Congressional Budget Office
Nonpartisan Analysis for the U.S. Congress

The Long-Term Budget Outlook: 2025 to 2055

MARCH | 2025

Projections at a Glance

This report presents the Congressional Budget Office's projections of what the federal budget and the economy would look like over the next 30 years if current laws generally remained unchanged. Those long-term projections are based on the agency's January 2025 demographic projections (which reflect information, laws, and policies as of November 15, 2024), economic projections (which reflect laws, policies, and economic developments as of December 4, 2024), and 10-year budget projections (which include the effects of legislation enacted as of January 6, 2025). The projections do not reflect the effects of administrative actions taken or judicial decisions made after those respective dates, including actions and decisions affecting immigration, tariffs, and other policy areas.

The Federal Budget

Debt held by the public, boosted by large deficits, reaches its highest level ever in 2029 (measured as a percentage of gross domestic product, or GDP) and then continues to grow, reaching 156 percent of GDP in 2055. It remains on track to increase thereafter. Mounting debt would slow economic growth, push up interest payments to foreign holders of U.S. debt, and pose significant risks to the fiscal and economic outlook; it could also cause lawmakers to feel constrained in their policy choices.

The deficit remains large by historical standards over the next 30 years, reaching 7.3 percent of GDP in 2055. That amount results from rising interest costs and sustained primary deficits, which exclude net outlays for interest and average 0.3 percent of GDP more over the next 30 years than they did over the past 50 years.

Outlays, which are already high by historical standards, rise over the 2025–2055 period, reaching 26.6 percent of GDP in 2055. Rising interest costs; spending for the major health care programs, particularly Medicare; and spending for Social Security, especially over the next decade, drive that growth.

Revenues increase over the next few years, largely because certain provisions of the 2017 tax act are scheduled to expire. Thereafter, they generally rise, reaching 19.3 percent of GDP in 2055, as growth in real income—that is, income adjusted to remove the effects of changes in prices—boosts receipts from the individual income tax.

The U.S. Economy

Population growth, which has a significant effect on the economy, is slower over the next 30 years than it was over the past 30 years. Without immigration, the U.S. population would begin to shrink in 2033.

Economic growth is slower over the next three decades than it was over the past three decades. The slowdown in the growth of output results from slower growth in the size and productivity of the labor force; the latter stems partly from increased federal borrowing.

Inflation slows through 2027 to a rate that is consistent with the Federal Reserve's long-term goal of 2 percent and then remains at rates that are consistent with that goal from 2027 to 2055.

The interest rate on 10-year Treasury notes stays close over the next three decades to what it was, on average, over the past 30 years, reflecting upward pressure from increases in federal borrowing and downward pressure from slowdowns in the growth of the labor force.

Changes in CBO's Budget Projections Since March 2024

Federal debt held by the public in 2054 is now projected to be 12 percent of GDP less than it was projected to be in last year's report, and the deficit is now projected to be 1.3 percent of GDP less. Lower spending, particularly for net interest costs and Medicare, and higher revenues in the current projections contribute to the lower projected debt and smaller projected deficits.

Changes in CBO's Economic Projections Since March 2024

The economy is now expected to grow more slowly, on average, over the next 30 years than CBO projected last year. That decrease stems mainly from slower growth of private investment and consumer spending over the next decade and slower growth of the labor force over the last decade of the projection period. The interest rate on 10-year Treasury notes is also lower, on average, in the current projections.

