation and output. Versions of this **Taylor rule** track the actual federal 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 —). As of the second quarter of 2023, the modified Taylor rule suggests a federal funds rate of 4.8 percent, 0.51 percentage point below the current rate.

FOMC meeting participants provide projections which can be used to summarize policymaker views on the future path of the federal funds rate, as seen by the people who set it. As of September 20, 2023, the median projected federal funds rate rate is 5.6 percent for 2023, 5.1 percent for 2024, and 3.9 percent for 2025 (see ■).

Treasuries

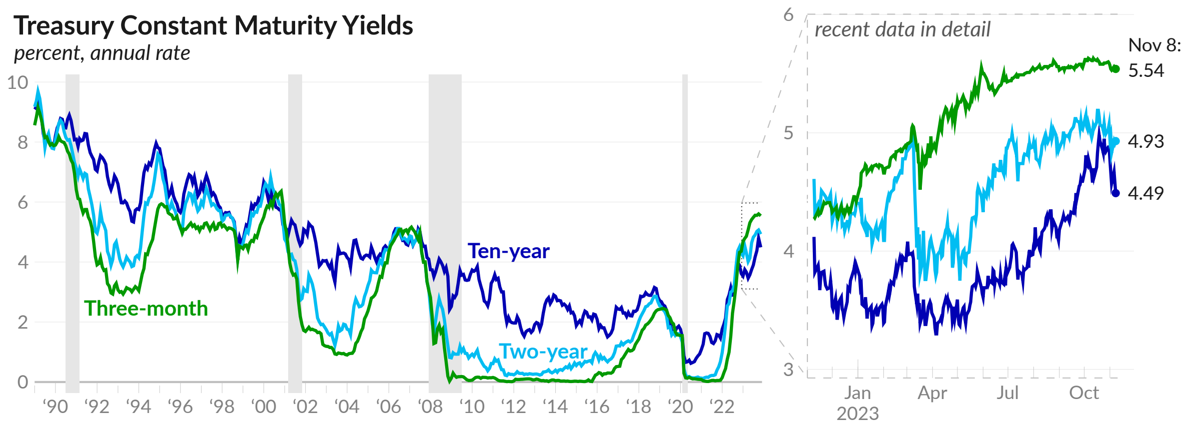
United States Treasury securities, or **treasuries**, are the asset created by federal government borrowing. The treasuries market is traditionally considered both very low-risk and highly liquid. As of October 2023, the public holds $26.0 trillion in marketable treasuries.

From the 1980s to 2021, treasury yields fell considerably. The annual yield on ten-year treasuries (see —) fell from 8.49 percent in 1989 to 0.62 percent in July 2020. As of November 8, 2023, ten-year treasury bonds yield 4.49 percent, an increase of 0.32 percentage point from the year prior.

Short-term treasury yields more-closely track the base interest rate set by the Federal Reserve. Three-month treasury bills (see —) return an annual rate of 8.39 percent in 1989 but pay virtually no interest from 2009 to 2016. As of November 8, 2023, three-month treasuries yield 5.54 percent, an increase of 1.33 percentage points from the year prior.

Treasury Constant Maturity Yields

percent, annual rate



Source: Federal Reserve

Selected US Treasury Rates

constant maturity yield, percent *period averages*

	Nov 8, 2023	Nov 7, 2023	Nov 2, 2023	Oct 2023	Nov 2022	2019	2010 –'13	1998 –'00	1989
One-month	5.52	5.53	5.52	5.57	3.87	2.12	0.07	–	–
Three-month	5.54	5.55	5.54	5.60	4.32	2.11	0.08	5.23	8.39
Six-month	5.46	5.47	5.50	5.57	4.61	2.11	0.13	5.38	8.48
One-year	5.34	5.33	5.38	5.42	4.73	2.05	0.20	5.42	8.53
Two-year	4.93	4.91	4.98	5.07	4.50	1.97	0.43	5.61	8.57
Three-year	4.65	4.64	4.78	4.89	4.34	1.94	0.70	5.62	8.55
Five-year	4.51	4.53	4.65	4.77	4.06	1.95	1.35	5.62	8.50
Seven-year	4.54	4.58	4.68	4.82	3.99	2.05	1.93	5.76	8.52
Ten-year	4.49	4.58	4.67	4.80	3.89	2.14	2.54	5.65	8.49
Twenty-year	4.82	4.91	4.99	5.13	4.22	2.40	3.33	6.05	–
Thirty-year	4.64	4.75	4.82	4.95	4.00	2.58	3.63	5.80	8.45

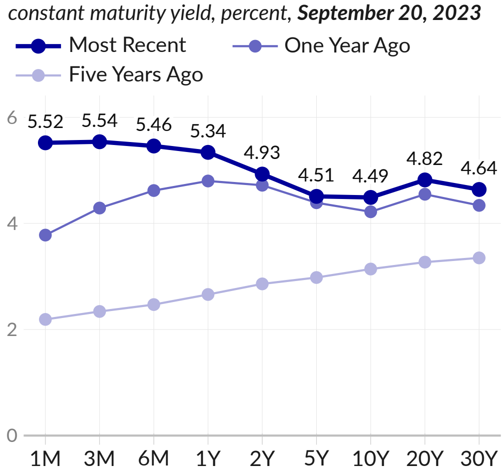
Source: Federal Reserve

Yield Curve

The **yield curve** arranges the interest rates of US Treasury bills and bonds along a line, from shortest duration to longest duration. This yield curve summarizes the term structure of interest rates, how much it costs to borrow for different periods of time, and is 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, Federal Reserve policy, 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, **September 20, 2023***



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 signal worsening economic conditions. For example, short term rates may exceed longer-term rates if the Federal Reserve 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 six times. The most recent such inversion started on April 1, 2022.

Yield Spread

Another summary measure of the term structure of interest rates is the difference, or *spread*, between interest rates of treasuries with different maturities. **Yield spreads** can be used to track changes in the term structure of Treasuries, over time.

As of November 8, 2023, the spread between a 10-year treasury bond and a three-month treasury bill is negative 1.05 percentage points (see —), compared to negative 0.07 percentage point one year prior. The spread between 10-year and 2-year treasuries (see —) is negative 0.44 percentage point on November 8, 2023, and negative 0.50 percentage point one year prior.

