Prototype Measures of

Economic Well-Being and Growth

While the United States produces some of the most accurate, timely, and relevant sets of national economic accounts, in recent years there has been a renewed interest in economic statistics that build on GDP to better understand well-being. This includes better tracking and highlighting economic activity that is included in GDP—a key driver of economic well-being—and capturing nonmarket goods and services that are not included in GDP but are also important determinants of economic well-being.

BEA embarked on the GDP and Beyond initiative to identify ways to use its data resources and statistical knowledge to inform the discussion of well-being. As part of that initiative, BEA has re-packaged statistics from its core accounts with data from statistical agency partners in ways that provide new perspectives on economic well-being and the distribution and long-term growth of the economy. These measures include:

- Economic well-being measures like GDP per capita and inflation and employment trends.
- Distribution statistics such as real GDP growth by industry, real personal income per capita by state, and the distribution of personal income across households.
- Long-term growth indicators including trade balances, U.S. budget deficits over time, and trends in U.S. business cycles.

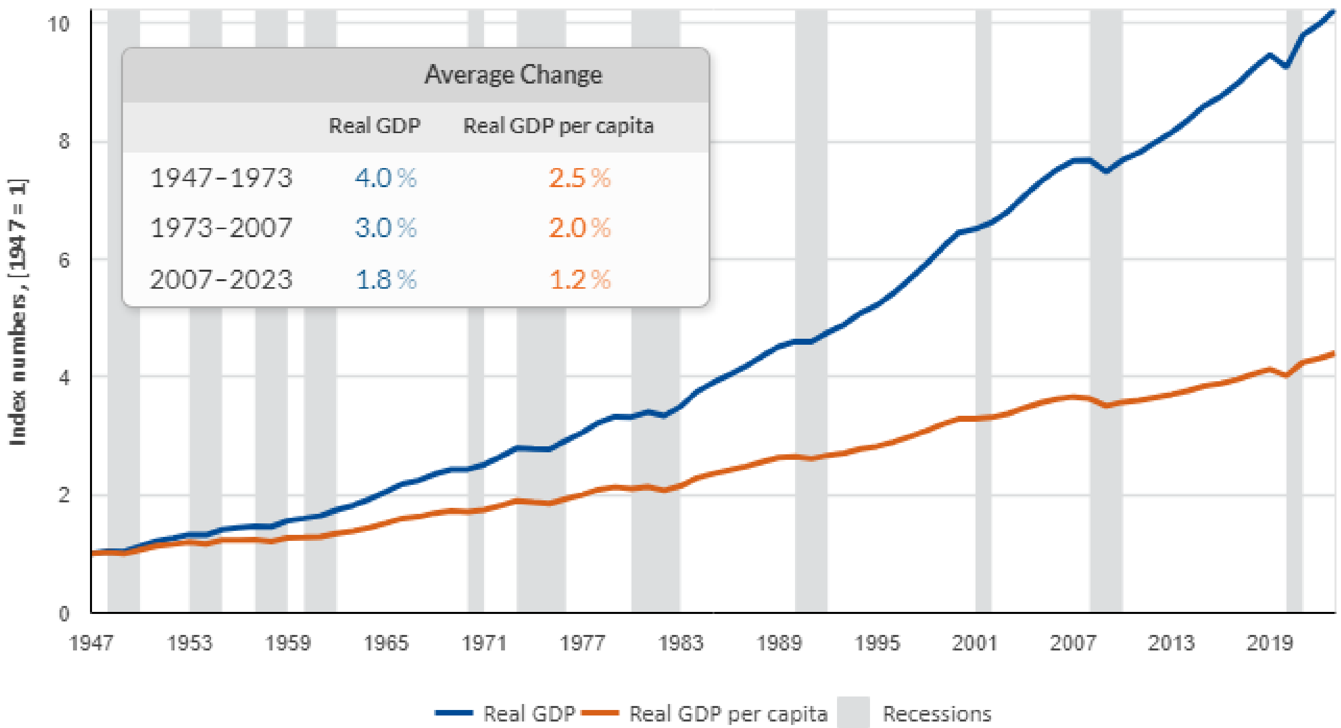
Spotlighting data that are already included in BEA's datasets or that can easily be derived from existing statistics provides an expanded look at trends in economic well-being and the drivers of economic growth.

For more information on these prototype measures of economic well-being and growth and BEA's broader GDP and Beyond initiative, or to provide input into this project, see Background Materials and Feedback. Find open-source code and related documentation for these charts and tables in BEA's GitHub repository.

These measures reflect data available at the time of the 2023Q4 "third" GDP release published on March 28, 2024.

2. Real GDP and

Real GDP Per Capita



Average Change		
	Real GDP	Real GDP per capita
1947–1973	4.0 %	2.5 %
1973–2007	3.0 %	2.0 %
2007–2023	1.8 %	1.2 %

While the growth and size of GDP are oft-cited measures of the nation's economic health, they are not measures of economic well-being. A large and growing GDP may simply reflect a large and growing population. GDP per capita standardizes for population and is often used as a proxy for a nation's standard of living.

Real—inflation-adjusted—GDP per capita has grown more slowly than real GDP, increasing 2.5 percent per year on average between 1947 and 1973, compared with 4.0 percent for real GDP. Over the last two business cycles, between 2007 and 2023, growth slowed with real GDP per capita increasing at 1.2 percent per year and real GDP growing at 1.8 percent per year.

Data. Real GDP and real GDP per capita, 1947–2023

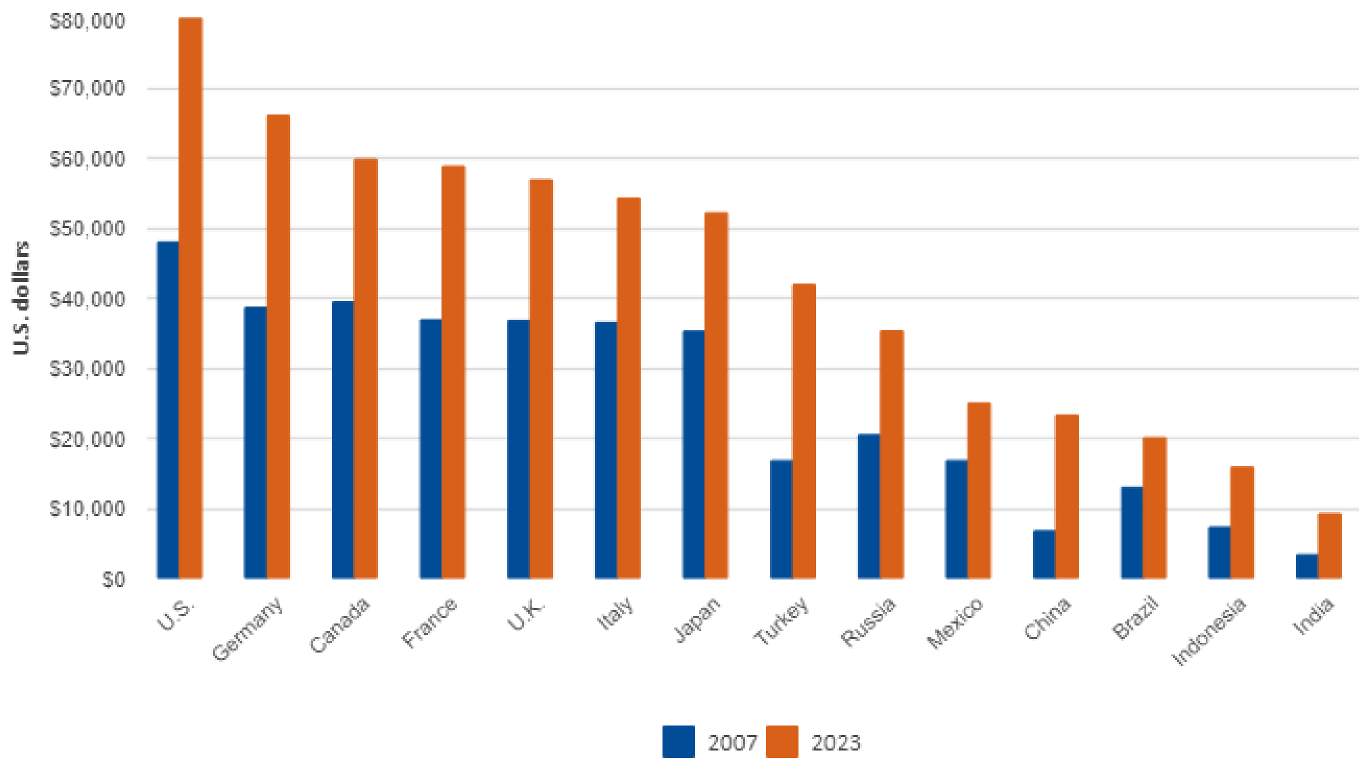
Source. BEA NIPA table 1.1.6 and NIPA table 7.1

3. U.S. GDP Per Capita

Comparison with G-7 Developed Economies and Selected Other Countries

Although growth in U.S. GDP per capita has been slower in recent years than in ealier periods (see "Real GDP and Real GDP Per Capita" above), U.S. GDP per capita remains amongst the highest in the world.

From 2007 to 2023, the level of GDP per capita grew more in the United States than in other G-7 countries and selected other nations. The average growth in U.S. GDP per capita during this period, however, was in line with the growth in other countries. For example, U.S. GDP per capita increased 3.4 percent per year on average between 2007 and 2023, compared with 3.4 percent in Germany and 2.6 percent in Canada, the two G-7 countries with the next highest levels of GDP per capita.