By the Numbers

The Long-Term Budget Outlook, by Fiscal Year

Percentage of GDP

	Average, 1995–2024	Actual, 2024	2025	2035	2045	2055
Revenues	**17.2**	**17.1**	**17.1**	**18.3**	**18.9**	**19.3**
Individual income taxes	8.1	8.4	8.7	10.0	10.5	10.9
Payroll taxes	6.0	5.9	5.8	5.9	5.9	5.9
Corporate income taxes	1.7	1.8	1.7	1.2	1.2	1.2
Other	1.4	0.9	0.9	1.1	1.2	1.3
Outlays	**21.1**	**23.4**	**23.3**	**24.4**	**25.3**	**26.6**
Mandatory	12.3	14.1	14.0	15.1	15.6	16.1
Social Security	4.5	5.0	5.2	6.0	5.9	6.1
Major health care programs	4.4	5.6	5.8	6.7	7.6	8.1
Medicare	2.6	3.0	3.1	4.0	4.8	5.2
Medicaid, CHIP, and premium tax credits and related spending	1.8	2.6	2.7	2.7	2.8	2.9
Other mandatory	3.3	3.4	3.0	2.4	2.1	1.9
Discretionary	7.0	6.3	6.1	5.3	5.1	5.1
Net interest	1.8	3.1	3.2	4.1	4.6	5.4
Total deficit (-)	**-3.9**	**-6.4**	**-6.2**	**-6.1**	**-6.4**	**-7.3**
Primary deficit (-)	-2.1	-3.3	-3.0	-2.1	-1.8	-1.9
Debt held by the public at the end of each period	60	98	100	118	136	156

See Chapter 1 and Chapter 2. Outlays and deficits have been adjusted to exclude the effects of shifts in the timing of certain payments when October 1, the first day of the fiscal year, falls on a weekend.

The Long-Term Economic Outlook, by Calendar Year

Percent

	Average, 1995–2024	Actual, 2024	2025	2035	2045	2055
Growth of real (inflation-adjusted) GDP	2.5	2.8	2.1	1.8	1.5	1.4
Inflation						
Growth of the PCE price index	2.1	2.5	2.2	2.0	2.0	2.0
Growth of the consumer price index for all urban consumers	2.5	3.0	2.2	2.3	2.3	2.3
Labor force participation rate	64.7	62.6	62.7	61.4	61.4	61.2
Unemployment rate	5.6	4.0	4.3	4.3	4.2	4.0
Interest rates						
On 10-year Treasury notes	3.7	4.2	4.1	3.8	3.7	3.8
On all federal debt held by the public (by fiscal year)	3.8	3.4	3.4	3.6	3.6	3.6

See Chapter 3 and Appendix C.

Contents

Notes About This Report

The Congressional Budget Office's long-term budget projections, referred to as the extended baseline, follow the agency's 10-year baseline budget projections (which conform to a set of assumptions specified in law) and then extend most of the concepts underlying those projections for an additional 20 years.

The long-term budget projections in this report are based on the demographic, economic, and 10-year budget projections that CBO published in January 2025. The demographic projections reflect information, laws, and policies as of November 15, 2024, when those projections were completed. The economic projections reflect those demographic projections as well as laws, policies, economic developments, and preliminary budget projections as of December 4, 2024. The published 10-year budget projections, which build on those demographic and economic projections, include the effects of legislation enacted as of January 6, 2025. The projections do not reflect the effects of administrative actions taken or judicial decisions made after those respective dates, including actions and decisions affecting immigration, tariffs, and other policy areas.

In accordance with statutory requirements, CBO's projections reflect the assumptions that current laws generally remain unchanged, that some mandatory programs are extended after their authorizations lapse, and that spending on Medicare and Social Security continues as scheduled even if their trust funds are exhausted.

Unless this report indicates otherwise, all years referred to in describing budget projections are federal fiscal years, which run from October 1 to September 30 and are designated by the calendar year in which they end. Years referred to in describing economic projections are calendar years.

When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that ordinarily would have been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. In this report, budget projections have been adjusted to treat the payments as if they were not subject to the shifts.

Unless this report notes otherwise, Medicare outlays are presented net of premiums paid by beneficiaries and other offsetting receipts, which reduce outlays for the program.

Numbers in the text, tables, and figures may not add up to totals because of rounding.

Supplemental information files—the data underlying the tables and figures in this report, supplemental budget projections, and the economic variables underlying those projections—are posted on CBO's website at www.cbo.gov/publication/61187#data. Previous editions of this report are available at http://tinyurl.com/2t6r8nn2.

Executive Summary

Each year, the Congressional Budget Office publishes a report presenting its projections of what the federal budget and the economy would look like over the next 30 years if current laws generally remained unchanged. This report is the latest in that series. The long-term projections presented here are based on the demographic, economic, and 10-year budget projections that CBO published in January 2025. The demographic projections reflect information, laws, and policies as of November 15, 2024. The economic projections reflect laws, policies, and economic developments as of December 4, 2024. The budget projections include the effects of legislation enacted as of January 6, 2025. The projections do not reflect the effects of administrative actions taken or judicial decisions made after those respective dates, including actions and decisions affecting immigration, tariffs, and other policy areas.