Treasury Yield Spreads
percentage points

Source: Federal Reserve

Changes in Treasury Yields

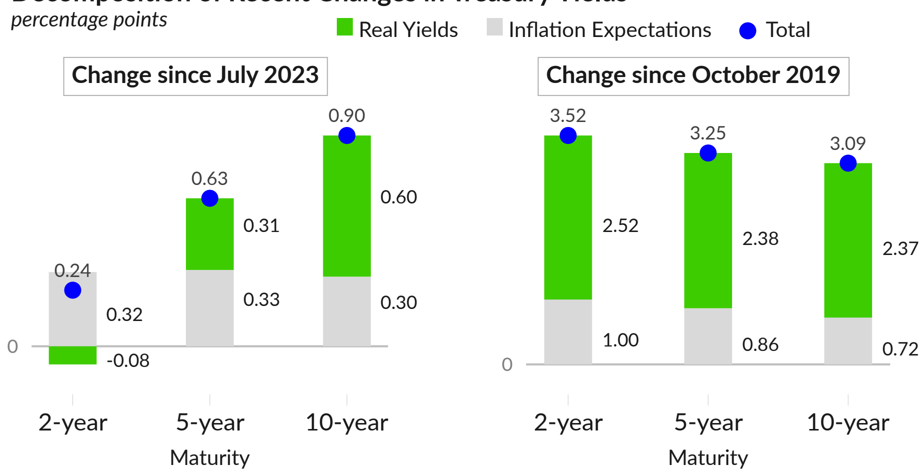
Changes in nominal treasury yields can be **decomposed into changes in expected inflation and changes in real yields**. Changes in real yields reflect changes in expected path of the federal funds rate and the economic outlook. Federal Reserve Bank of Cleveland models identify inflation expectations across the term structure, which can be used to identify changes in real yields.

Over the three months ending October 2023, nominal two-year treasury yields increased 0.24 percentage point, real yields decreased 0.08 percentage point, and inflation expectations increased 0.32 percentage point. Ten-year treasury nominal yields increased 0.90 percentage point, real yields increased 0.60 percentage point, and inflation expectations increased 0.30 percentage point.

Over the four years ending October 2023, the nominal yield on two-year treasuries increased 3.52 percentage points, the real yield increased 2.52 percentage points, and inflation expectations increased 1.00 percentage point. For ten-year treasuries, the nominal yield increased 3.09 percentage points, the real yield increased 0.60 percentage point, and expected inflation increased 0.72 percentage point.

Decomposition of Recent Changes in Treasury Yields

percentage points



Latest data from model as of: October 2023
Source: Federal Reserve, Federal Reserve of Bank of Cleveland

Real Interest Rates

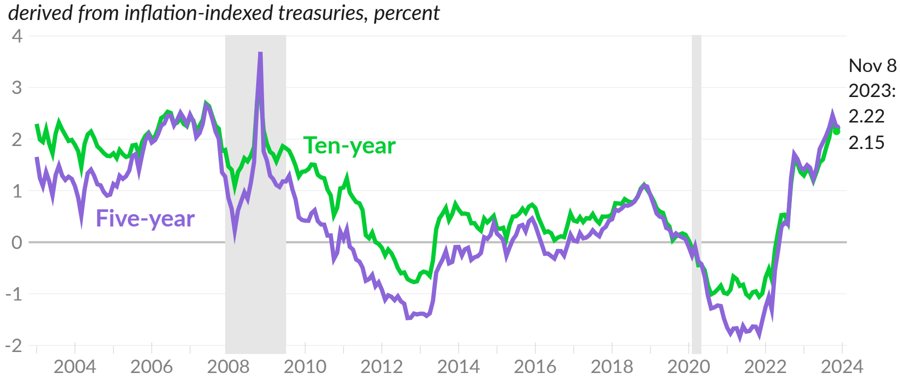
Real interest rates, which are adjusted for expected inflation, can offer insight into economic and financial conditions. Low real interest rates encourage borrowing and consumption and increased economic activity while high real interest rates discourage borrowing and encourage saving.

One measure of real interest rates comes from Treasury inflation-indexed securities. The yield on these securities can be a proxy for the interest rate investors would charge for treasuries, without inflation.

As of November 8, 2023, the real yield on ten-year treasuries is 2.15 percent (see —), compared to 1.68 percent three months prior, on August 7. Five-year treasuries yield 2.22 percent in the latest data, and 1.87 percent three months prior, after adjusting for expected inflation (see —).

Real Treasury Yields

derived from inflation-indexed treasuries, percent



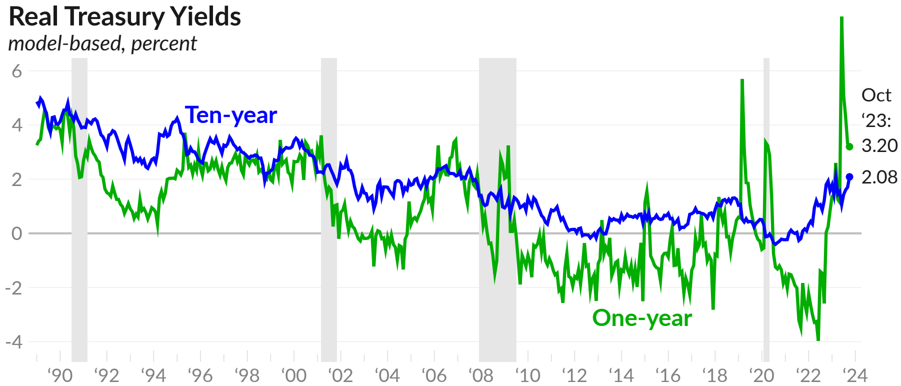
Source: Federal Reserve

The previous approach has limitations, as the market for treasury inflation-indexed securities is relatively small and can be influenced by monetary policy. The Cleveland Fed model estimates real yields across the term structure, using a model based on treasury yields, inflation, and financial-market- and survey-based information, and avoids some limitations of the previous approach.

The model-based real yield on ten-year treasuries is 2.08 percent, as of October 2023 (see —). Ten-year treasury real yields averaged 3.30 percent during the 1990s. The model-based real yield for one-year treasuries is 3.20 percent in October 2023, compared to an average of 2.21 percent during the 1990s (see —).

Real Treasury Yields

model-based, percent



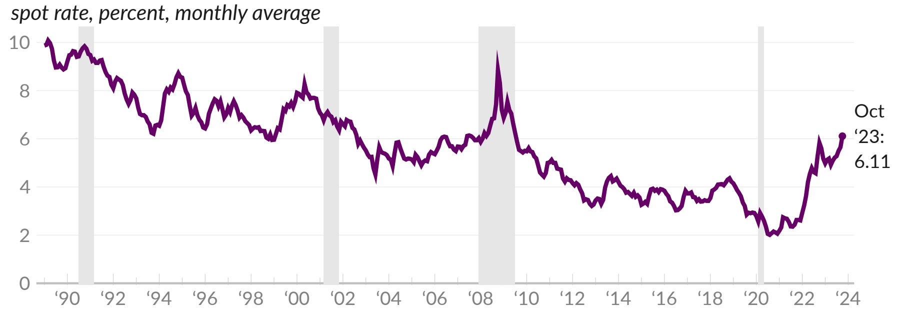
Source: Federal Reserve of Bank of Cleveland

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 6.11 percent in October 2023, following 5.65 percent in September 2023 (see —). One year prior, in October 2022, this spot rate was 5.83 percent, and four years prior, in October 2019, it was 2.91 percent.