Data. GDP per capita for G-7 developed economies and selected other countries, 2007 and 2023
Source. BEA NIPA table 7.1, International Monetary Fund DataMapper

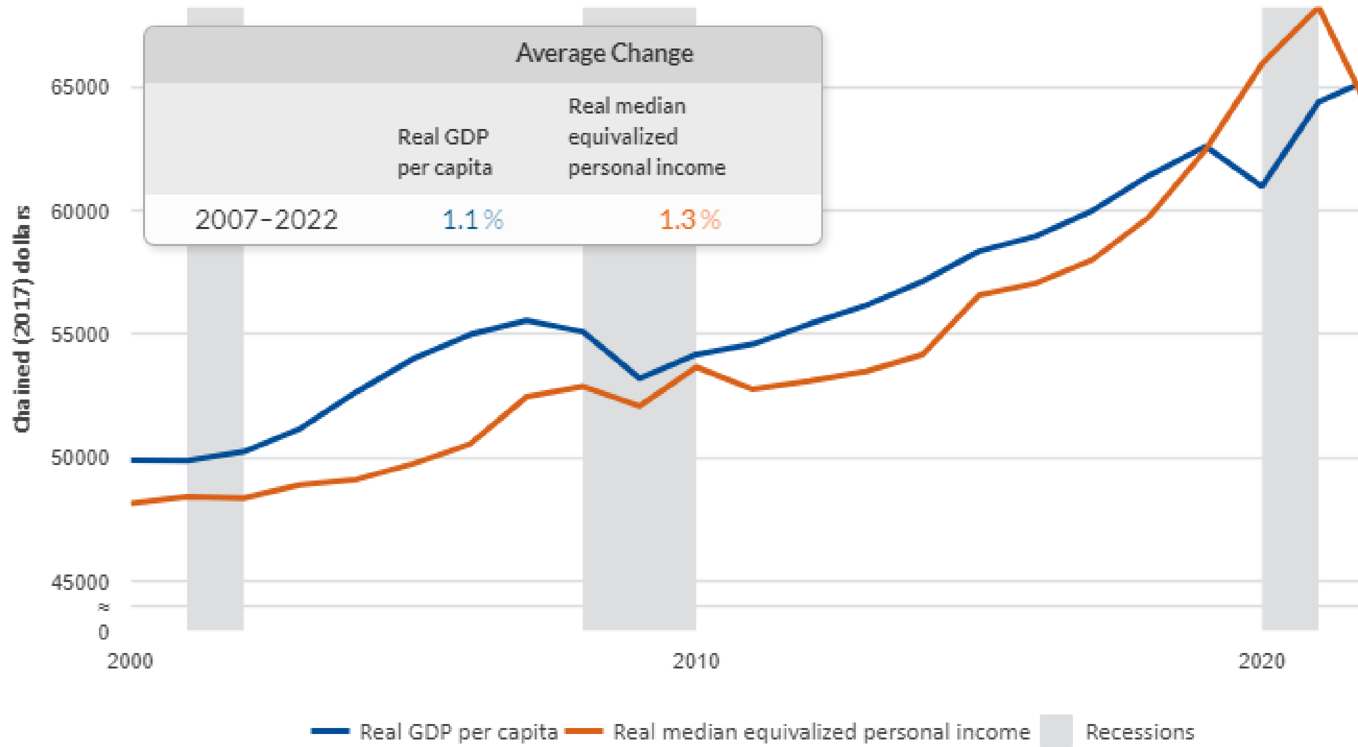
4. Real Income Growth and Its **Distribution**

Real GDP per capita and real median personal income provide two different perspectives on economic growth.

Real GDP per capita spreads total production across the entire population equally.

Alternatively, real median equivalized personal income—that is, adjusted for household size—provides an inflation-adjusted measure of total income received by the "middle" income household, whose income is below 50 percent of households and above the other 50 percent of households.

Real median personal income is a more appropriate gauge of how the U.S. economic pie is distributed because it focuses on how income accrues to households rather than on GDP, which is a measure of production.



For 2007–2022, real median equivalized personal income grew 1.3 percent per year, higher than the growth of 1.1 percent per year in real GDP per capita. The main driver of the difference in growth between the two measures was personal current transfer receipts, which impact personal income but not GDP. These receipts include benefits from programs like social security, Medicaid, and unemployment insurance.

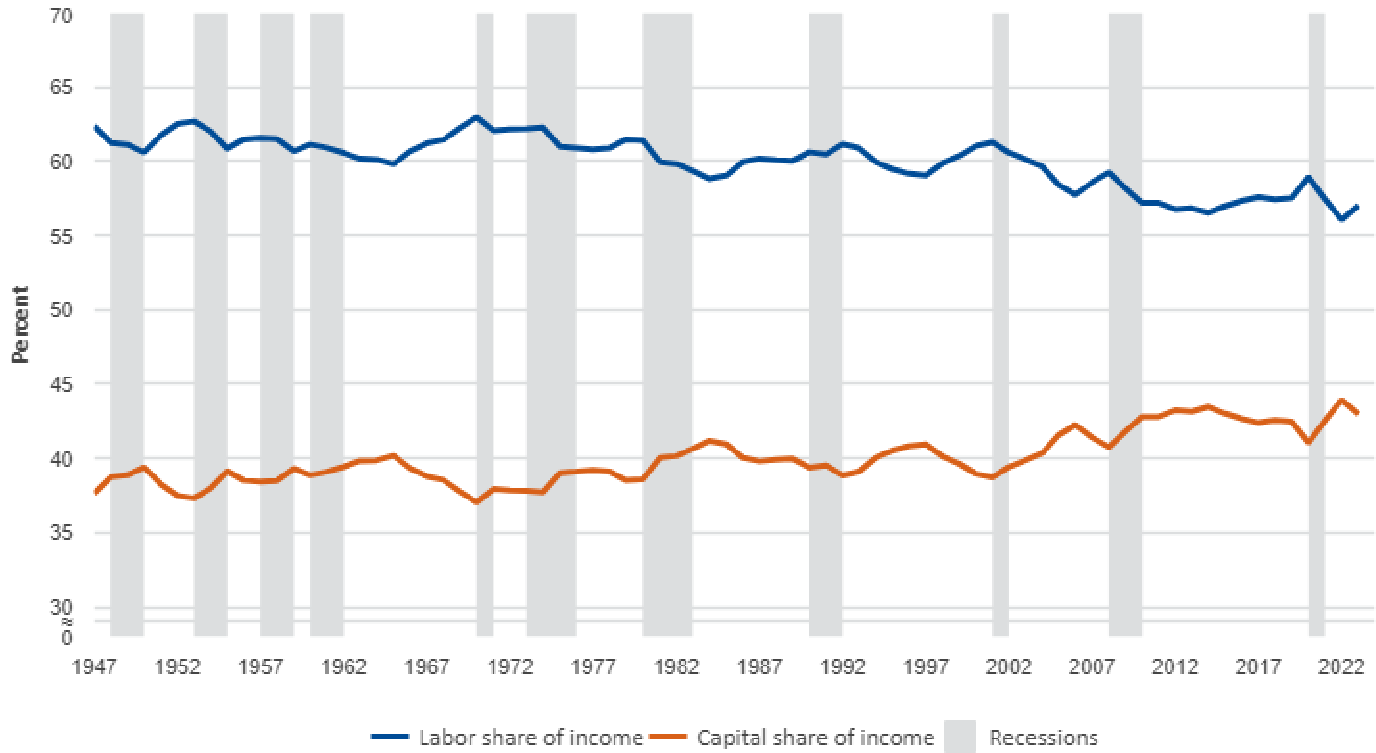
Data. Real GDP per capita and real median equivalized personal income in 2017 dollars, 2000–2022

Source. BEA NIPA Table 7.1, BEA Distribution of personal income estimates

In addition to differences related to the concepts of "median" and "mean" and between GDP and personal income, there are other important conceptual differences between GDP per capita, median personal income, and other available measures of the distribution of income (like those produced by the Census Bureau).

5. Distribution of Income

Between **Labor and Capital**



One driver of the changing distribution of income is the movement in the share of labor income relative to capital income. "Capital income" refers to income arising from the use of fixed assets, such as property, plant, and equipment. After reaching 63 percent in 1970, labor's share of income has generally declined, and in 2023 stood at 57 percent. Capital's share of income increased from 37 percent in 1970 to 43 percent in 2023.

Note that these shares do not include proprietors' income as it is a mix of labor income and capital income. While proprietors' income as a share of gross domestic income has remained relatively stable since 1970, any notable shifts in the relative importance of proprietors' income or in the mix of labor income and capital income within proprietors' income could impact the overall mix of labor income and capital income in the economy. Those impacts would not be captured here.