The Long-Term Budget Outlook

Debt

In CBO's projections, federal debt held by the public, measured as a percentage of gross domestic product (GDP), increases in every year of the 2025–2055 period. By 2029, that debt climbs to 107 percent of GDP, exceeding the historical peak it reached immediately after World War II. In 2055, it reaches 156 percent of GDP and remains on track to increase thereafter. Such large and growing debt would slow economic growth, push up interest payments to foreign holders of U.S. debt, and pose significant risks to the fiscal and economic outlook; it could also cause lawmakers to feel constrained in their policy choices.

Deficits

The total federal budget deficit remains large by historical standards over the next 30 years, averaging 6.3 percent of GDP—more than one and a half times its average over the past 50 years—and reaching 7.3 percent of GDP in 2055. Those amounts are the result of rising interest costs and sustained primary deficits, which exclude net outlays for interest. Primary deficits average 2.0 percent of GDP over the 30-year period; over the past 50 years, they averaged 1.7 percent of GDP.

Outlays and Revenues

Federal outlays rise over the next 30 years, reaching 26.6 percent of GDP in 2055. They have exceeded that level only twice: during World War II and during the coronavirus pandemic. Growth in net interest costs; spending for federal health care programs, particularly Medicare; and spending for Social Security, especially over the next decade, drive that increase. Measured as a percentage of GDP, revenues increase over the next few years, largely because of the scheduled expiration of certain provisions of the 2017 tax act. Revenues generally continue to rise thereafter, reaching 19.3 percent of GDP in 2055, mainly because growth in real income (that is, income adjusted to remove the effects of changes in prices) boosts receipts from individual income taxes.

Changes in CBO's Budget Projections

Federal debt held by the public in 2054 is now projected to be 12 percent of GDP less than it was projected to be in last year's report, and the deficit is now projected to be 1.3 percent of GDP less. Lower spending, particularly for net interest costs and Medicare, and higher revenues in CBO's current projections result in smaller debt and deficits.

Projections for **2055**

Debt held by the public: **156%** of GDP

Budget deficit: **7.3%** of GDP

Outlays: **26.6%** of GDP

Revenues: **19.3%** of GDP

Outlook for **Debt and Deficits**

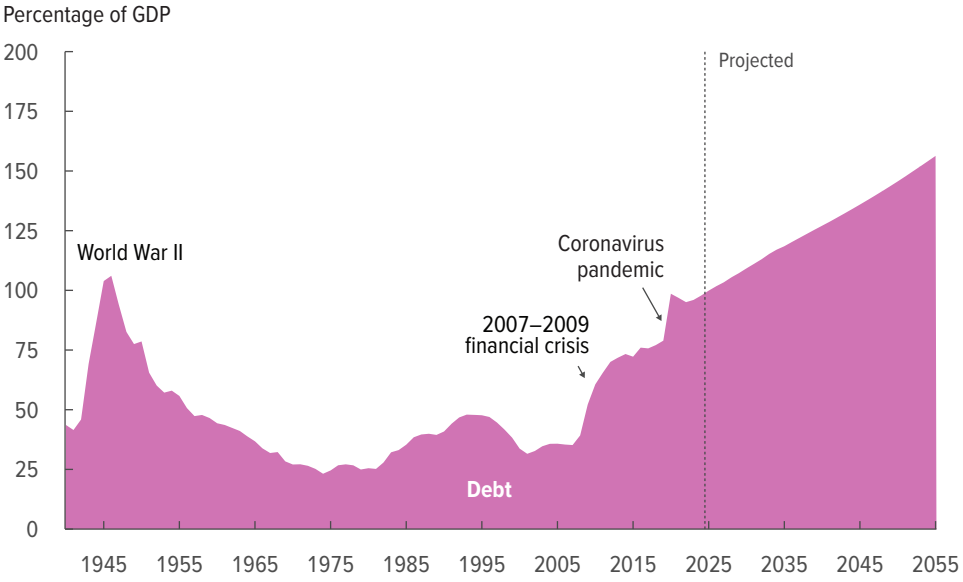
Debt held by the public reaches **107%** of GDP in 2029, exceeding the historical peak reached just after World War II, and its growth continues through 2055.