High Quality Corporate Bonds, 10-Year

spot rate, percent, monthly average

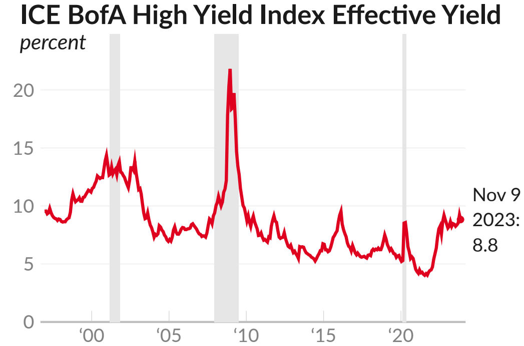


Source: Treasury, FRED

Corporate bonds rated below investment grade (a rating below BBB) are tracked by the ICE BofA high yield index. As of November 9, 2023, the effective yield for **high-yield corporate bonds** in the index is 8.8 percent (see —). In September 2023, the average effective yield was 8.5 percent. Prior to the COVID-19 pandemic, in 2019, the average effective yield was 6.1 percent.

ICE BofA High Yield Index Effective Yield

percent



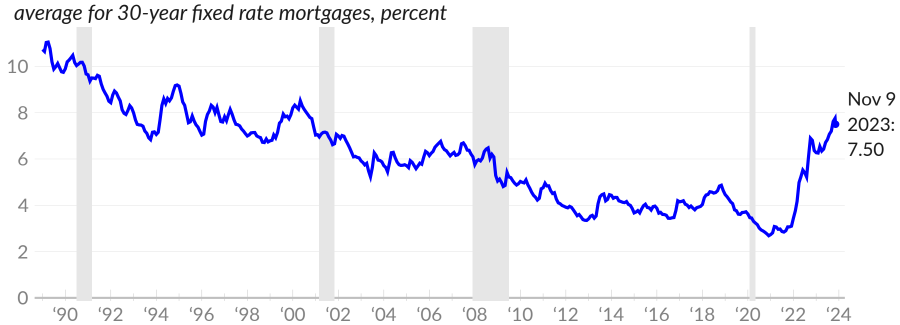
Source: Ice Data Indices, FRED

Mortgage Rates

The **mortgage rate** available to homebuyers can affect housing markets, which in turn can affect demand for construction materials and for consumer goods. As of November 9, 2023, the average 30-year mortgage rate is 7.50 percent, compared to 7.07 percent in August 2023, and 6.80 percent in November 2022 (see —). In 2019, the average rate was 3.93 percent.

Mortgage Rate

average for 30-year fixed rate mortgages, percent



Source: Freddie Mac

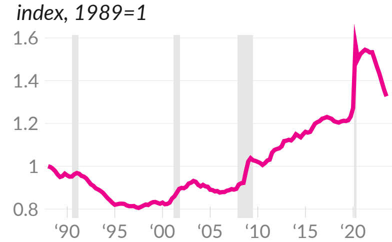
Money and Monetary Policy

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.

In September 2023, the M2 money stock totals $20.7 trillion. Put into the context of overall economic activity, M2 is equivalent to 75.0 percent of GDP in the third quarter of 2023.

During the 1990s, the ratio of money to economic activity was falling (see –). Following the great recession, the money supply has expanded relative to activity. Since 1989, the ratio has increased by a total of 32.7 percent.

M2 to GDP Ratio
index, 1989=1

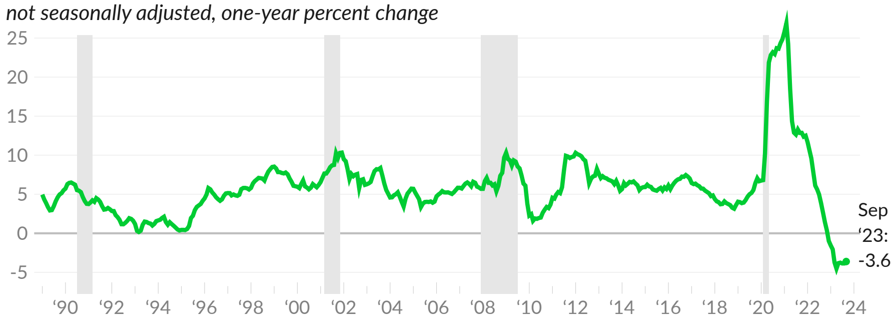


Source: Federal Reserve

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 decreased 0.1 percent in September 2023, over the previous month, following a decrease of 0.1 percent in August 2023. Over the past 12 months, the money stock decreased 3.6 percent (see –). The M2 money stock has increased 38.1 percent, in total, over the past four years.

M2 Money Stock Growth
not seasonally adjusted, one-year percent change



Source: Federal Reserve

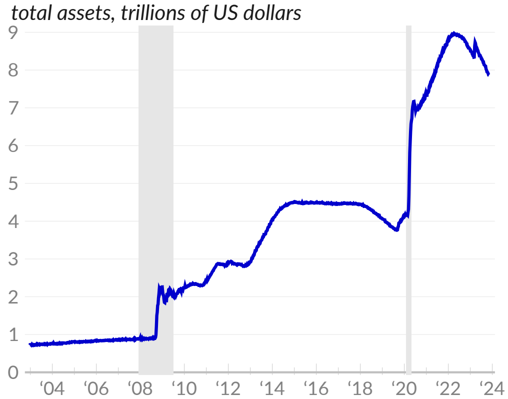
Fed Asset Purchases

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 US 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. The Fed replaced maturing bonds until balance sheet normalization began in October 2017. By August 2019, total assets fell below $3.8 trillion.

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, trillions of US dollars



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 $9.0 trillion in April 2022. As of the latest data, covering November 8, 2023, the Fed balance sheet is $7.9 trillion. The Fed currently holds $4.9 trillion in Treasuries and $2.5 trillion in mortgage-backed securities.

Federal Reserve Assets
billions of US dollars

	Nov 8, 2023	Nov 1, 2023	Oct 11, 2023	Nov 9, 2022	Nov 10, 2021
Total (see —)	$7,860.7	7,866.7	7,952.1	8,678.9	8,663.1
US Treasury Securities	4,872.9	4,872.6	4,928.5	5,575.2	5,552.6
Mortgage-Backed Securities	2,462.9	2,462.9	2,479.7	2,678.5	2,593.4
Central Bank Liquidity Swaps	0.2	0.2	0.2	0.2	0.3
Repurchase Agreements	0.0	0.0	0.0	0.0	0.0
Loans	154.7	163.2	174.6	16.6	46.9
Payroll Protection Program	4.2	4.3	4.8	12.9	46.5
Net Unamortized Premium	257.2	258.0	259.7	292.5	339.0
Other	108.5	105.4	104.5	103.0	84.4

Source: Federal Reserve

Prices

The price of goods and services determine how much can be purchased by a fixed income. Researchers are interested in the prices of specific goods, as well as changes in purchasing power, more generally.