Data. Labor and capital shares of gross domestic income, 1947–2023

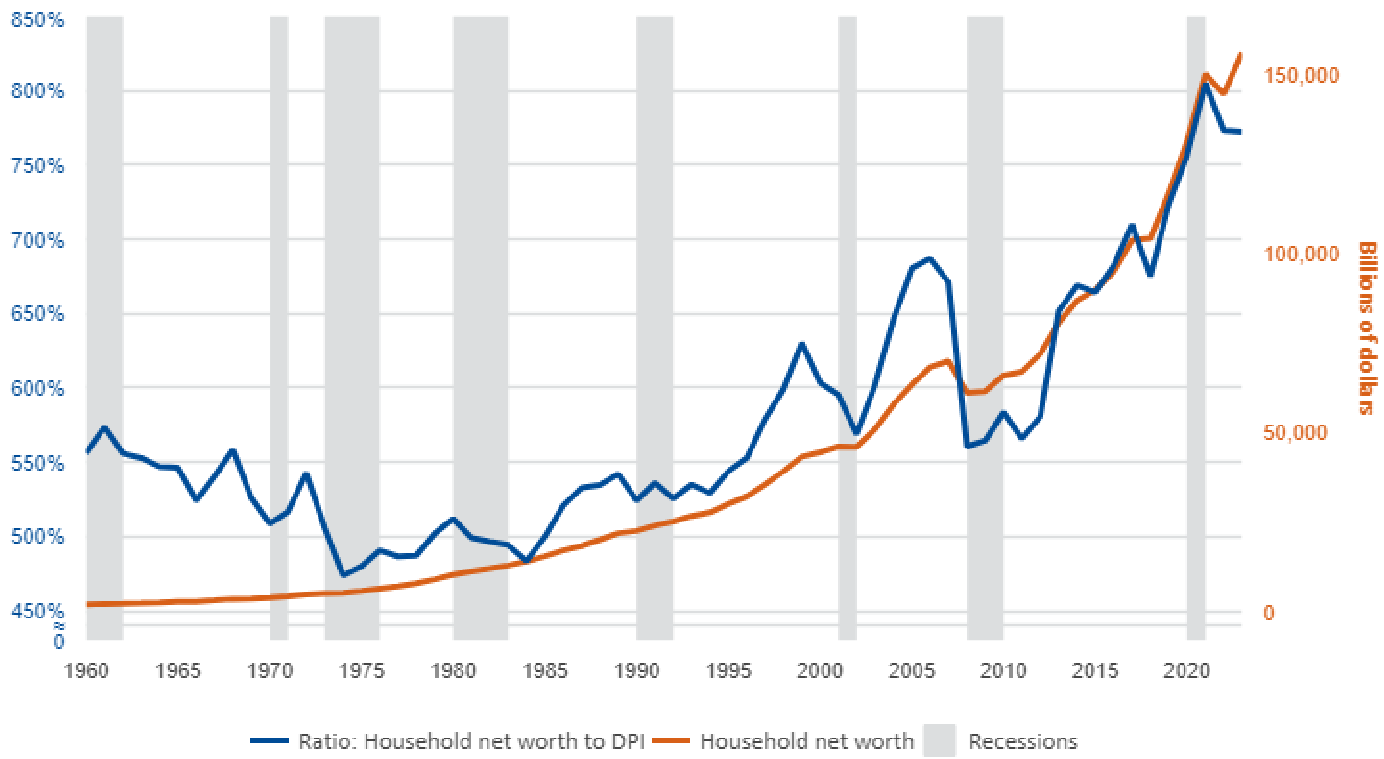
Source. BEA NIPA table 1.10

Labor share of income is calculated as compensation divided by gross domestic income excluding proprietors' income, which is a mix of labor and capital income. Capital share of income includes rental income profits, and net interest and is calclulated as gross domestic income excluding compensation and proprietors' income divided by gross domestic income excluding proprietors' income.

6. Americans' Financial

Well-Being

Trends in Household Wealth as Measured by Net Worth



Another key measure of the economic well-being of a nation is its wealth. Wealth increases economic welfare by supplementing income for large purchases, unemployment, emergencies, retirement, education, and bequests to heirs.

Since 1960, household wealth—measured by net worth (that is, household assets less liabilities)—has risen every year except for in 2002 after the dotcom bust, in 2008 during the Great Recession, and in 2022 coming out of the coronavirus pandemic.

In addition, the ratio of household net worth to disposable personal income (DPI) indicates whether trends in saving and wealth are in line with movements in income. During the post-WWII era, net worth of households as a percentage of DPI has risen, with net worth around eight times larger than DPI in 2023.

Data. Ratio of household net worth to disposable personal income (DPI) and household net worth, 1960–2023

Source. BEA-FRB Integrated macroeconomic accounts table S.3.a, BEA NIPA table 2.1

In 2019, the Federal Reserve Board (FRB) introduced Distributional Financial Accounts of the United States, which include estimates of the distribution of household wealth.

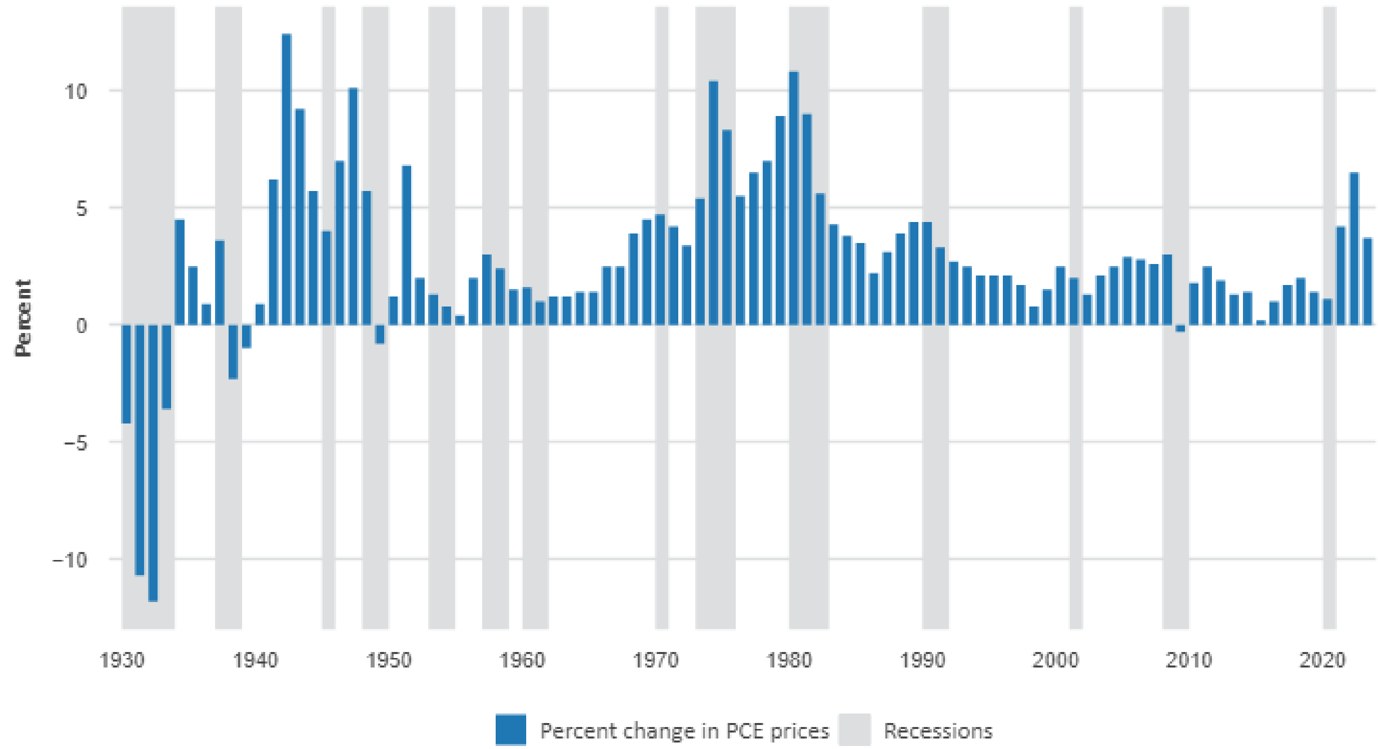
7. Inflation

Trends

Percent Changes in Consumer Prices

Inflation, especially high and variable rates of inflation, can affect economic well-being, including eroding the real income and purchasing power of those on fixed incomes and more generally transferring income from debtors to creditors.

After a period of deflation during the Great Depression, inflation peaked in the immediate post-WWII era and later in the 1970s and 1980s. Since the mid-1990s, inflation has generally remained in the 2 percent range, low by historical standards; however, inflation was higher coming out of the coronavirus pandemic, peaking at 6.5 percent in 2022 before falling to 3.7 percent in 2023.

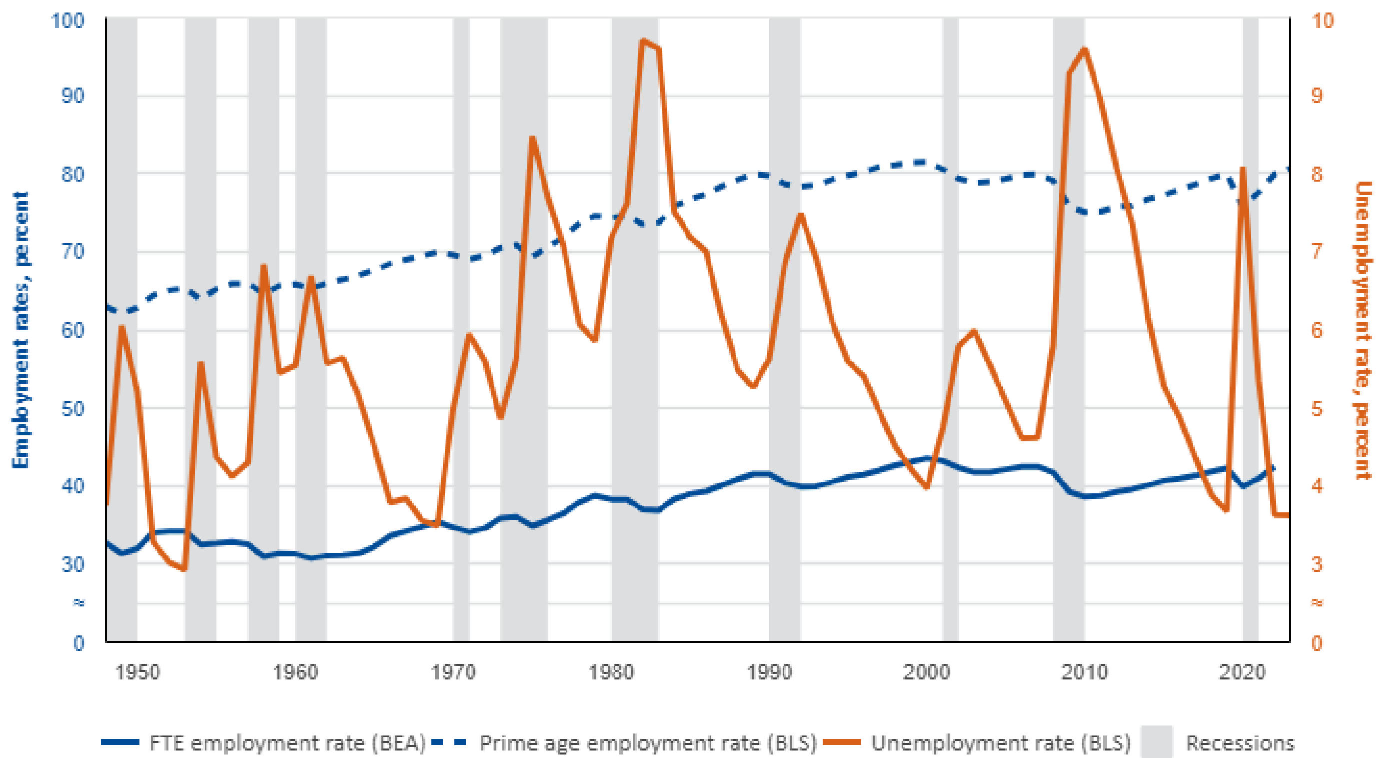


Data. Percent changes in personal consumption expenditures (PCE) price index, 1930–2023

Source. BEA NIPA table 1.6.7

8. Employment

Trends



Employment data are among the economic indicators most closely watched by households.