Deficits average **6.3%** of GDP over the 30-year period, which is **2.5** percentage points more than they averaged over the past 50 years.

The Budget Outlook in Five Figures

Federal Debt Held by the Public

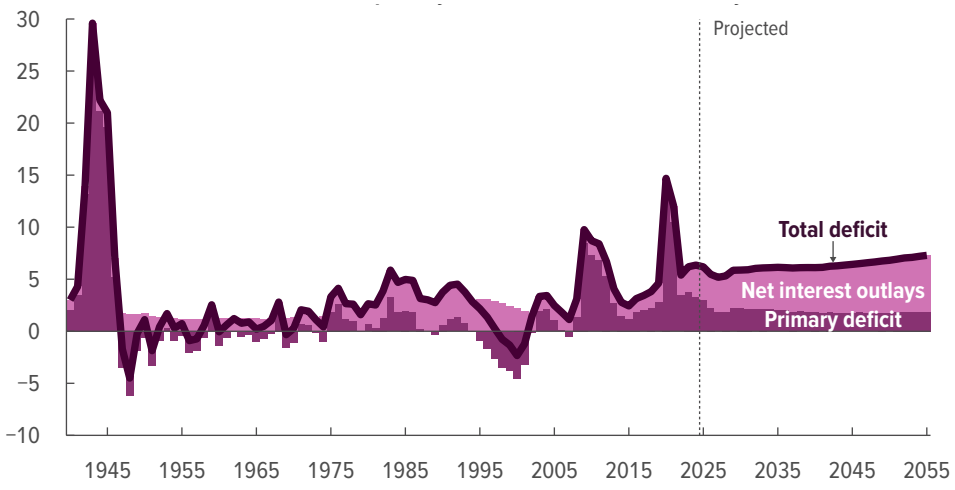
Debt increases in relation to GDP, exceeding any previously recorded level in 2029 and continuing to soar through 2055. It is on track to increase even more thereafter.



See Figure 1-1 on page 10.

Total Deficits, Primary Deficits, and Net Interest Outlays

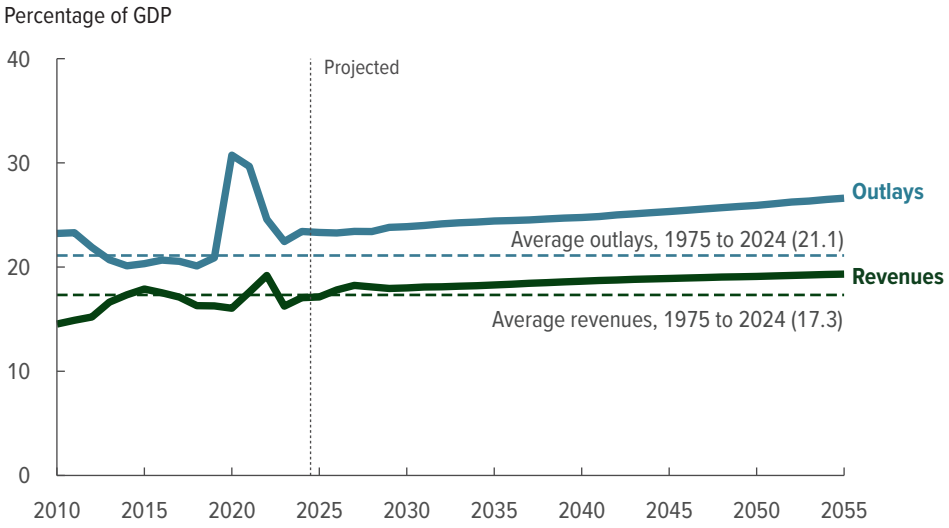
In CBO's projections, sustained primary deficits (which exclude net interest costs), combined with the growing federal debt held by the public and the rising average interest rate on that debt, cause net outlays for interest measured as a percentage of GDP to increase more than one and a half times by 2055. That year, the total deficit is 7.3 percent of GDP.



See Figure 1-1 on page 10.

Total Outlays and Revenues

From 2025 to 2055, federal spending continues to exceed revenues. Spending and revenues each represent a larger percentage of GDP over that period than they did, on average, over the past 50 years.