To summarize changes in purchasing power, researchers create a representative "basket" of relevant goods and services, and then track changes in the basket, and changes in the price of the basket, over time. The end result is a price index, which can be used to calculate the rate of inflation.

Inflation is typically calculated as the 12-month percent change in the price index. This annual inflation rate measures how prices in a given month compare to prices during the same month, one year prior. The 12-month inflation rate, based on various price indices, is presented in the following table.

Price Growth, Various Measures

one-year growth, percent

	Sep '23	Aug '23	Jul '23	Jun '23	Sep '22	Sep '21	'17–19 Avg.	'00– Avg.
CPI, All Items	3.7	3.7	3.2	3.0	8.2	5.4	2.1	2.6
CPI, ex. Food & Energy	4.1	4.3	4.7	4.8	6.6	4.0	2.1	2.3
PPI, Final Demand	2.2	2.0	1.1	0.2	8.5	8.8	2.3	2.6
Imports Price Index	-1.7	-2.9	-4.7	-6.1	6.1	9.3	1.6	2.0
Exports Price Index	-4.1	-5.7	-8.0	-11.8	9.8	16.3	1.6	2.0
PCE, All Items	3.4	3.4	3.4	3.2	6.6	4.8	1.7	2.2
PCE, ex. Food & Energy	3.7	3.8	4.3	4.3	5.5	4.1	1.7	2.0
PCE, Trimmed Mean	3.9	3.9	4.2	4.3	5.0	2.5	1.9	2.2

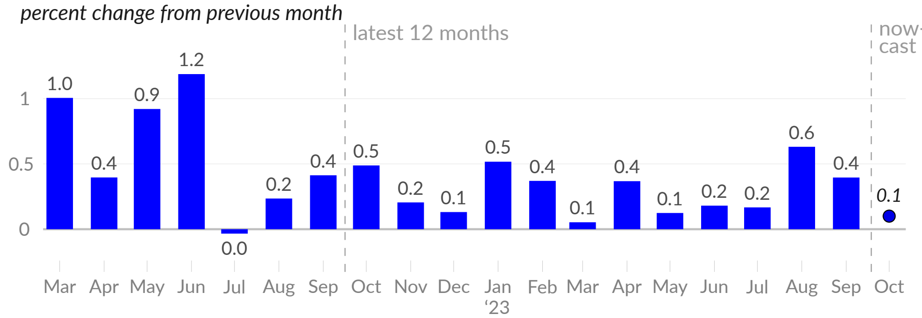
Source: BLS, BEA, Federal Reserve Bank of Dallas

In effect, the 12-month percent change in prices is smoothed, relative to the one-month change, by including information on price changes that happened over the past year. 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 September 2023, the one-month change in the consumer price index (CPI) was 0.4 percent (see ■), following 0.6 percent in August 2023. The Cleveland Fed nowcasts current inflation by combining recent inflation data with current oil and gasoline prices. As of November 10, the October 2023 nowcast is 0.1 percent (see ●).

CPI One-Month Change

percent change from previous month



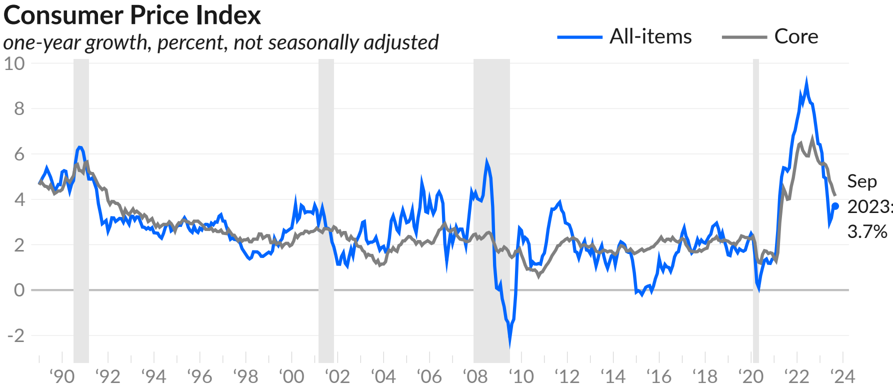
Source: Bureau of Labor Statistics, Federal Reserve Bank of Cleveland

Consumer Price Index

Consumer prices increased 3.7 percent over the year ending September 2023 (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 4.1 percent over the same one-year period (see —).

Consumer Price Index

one-year growth, percent, not seasonally adjusted



Source: Bureau of Labor Statistics

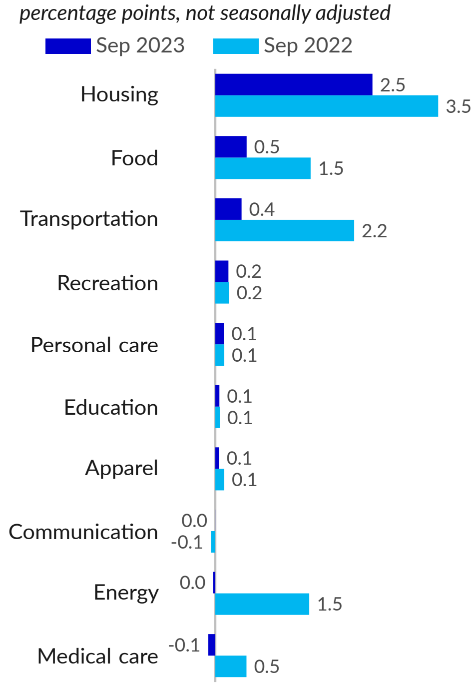
Recent changes in prices can be broad-based, that is derived from many prices changing at roughly the same rate, or narrow-based and driven by large changes in a subset of prices. Identifying each major spending category's **contribution to overall inflation** gives insight into whether inflation is broad-based and also into which groups of people face higher or lower rates of inflation.

In September 2023, housing prices contributed 2.5 percentage points to the CPI one-year inflation rate of 3.7 percent, far below the category's September 2022 contribution of 3.5 percentage points. Food prices added 0.5 percentage point to September 2023 inflation, far below the year-prior contribution of 1.5 percentage points. Transportation prices increased the inflation rate by 0.4 percentage point in the latest data, compared to 2.2 percentage points in September 2022.

Recreation prices increased the inflation rate by 0.2 percentage point in September 2023, in line with the year-prior contribution of 0.2 percentage point. Medical care prices make up 8.1 percent of the CPI basket and subtracted 0.1 percentage point from overall inflation in the latest data, substantially below a contribution of 0.5 percentage point one year prior.

Contribution of Major Categories

contribution to one-year CPI inflation rate
percentage points, not seasonally adjusted



Source: Bureau of Labor Statistics

The prices of some items are more volatile than others. Food and energy prices, for example, are sometimes separated from the rest of the CPI basket, which is referred to as the *core*, because swings in food and energy prices are larger and more frequent.