After falling steadily to 3.7 percent during the last expansion, unemployment—perhaps the best-known employment indicator—rose rapidly to over 8 percent in 2020 before falling to around 3.5 percent in 2022 and 2023.

In addition, two of the broader-based employment indicators, which are not affected by changes in labor force participation rates, also rose throughout the previous recovery. The overall (FTE) employment rate reached 42.5 percent in 2022, a level not seen since the end of the previous expansion. Likewise, the prime age workers' employment rate increased to 80.7 percent in 2023, surpassing the pre-pandemic high of 80 percent in 2019.

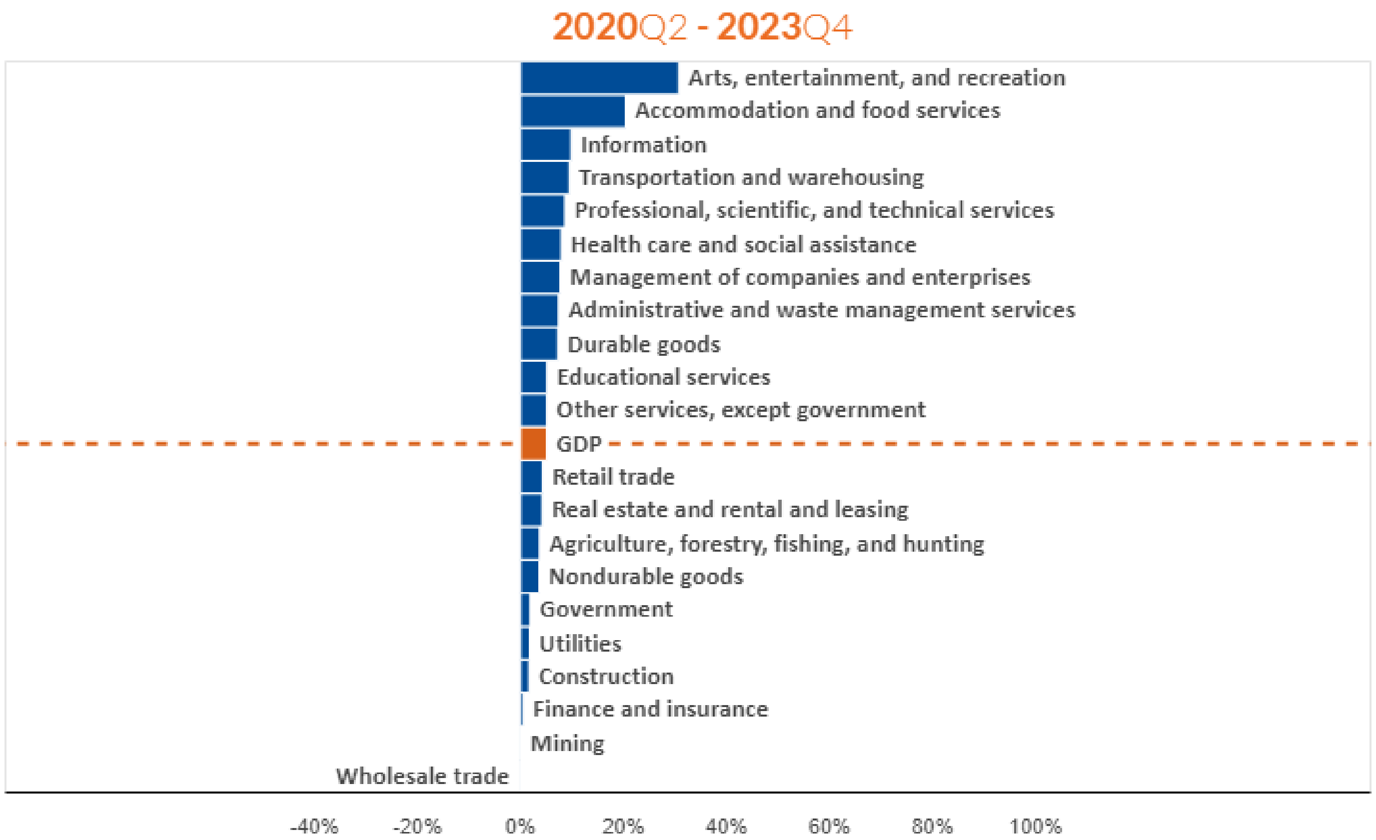
Data. FTE employment rate,1948–2022, and BLS employment and unemployment rates, 1948–2023

Source. BEA NIPA tables 6.5A, 6.5B, 6.5C, 6.5D; BEA NIPA table 7.1; Bureau of Labor Statistics (BLS)

Full-time equivalent employees (FTEs) equals the number of employees on full-time schedules plus the number of employees on part-time schedules converted to a full-time basis. The FTE employment rate is calculated as FTEs divided by population. The prime age employment rate is calculated as the number of employed civilian persons aged 25–54 divided by the population of civilian noninstitutional persons aged 25–54. In concept, the number of persons employed plus the number of persons unemployed plus the number of persons not in the labor force should equal the population.

9. Industry Comparison of Real Economic Growth

The economic experience across industries varies significantly. Since the latest trough in the business cycle in 2020Q2, real GDP increased at a 5.1 percent annual rate. Changes by industry ranged from a 0.2 percent decline in wholesale trade to a 30.8 percent increase in arts, entertainment, and recreation.



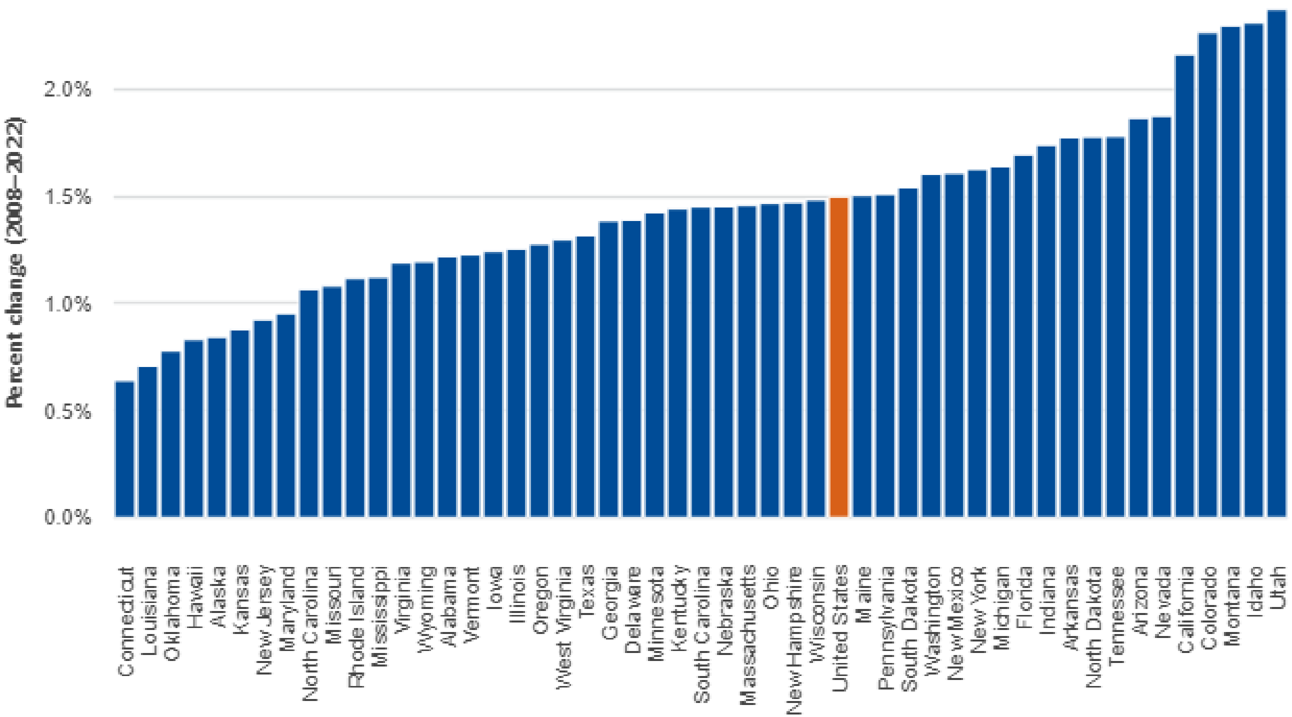
Data. Average annual changes in real value added by industry, 2020Q2–2023Q4

Source. BEA GDP by Industry table "Chain-Type Quantity Indexes for Value Added by Industry"

10. State Comparison of

Real Personal Income Growth and Real Income Per Capita

Personal Income Growth | Income Per Capita



While figures on GDP, employment, and inflation for the nation dominate news coverage, the economic experience across the country varies considerably. Since the start of the Great Recession (calculated with annual data available from 2008 through 2022), real personal income per capita grew at an average annual rate of 1.5 percent, with Utah growing by 2.4 percent and Connecticut growing by 0.6 percent. Similarly, in 2022, real personal income per capita for the nation ranged from $45,818 in Mississippi to $68,772 in Wyoming.