See Figure 2-1 on page 18.

Outlook for **Spending**

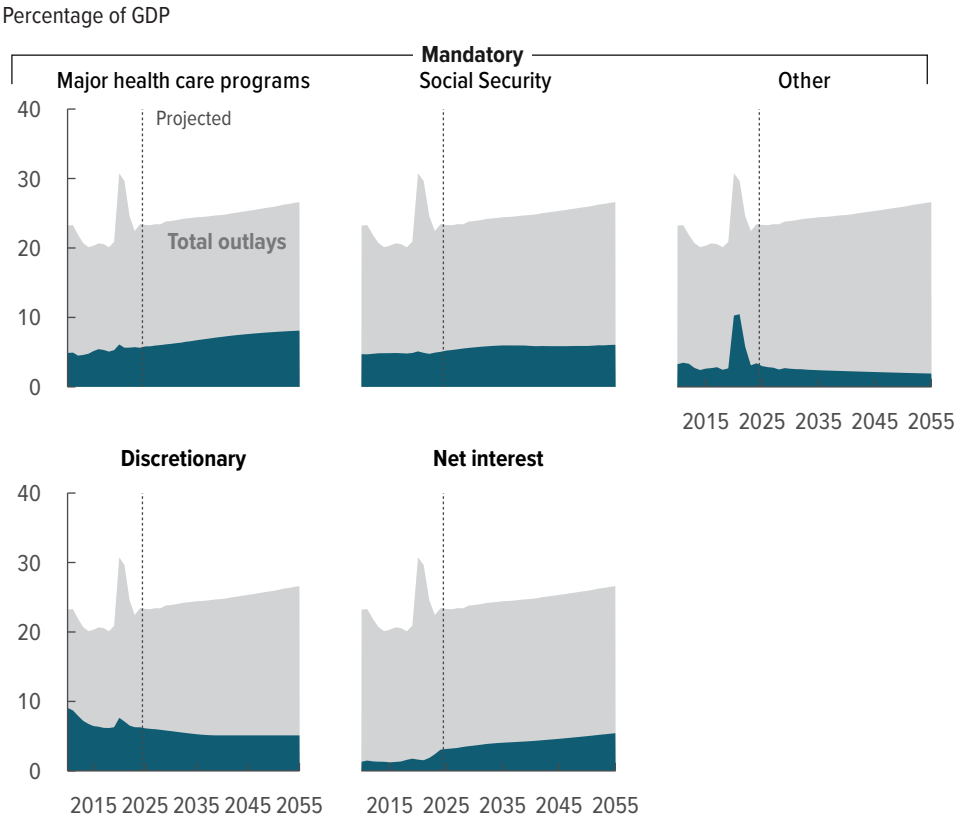
Net outlays for interest increase more than one and a half times, reaching **5.4%** of GDP in 2055.

Outlays for the major health care programs climb to **8.1%** of GDP in 2055.

Outlays, by Category

Total outlays grow by 3.3 percent of GDP from 2025 to 2055. Driven by increases in the average interest rate on federal debt and mounting debt, net outlays for interest measured in relation to the size of the economy increase more than one and a half times over the period, reaching 5.4 percent of GDP in 2055.

As the population ages and health care costs grow, outlays for the major health care programs measured in relation to the economy also rise over the next three decades, by 2.3 percentage points between 2025 and 2055. That year, outlays for Social Security, Medicare, and Medicaid for people age 65 or older account for more than 50 percent of all noninterest spending.