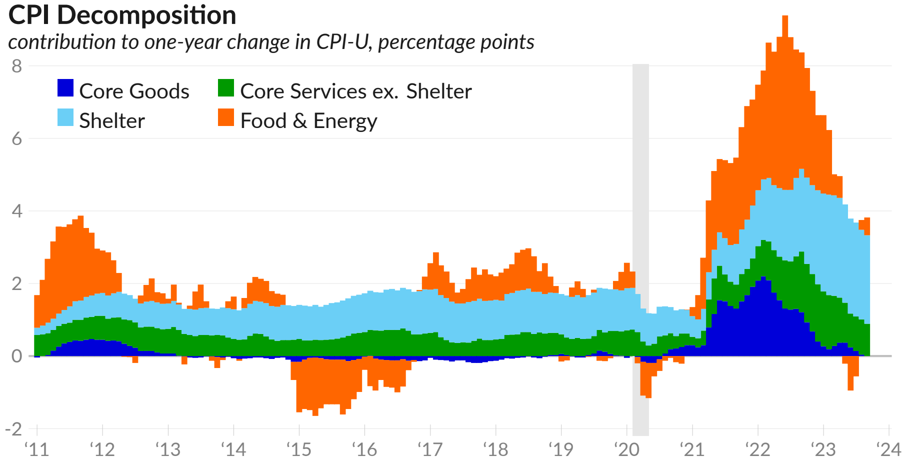
Core inflation includes core goods, core services other than shelter, and shelter. Core goods inflation was barely existent from 2013 through the start of the pandemic. Core goods prices are disproportionately affected by import prices and by changes in the quality of goods, for example from technological improvement. In contrast, domestic wage growth affects the prices for core services more than the other categories. Shelter prices are affected by housing supply and construction.

In September 2023, core goods did not contribute to the one-year non-seasonally-adjusted CPI inflation rate of 3.7 percent (see ■), while core services excluding shelter contributed 0.9 percentage point (see ■). Shelter added 2.4 percentage points (see ■), and food & energy added 0.5 percentage point (see ■).

One year prior, in September 2022, the corresponding CPI inflation rate was 8.2 percent; core goods contributed 1.2 percentage points, core services excluding shelter contributed 1.7 percentage points, shelter contributed 2.3 percentage points, and food and energy added 3.2 percentage points.

CPI Decomposition

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



Source: Bureau of Labor Statistics, Author's Calculations

Relative Prices

Some prices increase faster or slower than others. Additionally, the basket of goods used to calculate the CPI is based on average spending patterns across individuals. At a given point, individuals may dedicate a large share of spending to a certain categories or have no expenses at all in a category. For example, day care costs are paid generally only for a few years of a child's life and only some households contain day-care-age children. But within those households, day care is a large share of overall spending.

One-year inflation rates for different categories of goods and services, including some smaller categories, are captured in the following section and table. The table also shows cumulative price changes since February 2020, the last month of data before the COVID-19 pandemic shutdown in the US. Additionally, the weight that a category has in the overall index–the category's share of the basket of goods and services used to calculate the CPI–is included as the last column in the table. This weight comes from each category's share of overall consumer spending during the most recent reference period, and is updated by changes in prices since the reference period.

Housing prices increased 5.6 percent over the year ending September 2023, substantially above the pre-COVID rate of 2.9 percent (the average monthly rate during 2019). Medical care prices decreased 1.4 percent, these prices grew at an average rate of 2.8 percent during 2019. In contrast, prices of food consumed at home (groceries) increased 2.4 percent in the year ending September 2023 compared to 0.9 percent during 2019.

Transportation prices increased 2.4 percent over the year ending September 2023, substantially above the pre-COVID 0.3 percent decrease. Energy prices decreased 0.5 percent over the year, compared to an average 2.1 percent decrease on average in 2019. Energy prices are historically more volatile than other categories.

Selected CPI Categories
one-year growth, percent

	Sep '23	Aug '23	Jul '23	Sep '22	2019	Since Feb '20	Weight, Sep '23
All Items	3.7	3.7	3.2	8.2	1.8	19.0	100.0
All Items Less Food & Energy	4.1	4.3	4.7	6.6	2.2	16.3	79.443
Housing	5.6	5.7	6.2	8.0	2.9	19.7	44.567
Owners' Equivalent Rent	7.1	7.3	7.7	6.7	3.3	18.9	25.696
Rent of Primary Residence	7.4	7.8	8.0	7.2	3.7	19.5	7.614
Lodging Away from Home	7.3	3.0	6.0	2.9	3.0	18.7	1.182
Household Furnishings & Ops.	1.9	2.2	2.9	9.3	1.8	19.3	5.176
Household Energy	-3.4	-3.2	-2.4	20.8	-0.4	29.6	3.463
Transportation	2.4	1.4	-3.0	12.6	-0.3	31.2	17.188
New Vehicles	2.5	2.9	3.5	9.4	0.4	21.6	4.236
Used Cars & Trucks	-8.0	-6.6	-5.6	7.2	1.0	36.5	2.555
Gasoline (All Types)	3.0	-3.3	-19.9	18.2	-3.5	55.2	3.627
Public Transportation	-9.3	-9.4	-13.2	27.1	0.3	-2.2	0.713
Medical Care	-1.4	-1.0	-0.5	6.0	2.8	6.7	7.782
Professional Services	1.2	1.9	1.9	3.3	1.1	9.2	3.522
Hospital & Related Services	4.7	3.5	3.4	3.9	2.1	13.9	2.279
Health Insurance	-37.3	-33.6	-29.5	28.2	14.5	-23.5	0.524
Food	3.7	4.3	4.9	11.2	1.9	24.0	13.372
Food at Home	2.4	3.0	3.6	13.0	0.9	24.5	8.552
Food Away from Home	6.0	6.5	7.1	8.5	3.1	23.4	4.819
Full-Service	5.1	5.2	5.8	8.8	3.2	22.2	2.301
Limited-Service	6.4	6.7	7.1	7.1	3.1	26.7	2.245
Recreation	3.9	3.5	4.1	4.1	1.3	12.0	5.330
Communication	-0.1	-0.2	-0.1	-1.9	-0.9	1.4	3.415
Wireless Telephone Services	-0.7	-0.8	-0.7	-1.1	-2.5	2.2	1.352
Internet Services	5.0	5.2	4.7	-0.1	1.5	7.1	0.968
Education	2.9	2.9	3.2	3.1	2.7	9.3	2.248
College Tuition & Fees	1.9	1.6	2.0	2.1	2.9	6.5	1.173
Day Care & Preschool	4.8	5.6	6.0	5.1	2.8	14.1	0.571
Apparel	2.3	3.1	3.2	5.5	-1.3	7.0	2.555
Personal Care	6.1	5.8	6.1	6.6	1.3	16.3	2.209

Source: Bureau of Labor Statistics

Turning to one-month growth, the core CPI, which excludes food and energy, increased 0.3 percent in September 2023, or 3.9 percent annualized, slightly below the one-year core CPI inflation rate of 4.1 percent. The core CPI increased 0.3 percent in August 2023, and increased 0.2 percent in July 2023.