Data (Average Growth). Average annual changes in real personal income per capita by state, 2008–2022

Data (Income per Capita). Real personal income per capita by state, 2022

Source. BEA Real Personal Income by State table "Real Per Capita Personal Income By State (constant 2017 dollars)"

Value for the United States includes the 50 states and the District of Columbia.

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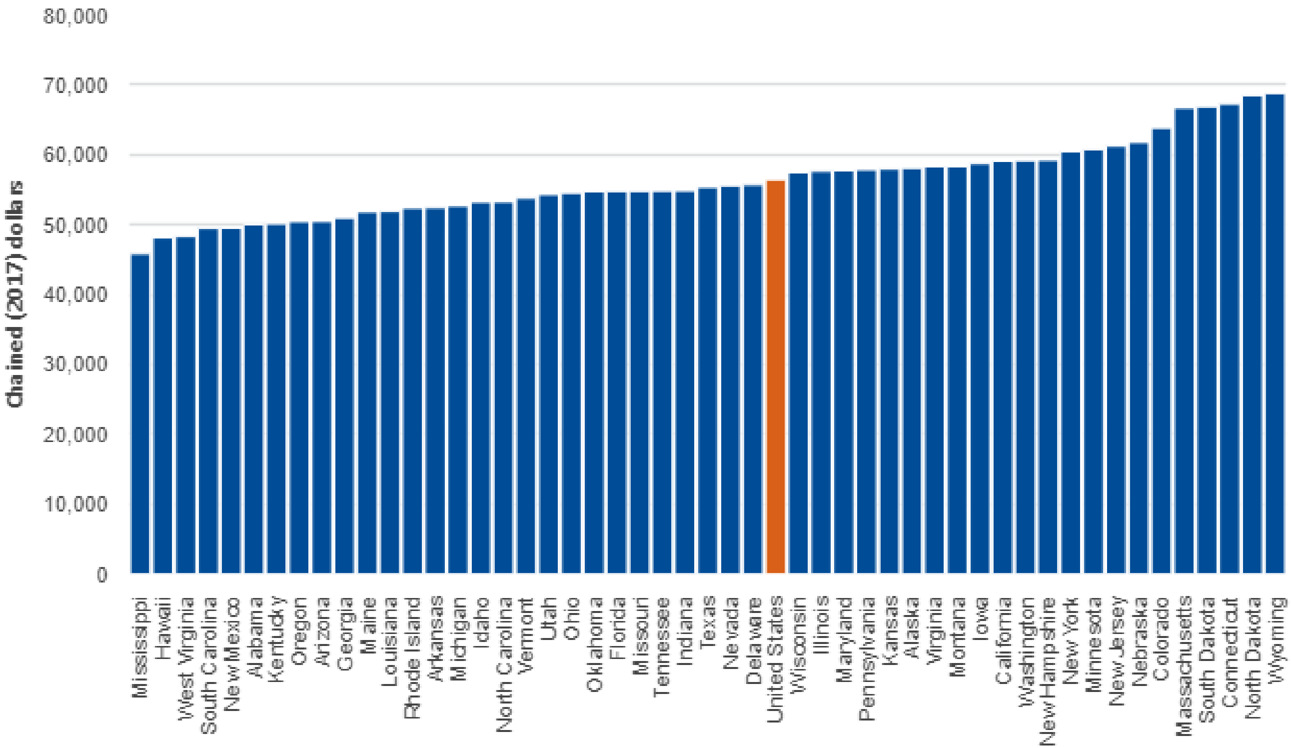
Real Personal Income Growth and Real Income Per Capita

Personal Income Growth | Income Per Capita



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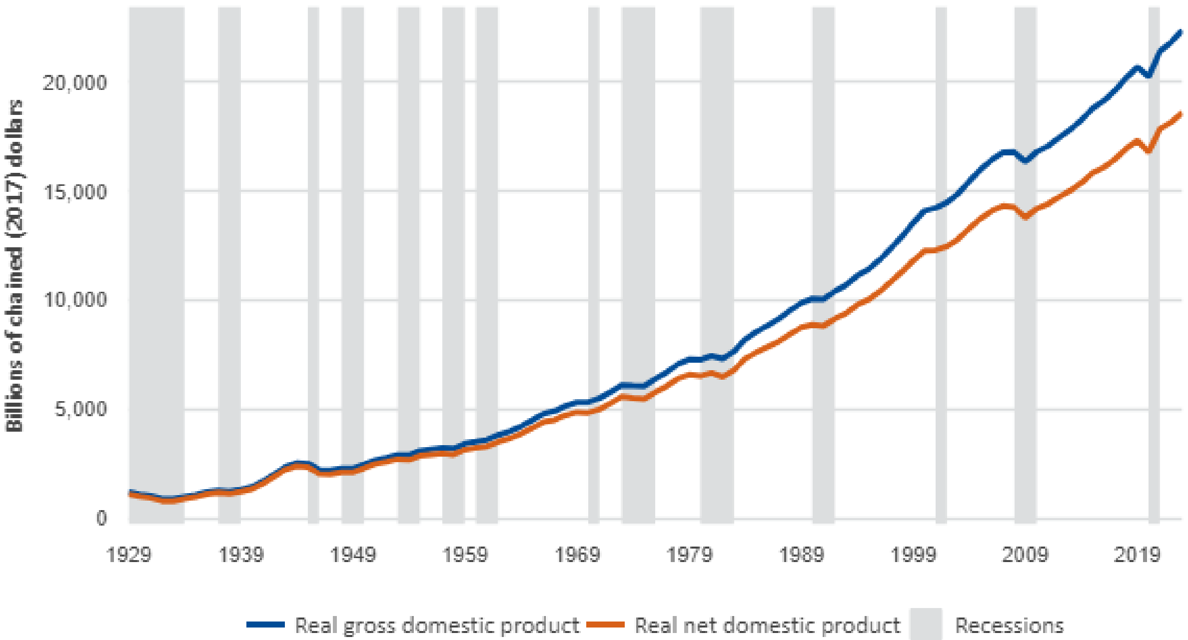
11. Sustainable **Economic** Growth

Real GDP vs Real Net Domestic Product



Economists since Adam Smith have been concerned with sustaining a level of economic growth that would provide for a rising standard of living for a growing population. In the national accounts, sustainable growth is measured by net domestic product (NDP), which is equal to GDP less depreciation, that is, what is left over for consumption after deducting the amount necessary to replace the capital used up in that production.

Over the last few decades, NDP has grown more slowly than GDP. From 1973 to 2023, real NDP grew at 2.4 percent per year on average, compared with 2.6 percent for real GDP. This is the result of gross investment spending (a component of GDP) growing more slowly than depreciation. This slowing of investment spending has reduced the net investment available for activities that produce economic growth and that lead to a rise in productivity and standards of living.

Data. Real GDP and real net domestic product, 1929–2023

Source. BEA NIPA table 1.7.6

12. Trends in Real Economic Growth

Growth in GDP is essential to economic well-being.

Over time, there has been a slowdown in all three of the sources of economic growth—labor and capital inputs and total factor productivity (real GDP per unit of output)—which has contributed to the declining rate of long-term growth.

The slowdown in labor input is accounted for by demographic factors such as the aging and retirement of the population. The slowdown in capital services reflects a slowdown in net investment (and saving). The slowdown in total factor productivity is much debated and reflects many factors, including the pace of technological change.

	Average Annual Real Growth		
Component	1987–2007	2007–2022	Difference
Real GDP	3.1 %	1.8 %	-1.3 %
Labor input	1.6 %	1.1 %	-0.5 %
Capital services	4.0 %	2.4 %	-1.6 %
Total factor productivity	1.0 %	0.5 %	-0.5 %
	Contributions to Growth [Percentage points][1]		
Real GDP	3.1	1.8	-1.3
Labor input	1.05	0.64	-0.40
Capital services	1.36	0.94	-0.42
Total factor productivity	0.67	0.19	-0.48

Source. BEA NIPA table 1.1.3, Integrated BEA GDP-BLS productivity accounts

[1] For real GDP, estimates under the contributions columns are also percent changes.

Contributions to real GDP for labor input and capital services are calculated by multiplying labor's and capital's average shares in cost by their average annual growth rates; contributions to real GDP for total factor productivity is the residual.