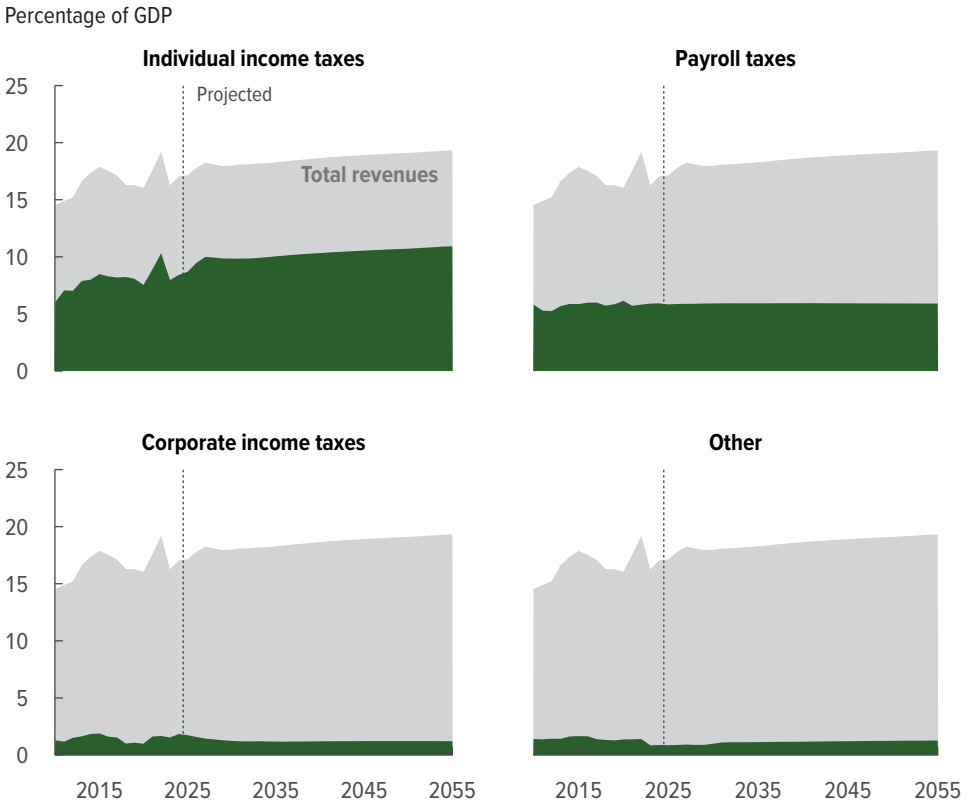


See Figure 2-2 on page 19.

Revenues, by Source

Total revenues grow by 2.2 percent of GDP from 2025 to 2055. Receipts from individual income taxes account for nearly all of that growth because increases in real income (income that is adjusted to remove the effects of changes in prices) mean that a larger share of income becomes subject to higher tax rates.

See Figure 2-6 on page 27.



The Long-Term Budget Outlook, by Fiscal Year

Percentage of GDP

	Average, 1995–2024	Actual, 2024	2025	2035	2045	2055
Revenues	**17.2**	**17.1**	**17.1**	**18.3**	**18.9**	**19.3**
Individual income taxes	8.1	8.4	8.7	10.0	10.5	10.9
Payroll taxes	6.0	5.9	5.8	5.9	5.9	5.9
Corporate income taxes	1.7	1.8	1.7	1.2	1.2	1.2
Other	1.4	0.9	0.9	1.1	1.2	1.3
Outlays	**21.1**	**23.4**	**23.3**	**24.4**	**25.3**	**26.6**
Mandatory	12.3	14.1	14.0	15.1	15.6	16.1
Social Security	4.5	5.0	5.2	6.0	5.9	6.1
Major health care programs	4.4	5.6	5.8	6.7	7.6	8.1
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Medicaid, CHIP, and premium tax credits and related spending	1.8	2.6	2.7	2.7	2.8	2.9
Other mandatory	3.3	3.4	3.0	2.4	2.1	1.9
Discretionary	7.0	6.3	6.1	5.3	5.1	5.1
Net interest	1.8	3.1	3.2	4.1	4.6	5.4
Total deficit (-)	**-3.9**	**-6.4**	**-6.2**	**-6.1**	**-6.4**	**-7.3**
Primary deficit (-)	-2.1	-3.3	-3.0	-2.1	-1.8	-1.9
Debt held by the public at the end of each period	60	98	100	118	136	156

See Chapter 1 and Chapter 2. When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. Outlays and deficits have been adjusted to remove the effects of those timing shifts.

The Long-Term Demographic and Economic Outlook

Demographic trends are key determinants of the long-term budget and economic outlook. In CBO's projections, the U.S. population grows more slowly over the next 30 years than it did over the past 30 years. Without immigration, the population would begin to shrink in 2033, in part because fertility rates remain below the rate that would be required for a generation to replace itself.