In September, housing prices increased 0.6 percent, (7.3 percent annualized). Over the past three months, housing prices increased at an average annualized rate of 5.1 percent, substantially above the 12-month rate of 4.1 percent. Food prices increased 0.2 percent in September, or 2.8 percent, annualized, compared to a three-month average of 2.9 percent.

Transportation prices increased at an annualized rate of 3.9 percent in September, and increased at an average annualized rate of 13.2 percent over the past three months. Energy prices increased at an annualized rate of 19.9 percent in September, and increased at an average annualized rate of 37.7 percent over the past three months.

Selected CPI Categories, Monthly Rate

one-month growth, seasonally adjusted, percent

	Sep '23	Aug '23	Jul '23	Jun '23	May '23	Apr '23	Oct '22	Sep '22
All Items	0.4	0.6	0.2	0.2	0.1	0.4	0.5	0.4
All Items Less Food & Energy	0.3	0.3	0.2	0.2	0.4	0.4	0.3	0.6
Housing	0.6	0.3	0.4	0.3	0.2	0.2	0.6	0.7
Owners' Equivalent Rent	0.6	0.4	0.5	0.4	0.5	0.5	0.6	0.8
Rent of Primary Residence	0.5	0.5	0.4	0.5	0.5	0.6	0.7	0.8
Lodging Away from Home	3.7	-3.0	-0.3	-2.0	1.8	-3.0	3.5	-0.5
Household Furnishings & Ops.	0.2	0.2	-0.1	-0.1	-0.6	0.2	0.2	0.4
Household Energy	0.8	0.6	0.1	0.3	-1.6	-1.6	-0.0	0.9
Transportation	0.3	2.6	-0.1	0.2	-0.2	1.2	0.7	-0.4
New Vehicles	0.3	0.3	-0.1	-0.0	-0.1	-0.2	0.6	0.7
Used Cars & Trucks	-2.5	-1.2	-1.3	-0.5	4.4	4.4	-1.7	-1.1
Gasoline (All Types)	2.1	10.6	0.2	1.0	-5.6	3.0	3.4	-4.2
Public Transportation	0.5	3.9	-6.3	-6.8	0.9	-5.0	-0.4	0.4
Medical Care	0.2	0.2	-0.2	0.0	0.1	-0.0	-0.3	0.7
Professional Services	0.0	0.6	0.3	0.3	-0.0	0.1	0.2	0.7
Hospital & Related Services	1.2	0.8	-0.2	0.3	0.8	0.4	0.0	0.1
Health Insurance*	-3.5	-3.6	-4.1	-3.6	-3.7	-3.8	-4.0	2.1
Food	0.2	0.2	0.2	0.1	0.2	0.0	0.7	0.8
Food at Home	0.1	0.2	0.3	-0.0	0.1	-0.2	0.5	0.7
Food Away from Home	0.4	0.3	0.2	0.4	0.5	0.4	0.9	0.9
Full-Service	0.4	0.2	0.2	0.3	0.4	0.1	1.1	0.4
Limited-Service*	0.4	0.3	0.2	0.4	0.5	0.6	0.8	0.6
Recreation	0.4	-0.2	0.1	0.1	-0.1	0.5	0.8	0.1
Communication	-0.0	-0.1	-0.1	-0.5	-0.3	-0.1	-0.2	-0.1
Wireless Telephone Services*	-0.1	-0.1	-0.0	-1.5	-0.6	0.0	-0.3	-0.1
Internet Services	-0.2	0.4	0.5	0.3	-0.0	-0.3	0.5	-0.1
Education	0.3	0.1	0.3	0.1	0.1	0.2	0.2	0.3
College Tuition & Fees	0.1	0.2	0.2	-0.0	0.2	0.2	0.1	-0.2
Day Care & Preschool	0.9	0.2	0.3	-0.2	-0.3	0.7	0.1	1.7
Apparel	-0.8	0.2	-0.0	0.3	0.3	0.3	-0.2	0.0
Personal Care	0.6	0.4	0.0	0.2	0.5	1.1	0.5	0.4

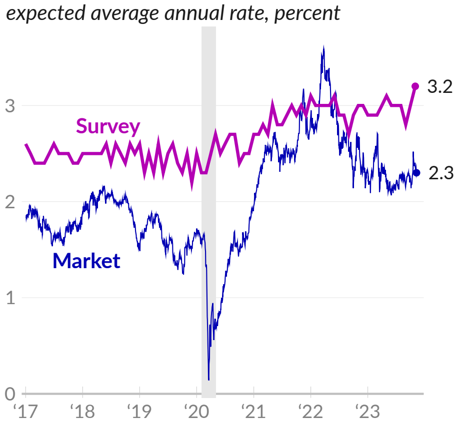
Source: Bureau of Labor Statistics; *not seasonally adjusted

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.

Five-Year Expected Average Inflation

expected average annual rate, percent



Source: FRED, U. of Michigan

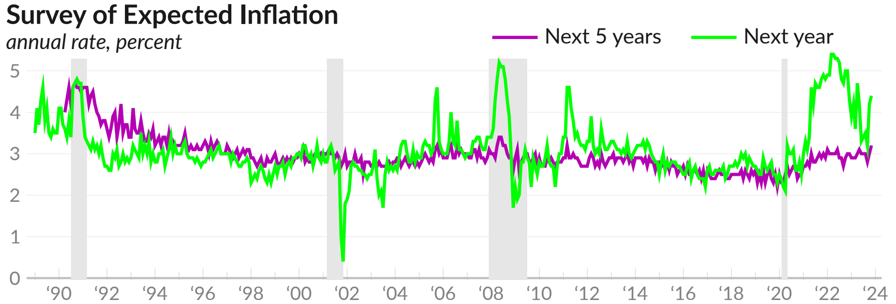
As of November 2023, surveyed consumers expect inflation to average 3.2 percent over the next five years (see —), compared to an expected rate of 3.0 percent in November 2022. Consumers had expected inflation to average 2.6 percent over the past five years, while actual inflation over the period was 3.9 percent.

As of November 9, 2023, markets expect an average inflation rate of 2.3 percent over the next five years (see —), compared to an expected rate of 2.6 percent on November 8, 2022. 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 distinguish 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 4.4 percent over the year starting November 2023 (see —).