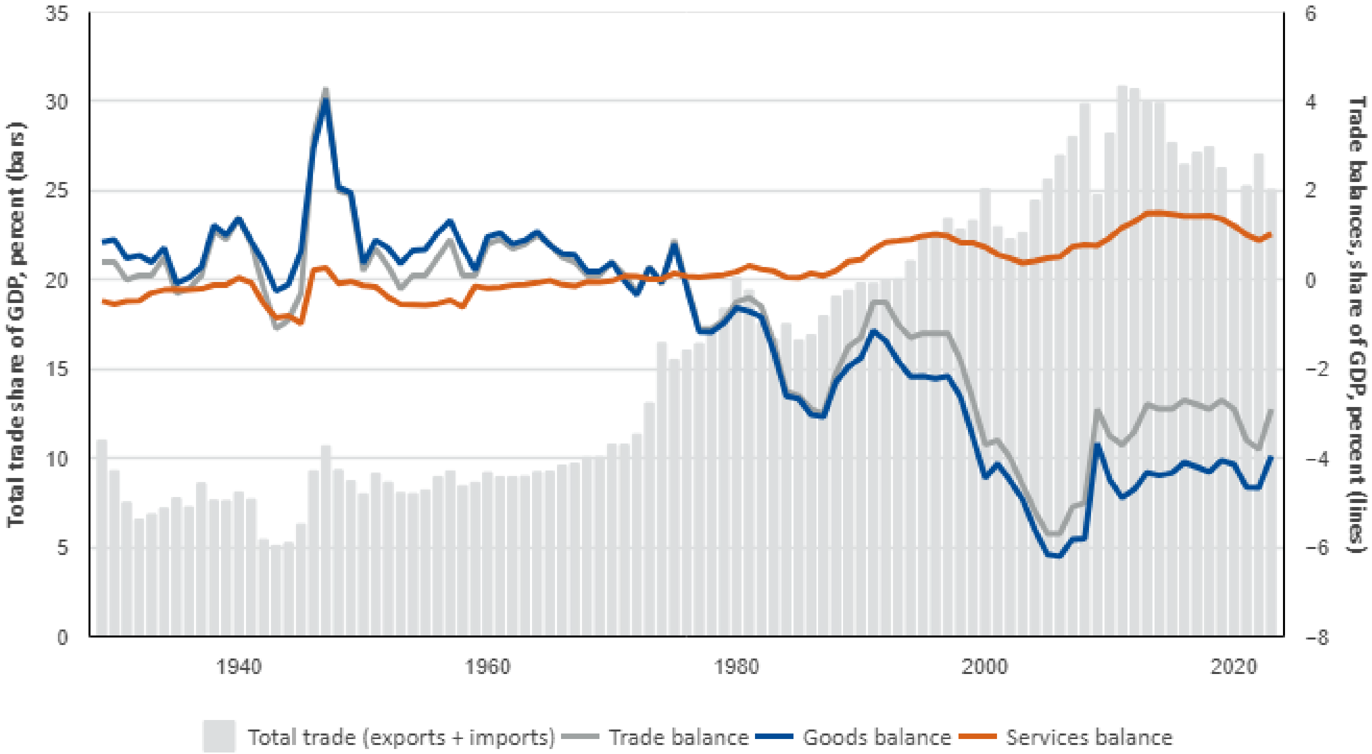
13. Trade and the

U.S. Economy **Over Time**

Total Trade and Trade Balances as Percentages of GDP

International trade is an important factor in economic growth. By allowing for specialization across nations and raising productivity, trade yields higher growth and standards of living.

Between 1947 and 2023, overall U.S. trade (exports plus imports) as a percentage of GDP grew from about 10.5 percent to about 25 percent. The increased international trade—along with higher quality economic data and better-informed policies and institutions—contributed to an unprecedented period of growth in standards of living in the United States and other developed economies. Since 1947, real GDP per capita more than quadrupled in the United States.



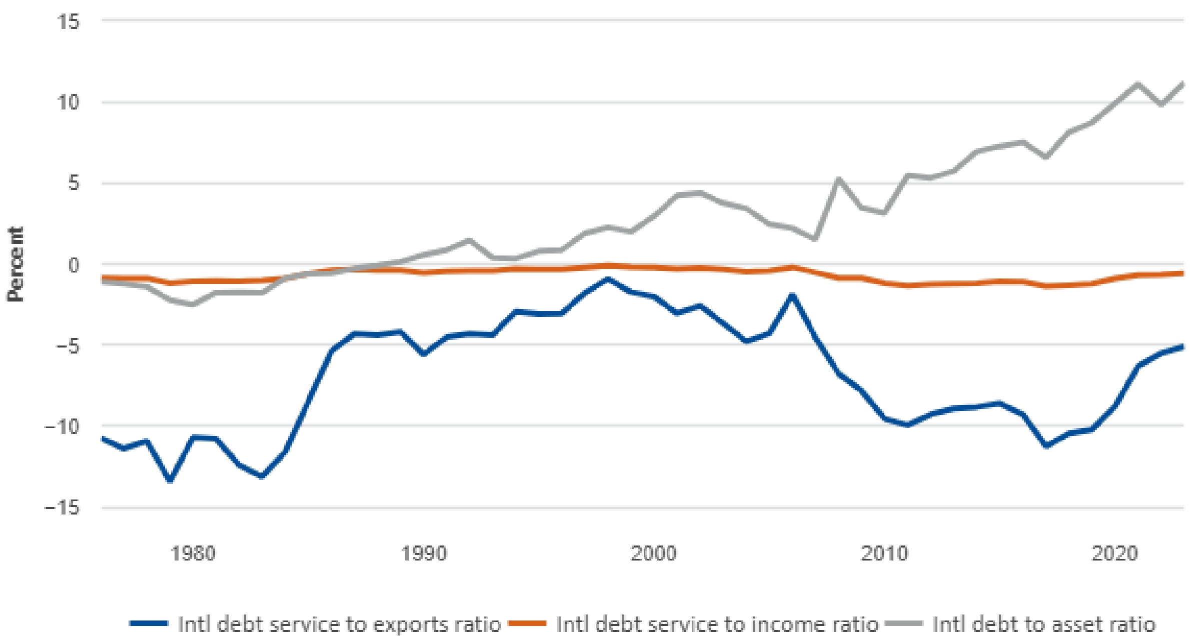
Until the mid-1970s, the United States had an international trade balance that was usually in surplus. Over time, the U.S. trade balance moved to persistent trade deficits (with deficits on goods more than offsetting surpluses in services). These trade deficits were the result of domestic spending that exceeded domestic production, or its mirror image, low national saving that reflects the higher domestic spending. The lower investment that often accompanies lower saving may slow growth in productivity, the economy, and standards of living, thereby offsetting some of the positive contributions of international trade to economic growth.

Data. Ratios of total trade, net exports, net exports of goods, and net exports of services to GDP, 1929–2023
Source. BEA NIPA table 1.1.5 and NIPA table 1.1.10

14. Financing

International Trade

Foreign Debt Service and Debt



One indicator of the long-term impact of U.S. trade deficits is the net amount the nation pays in external debt service, dividends, reinvested earnings, and other investment income to foreign investors relative to its exports. The "debt service to exports ratio" generally increased from the mid-1970s through the late-1990s and trended downward until 2017 when it began to rise. This ratio has been consistently negative, meaning that the United States receives more in foreign investment income than it pays to foreign residents.

Because the U.S. dollar is an international currency, the United States' ability to service foreign debt is not constrained by the supply of currency earned through exports but by its income. Comparing net investment income payments to gross domestic income, shows that the "debt service to income ratio" has remained relatively stable over time.

Another key measure is the ratio of U.S. net liabilities to the rest of the world compared with U.S. household assets. The "international debt to asset ratio" has grown since the 1980s, with international debt equal to around 11 percent of U.S. assets in 2023.

Currently, U.S. receipts from overseas investments exceed payments for foreign investments in the United States, resulting in a surplus on international investment income even though the United States has outstanding net liabilities to the rest of the world. The rates of return earned by U.S. residents on assets abroad exceed the rates of return on foreign-held assets in the United States by a large enough amount to offset U.S. debt payments to the rest of the world.

Data. Trends in international (intl) debt service ratios and international debt to asset ratio, 1976–2023

Source. BEA NIPA table 1.7.5, BEA IIP table 1.1, BEA-FRB Integrated macroeconomic accounts table S.3.a

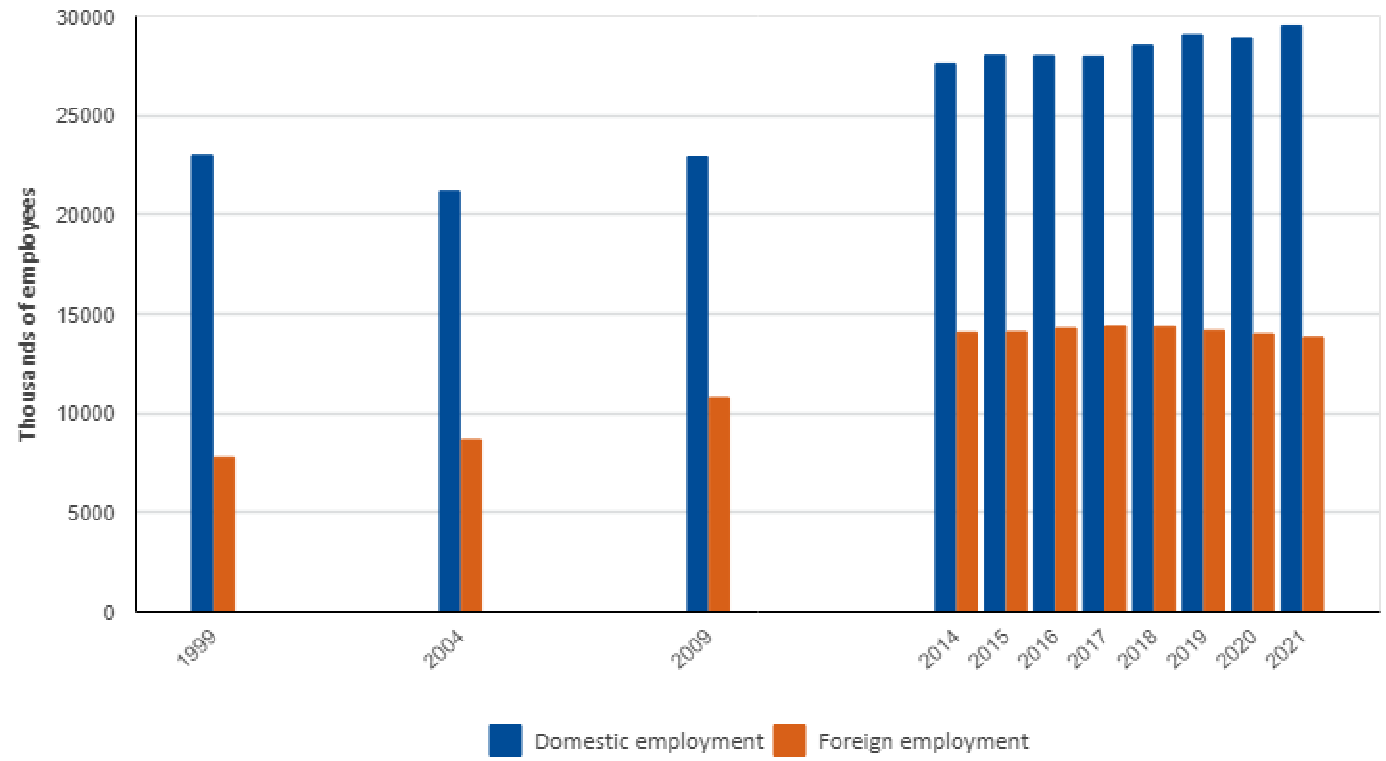
The debt service to exports ratio is calculated as net investment income payments to the rest of the world (ROW) divided by exports. The debt service to income ratio is calculated as net investment income payments to ROW divided by gross domestic income. The debt to asset ratio is calculated as net U.S. liabilities to ROW divided by U.S. household assets.