Economic Growth

In CBO's projections, real GDP grows at an average rate of 1.6 percent per year from 2025 to 2055, slightly slower than the growth of real potential GDP—the maximum sustainable output of the economy—over that period. Real potential GDP is projected to increase at an average rate of 1.7 percent per year over the next 30 years, slower than the 2.4 percent average growth seen over the past 30 years. That slowdown is attributable to slower growth over the 2025–2055 period in the potential labor force (an estimate of how big the labor force would be if economic output and other key variables were at their maximum sustainable amounts) and of potential labor force productivity (the ratio of real potential GDP to the potential labor force).

Potential Labor Force

The potential labor force grows by an average of 0.3 percent per year over the next 30 years—much more slowly than the average annual growth of 0.8 percent seen over the past 30 years. Most of that slowdown stems from slower population growth and increases in the average age of the population.

Potential Labor Force Productivity

The growth of potential labor force productivity slows over the next 30 years because of two key factors: the slower accumulation of capital (mainly attributable to increased federal borrowing) and slower growth of total factor productivity (the average real output per unit of combined labor and capital services) in the nonfarm business sector.

Inflation and Interest Rates

Inflation slows through 2027 to a rate that is consistent with the Federal Reserve's long-term goal of 2 percent. Over that period, interest rates on 10-year Treasury notes stay close to their average over the past 30 years. Interest rates are projected to face upward pressure from increases in federal borrowing and downward pressure from slowdowns in the growth of the labor force.

Changes in CBO's Economic Projections

Compared with last year's long-term economic projections, CBO's current projections include slower average annual growth of real GDP, slower growth of real potential GDP over the latter part of the projection period, a smaller labor force at the end of the period, little change in the outlook for inflation, and generally lower interest rates. The slower growth of real GDP in this year's projections stems mainly from slower growth of private investment and consumer spending over the next decade and slower growth of real potential GDP over the last decade of the projection period. The slower growth of real potential GDP reflects a reduction in CBO's projections of population growth. Changes to population projections also reduce the projected growth of the labor force over the last 10 years of the projection period. The interest rate on 10-year Treasury notes is lower than CBO projected last year because of changes to CBO's method for forecasting interest rates on Treasury securities; those changes account for projections of inflation that are lower in the future than historical averages.

Outlook for **Economic Growth**

The growth of real GDP averaged **2.5%** per year over the past 30 years. Over the next 30 years, real GDP growth averages **1.6%** per year.

Outlook for the **Population**

Without immigration, the U.S. population would start to shrink in 2033.

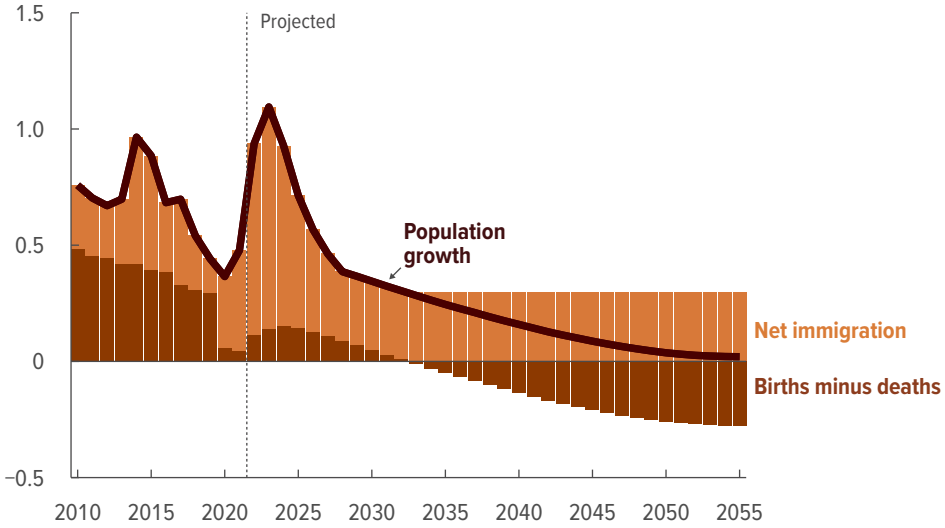
Slower growth of the population leads to slower growth in the labor force.