Survey of Expected Inflation

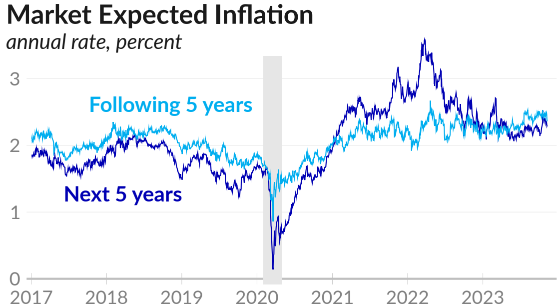
annual rate, percent



Source: University of Michigan

Market Expected Inflation

annual rate, percent



Source: FRED

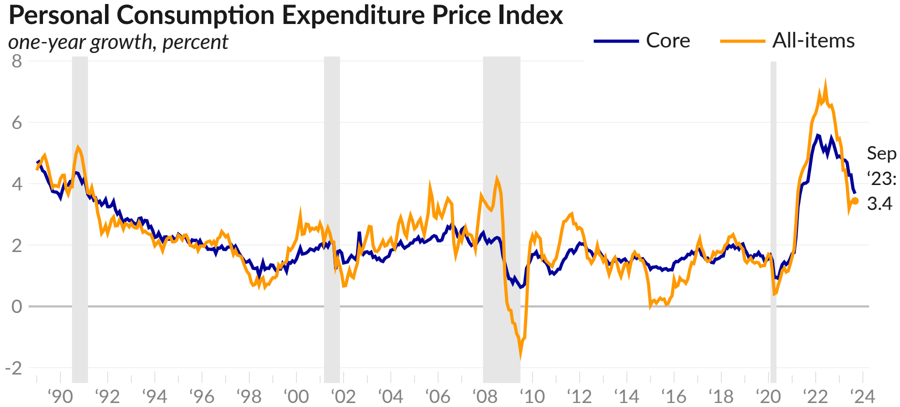
The market-based measure can also be used to calculate expected inflation over the five years starting five years from now. Over this five-year period, markets suggest 2.4 percent inflation per year, as of November 9, 2023. Inflation rates in the near-term are therefore expected to fall below inflation 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 September 2023, **PCE inflation**, measured as the one-year percent change in the overall index, is 3.4 percent (see —), compared to 3.4 percent in August 2023, and 6.6 percent in September 2022. Core PCE inflation, which excludes food and energy, was 3.7 percent in September 2023 (see —), 3.8 percent in August 2023, and 5.5 percent in September 2022.

Personal Consumption Expenditure Price Index
one-year growth, percent

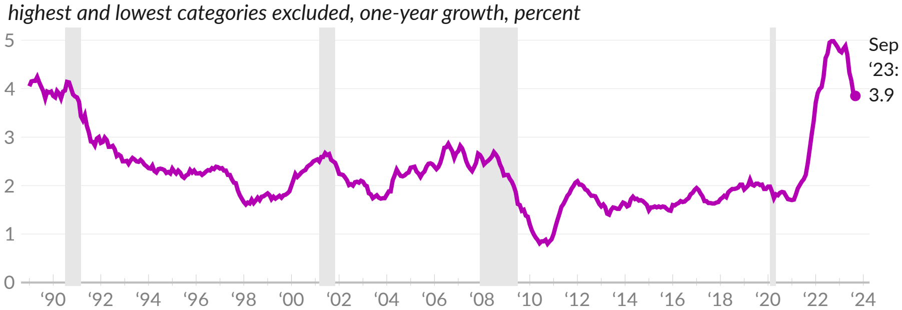


Source: Bureau of Economic Analysis

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, or *trimmed*, to smooth the data. As a result, the most extreme categories, which vary from month-to-month, do not affect inflation rates calculated using the trimmed-mean index.

The trimmed-mean PCE price index increased 3.9 percent over the year ending September 2023 (see —). By excluding top and bottom categories, the trimmed-mean rate was 0.4 percentage point above the all-items PCE rate. In August 2023, the **trimmed-mean inflation rate** was 3.9 percent, 0.5 percentage point above 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, one-year growth, percent



Source: Federal Reserve Bank of Dallas

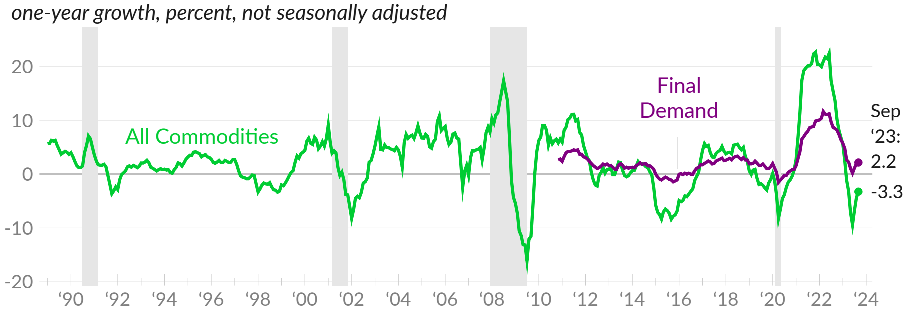
Producer Prices

The Bureau of Labor Statistics report **prices producers receive**. The goods-only producer price index (PPI) for all commodities (see –) decreased 3.3 percent over the year ending September 2023, far below the 12-month growth rate of 13.7 percent in September 2022. The index for final demand goods, services, and construction increased 2.2 percent over the year ending September 2023 (see –).

Note that the all commodities index includes goods at various stages of production and can count inflation multiple times in the production of the same goods. As a result, this measure can send an exaggerated inflation signal.

Producer Price Index

one-year growth, percent, not seasonally adjusted

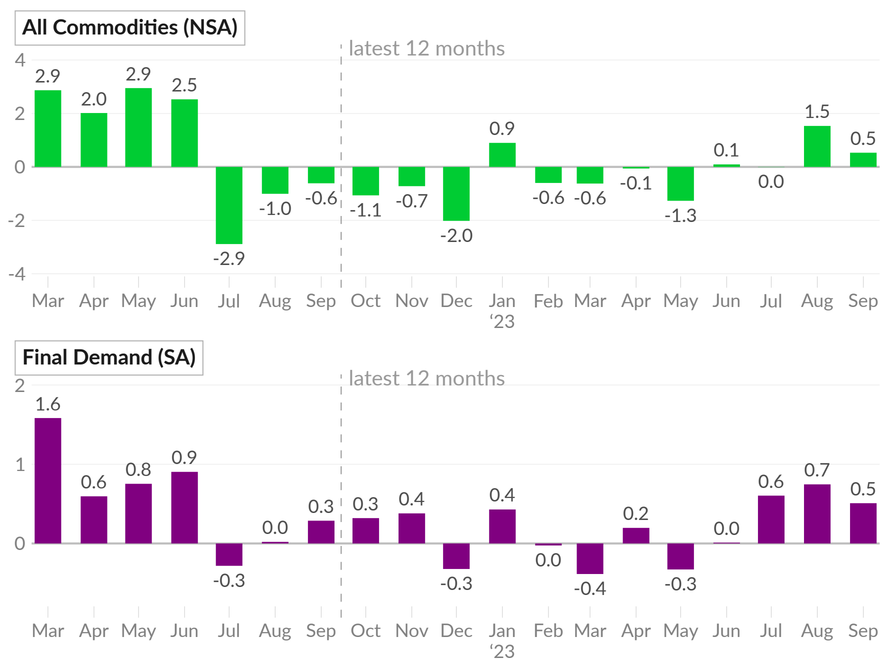


Source: Bureau of Labor Statistics

The one-month change in the prices producers receive can provide insight into recent trends. In September 2023, the one-month change in PPI final demand prices was 0.5 percent (see ■), following an increase of 0.7 percent in August 2023. The one-month change in the all commodities index was 0.5 percent (see ■) in September 2023 and 1.5 percent in August 2023.