15. U.S. Multinational Companies' Employment in U.S. and Foreign Subsidiaries

The movement of U.S. jobs abroad by U.S. companies often is seen as a threat to the long-term growth of the U.S. economy and its ability to produce high-paying domestic jobs. A look at the data shows that most of U.S. multinational companies' employment remains in the United States. For example, in 2021, about 68 percent of U.S. multinationals' employment was in the United States.

The share of foreign employment has risen as large and emerging economies like India and China have expanded their share of world income. However, most employment remains in high- and middle-income countries rather than low-income countries. Growth in foreign employment has been concentrated in middle-income countries.

In addition, BEA data on U.S.-owned foreign companies show that most overseas subsidiaries sell their goods and services in the countries where they are located or to other foreign countries. In 2021, only 12 percent of U.S. foreign subsidiaries' sales were to the United States. These trends suggest that the location of foreign production is more for access to large and growing markets than for low-cost labor.



Breakout of Foreign Subsidiary Worldwide Sales: Snapshot for 2021
(share of total)

Total	100 %
To the host country	58 %
To other foreign countries	29 %
To the United States	12 %

Source. BEA Activities of U.S. Multinational Enterprises

Share of Foreign Subsidiary Worldwide Employment by Level of Country Income

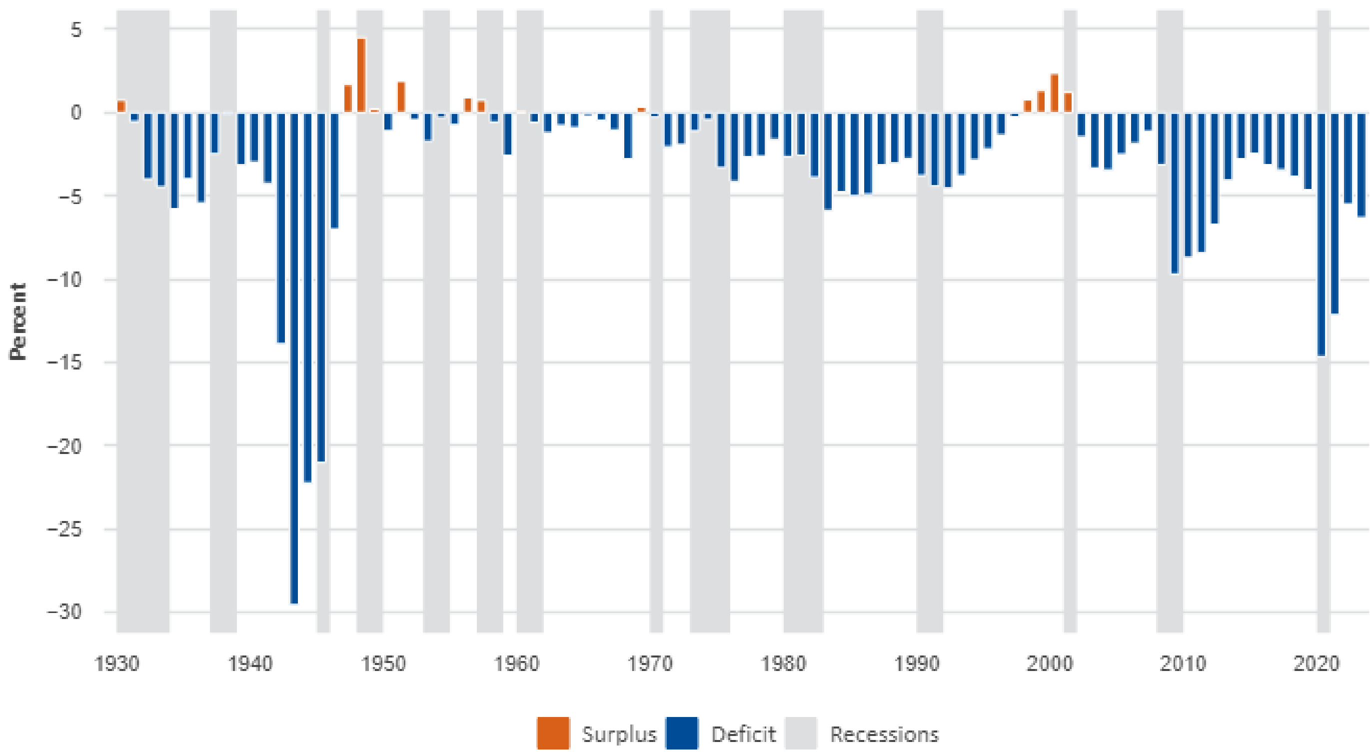
Income	High	Middle	Low
1997	69 %	29 %	2 %
2000	66 %	32 %	2 %
2007	61 %	38 %	0 %
2019	52 %	47 %	0 %
2020	51 %	48 %	0 %
2021	52 %	48 %	0 %

For a given year, shares may not sum to 100 percent due to rounding and classification differences.
Income classifications reflect those issued by the World Bank as of October 2006. The income levels are classified in the following tiers based on countries' annual per capita gross national income in 2005 dollars: High-income ($10,726 or more), middle-income ($876 to $10,725), and low-income ($875 or less).

Data. Domestic and foreign employment by U.S. multinational companies, select years: 1999–2021
Source. BEA Activities of U.S. Multinational Enterprises

16. U.S. Budget and the Economy Over Time

Federal Surpluses and Deficits as a Percentage of GDP



Since 1930, the United States has run a federal budget deficit in most years. Higher deficits have generally resulted from economic downturns and war (the Great Depression, World War II, the Korean War, the Vietnam War, the Great Recession, and the coronavirus pandemic).

Data. Trends in federal surplus or deficit (-) as a percentage of GDP, fiscal years: 1930–2023

Source. BEA NIPA table 1.1.5, Office of Management and Budget

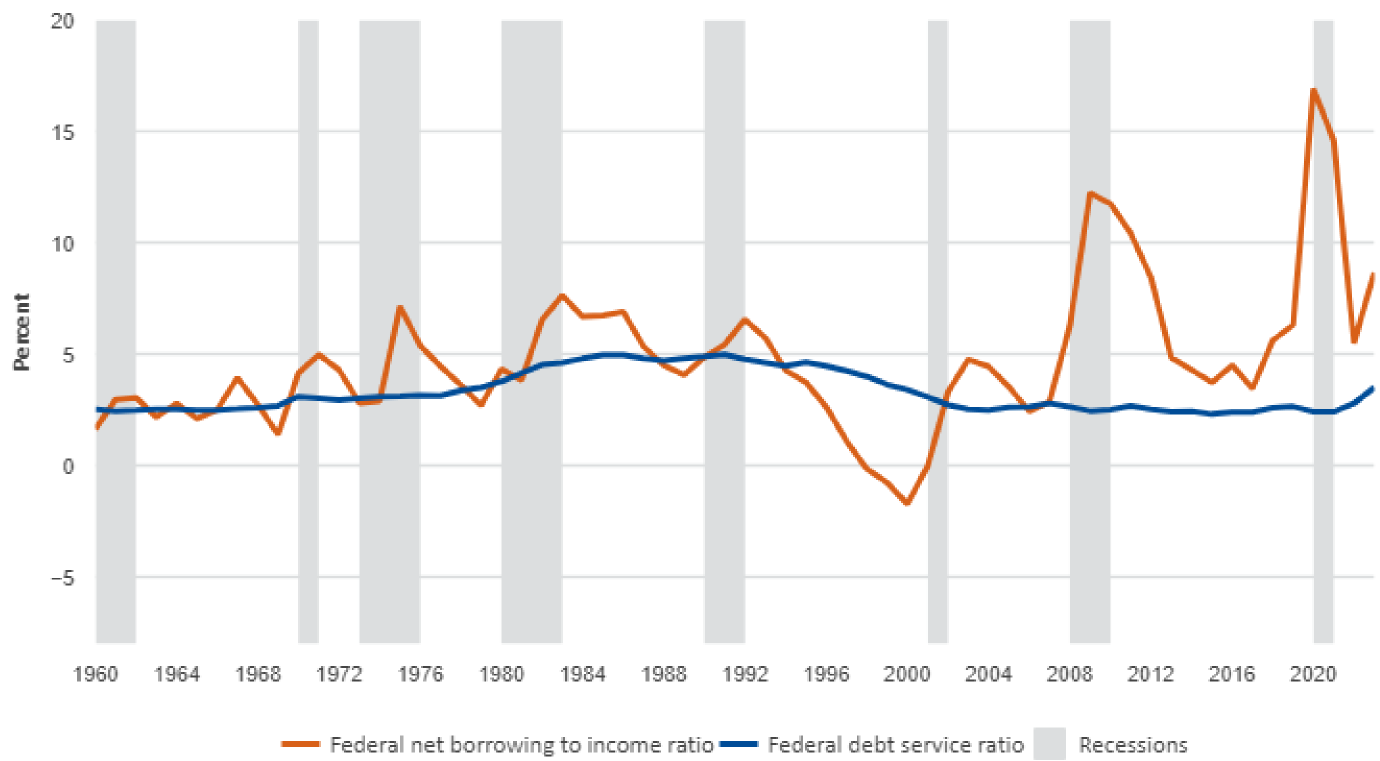
17. U.S. **Budget**

Deficits

Federal Government Debt Service and Debt

There are several key indicators used to assess the economic effects of debt burdens. This includes borrowers' ability to service their debt and how borrowing in each period compares with income.

For the federal government, the ability to service debt is measured by the "federal debt service ratio," calculated as federal interest payments divided by gross national income (GNI). Borrowing compared with income is measured using the "federal net borrowing to income ratio," calculated as federal total expenditures less federal total receipts divided by national income.



The federal debt service ratio has remained relatively flat over the last few decades. The federal net borrowing to income ratio has been much more volatile, peaking in 2020 during the coronavirus pandemic.

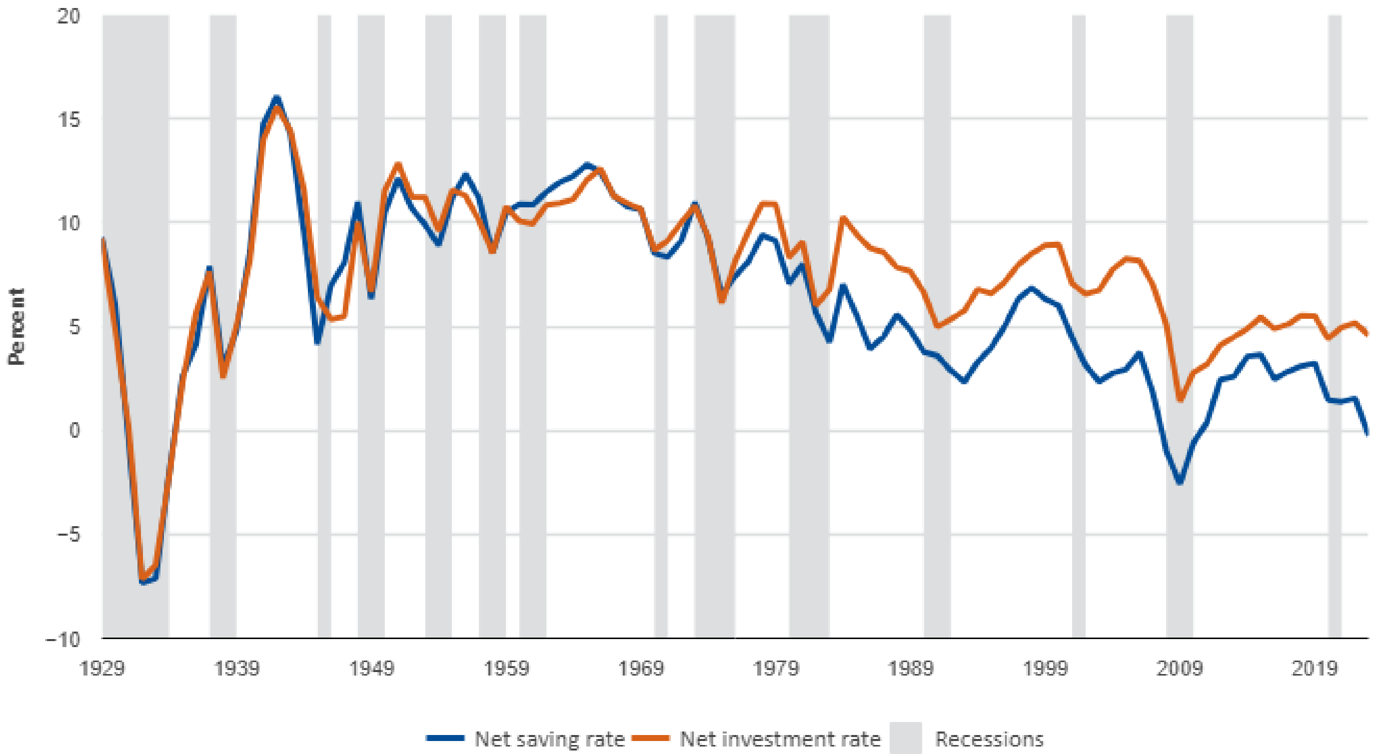
Data. Trends in federal deficits, debt, and debt service, 1960–2023

Source. BEA NIPA table 1.1.5 and NIPA table 3.2

The federal debt service ratio is calculated as federal interest payments divided by gross national income (GNI). The federal net borrowing to income ratio is calculated as total federal expenditures less total federal receipts divided by national income.

18. Saving & Investment for the Future

Net Saving and Net Investment as Percentages of GDP



Net investment—gross investment less depreciation—is often called sustainable investment. A significant share of gross investment in plant, equipment, and IT goes toward replacing capital that wears out (that is, depreciation). Net investment increases the nation's production capabilities.

Net saving represents the amount of net income that is available to finance net investment; however, net investment can also be financed by borrowing from the rest of the world.

During the post-WWII era, net investment and net saving have been trending down (with the related drags on productivity, growth, and standards of living).

The downward trend in net investment has slowed growth in U.S. capital stock and capital services, accounting for a large share of the decline in trend GDP growth (see "Trends in Real Economic Growth" above).

The gap between the net investment rate and the net saving rate has widened over the last 35 years, with the net saving rate turning negative only a handful of times since the Great Depression, in 2008–2010 around the time of the Great Recession and in 2023 in the aftermath of the coronavirus pandemic.

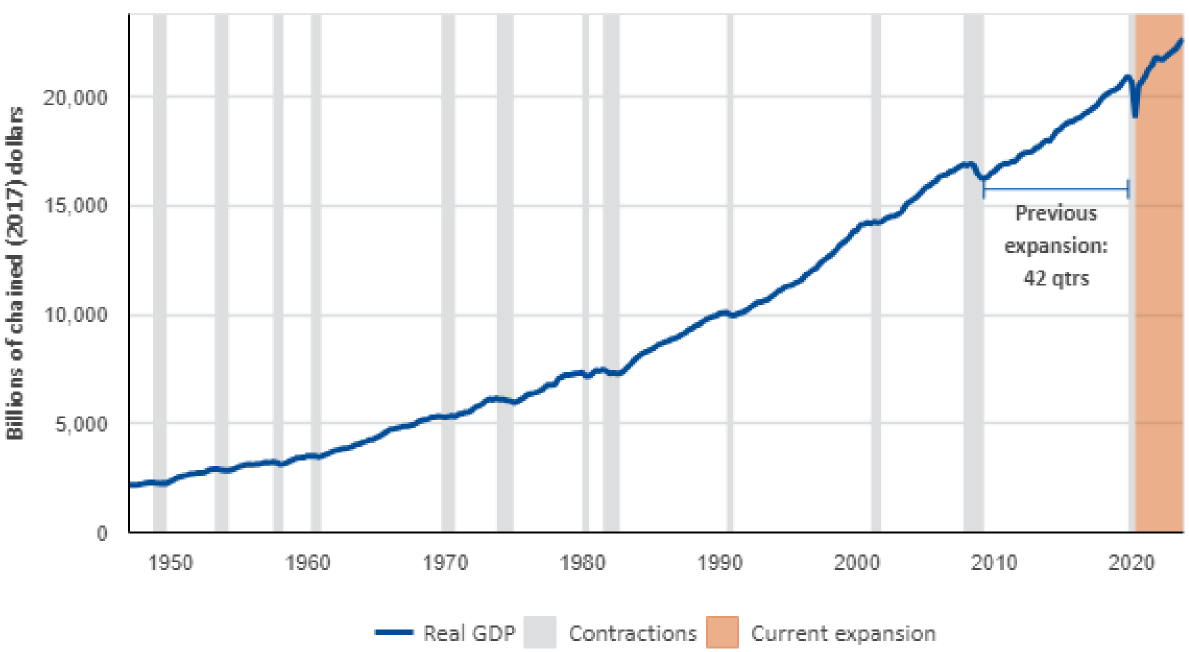
Data. Net saving and net investment as percentages of GDP, 1929–2023

Source. BEA NIPA table 1.1.5 and NIPA table 5.1

19. Trends in U.S. Business Cycles

Rates of Change and Duration

The current expansion began in April 2020. Since the trough in 2020Q2, the economy has increased 5.1 percent on average. Since 1947, the average expansion has lasted 21 quarters, with an average increase of 4.5 percent.



Contractions	Avg. Change	Expansions	Avg. Change
1948Q4–1949Q4	-1.5 %	1949Q4–1953Q2	7.6 %
1953Q2–1954Q2	-2.4 %	1954Q2–1957Q3	4.0 %
1957Q3–1958Q2	-3.9 %	1958Q2–1960Q2	5.5 %
1960Q2–1961Q1	-0.2 %	1961Q1–1969Q4	4.9 %
1969Q4–1970Q4	-0.2 %	1970Q4–1973Q4	5.1 %
1973Q4–1975Q1	-2.5 %	1975Q1–1980Q1	4.3 %
1980Q1–1980Q3	-4.3 %	1980Q3–1981Q3	4.3 %
1981Q3–1982Q4	-2.0 %	1982Q4–1990Q3	4.3 %
1990Q3–1991Q1	-2.7 %	1991Q1–2001Q1	3.6 %
2001Q1–2001Q4	0.7 %	2001Q4–2007Q4	2.9 %
2007Q4–2009Q2	-2.6 %	2009Q2–2019Q4	2.4 %
2019Q4–2020Q2	-17.5 %	2020Q2–2023Q4	5.1 %
Avg. length: 4.0 qtrs	-3.3 %	Avg. length: 21.0 qtrs	4.5 %

Data. Real GDP, 1947Q1–2023Q4

Source. BEA NIPA table 1.1.3 and NIPA table 1.1.6

Expansions and contractions are determined by the business cycle turning points identified by the National Bureau of Economic Research.