PPI One-Month Growth

change from previous month, percent



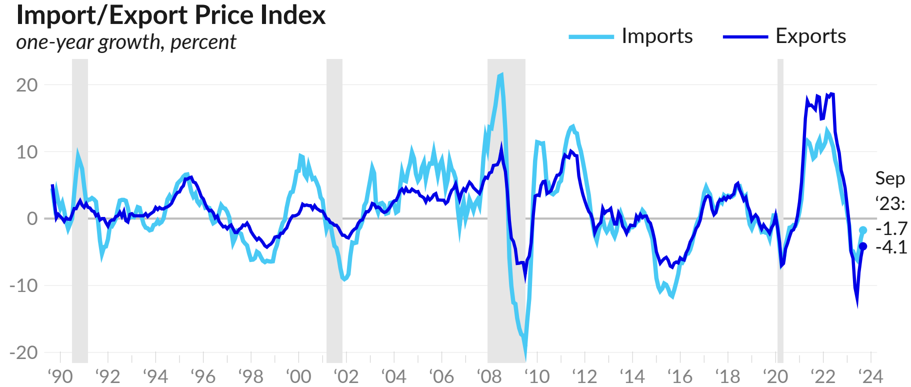
Source: Bureau of Labor Statistics

Import and Export Prices

The Bureau of Labor Statistics report changes in the prices of imports and exports. Over the year ending September 2023, **US import prices** fell 1.7 percent (see —), following decreases of 2.9 percent in August and 4.7 percent in July. Excluding fuels, US import prices decreased 0.8 percent in September 2023 and fell 0.9 percent in August. In 2019, US import prices decreased at an average rate of 1.3 percent. Excluding fuels, import prices decreased at an average rate of 1.1 percent in 2019.

Prices of US exports fell 4.1 percent over the year ending September 2023 (see —), following decreases of 5.7 percent in August, and 8.0 percent in July. In 2019, export prices decreased at an average rate of 0.8 percent.

Import/Export Price Index
one-year growth, percent



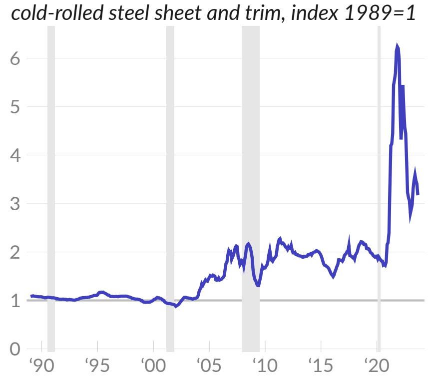
Source: Bureau of Labor Statistics

Commodity Prices

Commodities can have macroeconomic importance. Oil, which is a major input to production and transportation, has a particularly volatile history. Commodity prices can also send a signal to domestic producers. Higher prices encourage more production and lower prices discourage production.

Two important commodities for the construction and manufacturing industries are lumber and steel. From the producer price index, cold-rolled steel sheet and strip prices (see —) have decreased 18.0 percent over the year ending September 2023, and increased 65.8 percent total since December 2019. Lumber prices (see —) decreased 13.7 percent over the year ending September 2023, and increased 20.0 percent total since 2019.

Steel
cold-rolled steel sheet and trim, index 1989=1



Lumber
lumber and wood products, index, 1989=1

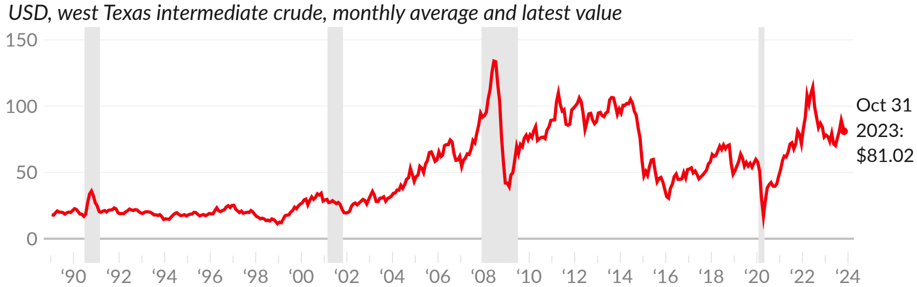
Source: Bureau of Labor Statistics

Crude Oil

On October 31, 2023, the futures price for a barrel of west Texas intermediate (WTI) **crude oil** is $81.02 (see —). Over the past year, this measure of oil prices decreased 6.9 percent. Over the past four years, the price increased 50.0 percent. The WTI price is currently $53 below its peak monthly average price of $134 per barrel in June 2008.

Oil Price

USD, west Texas intermediate crude, monthly average and latest value



Source: Energy Information Administration

Gasoline

On November 6, 2023, the US average price for a gallon of **gasoline** is $3.52 (see —), a decrease of $0.08 from the week prior. This gas price measure, which is the average across formulations, grades, and locations, was $3.91 one year prior, and averaged $2.69 in 2019. During 2011–2013, the average gas price was $3.61.

Gasoline Price

dollars per gallon, all grades

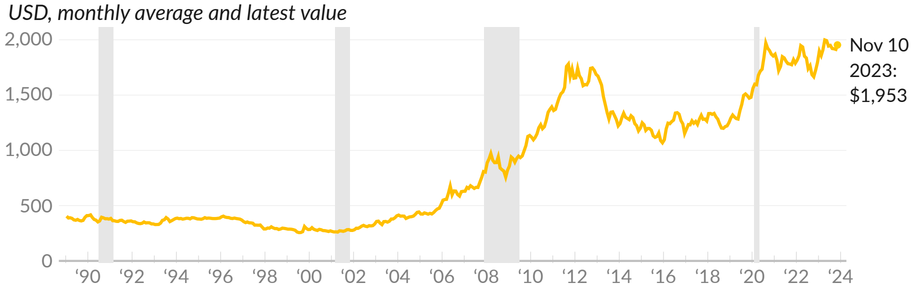
Source: Energy Information Administration

Gold

As of November 10, 2023, one troy ounce of **gold** sells for $1,953.45 (see —), compared to an average of $1,725.40 one year prior. Following the great recession, the monthly average price of gold reached $1,780.65 per ounce, in September 2011. In April 2023, the average monthly price reached $1,998.84 per ounce.

Gold Price

USD, monthly average and latest value



Source: London Bullion Market Association

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