The Demographic and Economic Outlook in Four Figures

Population Growth and Contributing Factors

In CBO's projections, deaths exceed births beginning in 2033. Thereafter, without immigration, the U.S. population would shrink.

Percent

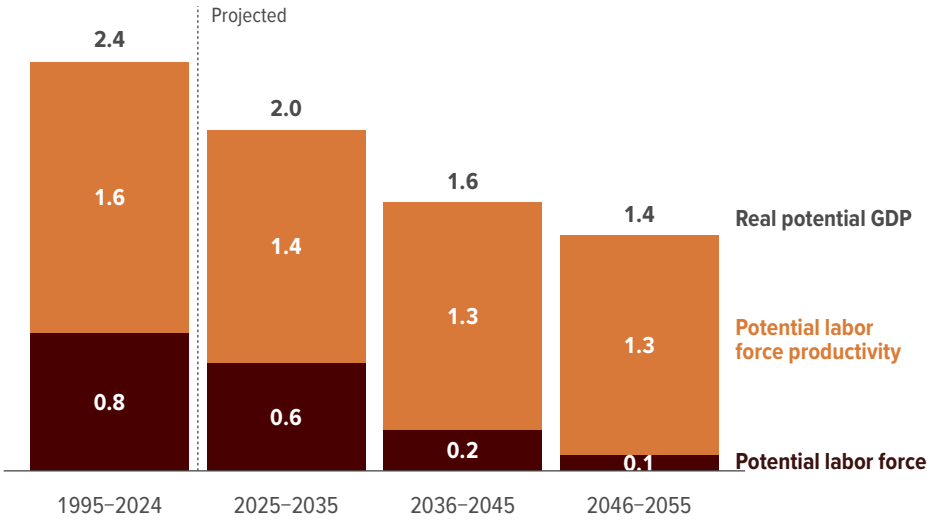


See Figure 3-1 on page 30.

Average Annual Growth of Real Potential GDP and Its Components

Real potential GDP grows more slowly from 2025 to 2055 than it has, on average, over the past 30 years. That decline is explained by slower projected growth in the size and productivity of the potential labor force.

Percent



See Figure 3-3 on page 33.

Average Interest Rates on Federal Debt and on 10-Year Treasury Notes

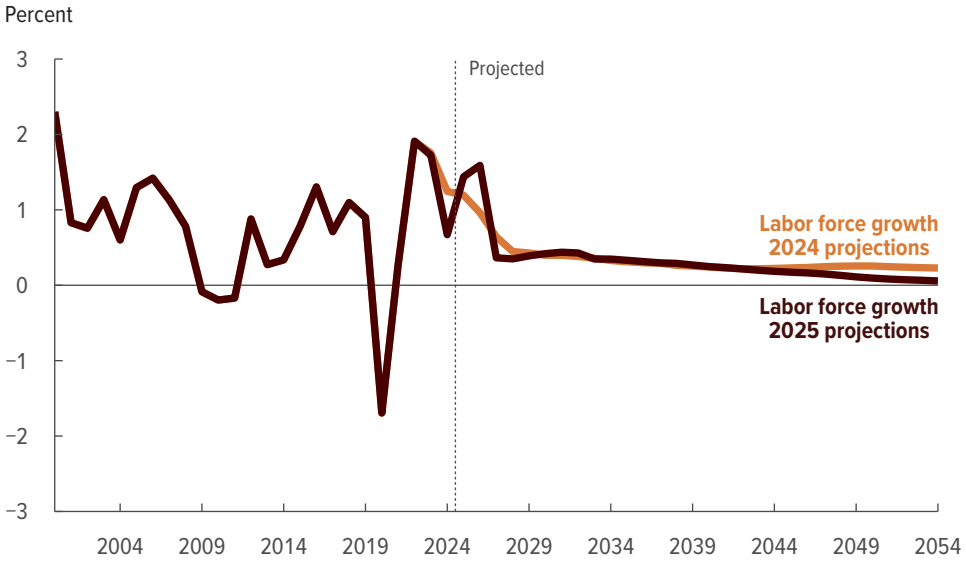
In CBO's projections, the interest rate on 10-year Treasury notes and the average rate on federal debt held by the public through 2025 are similar to what they were, on average, over the past 30 years. Interest rate projections reflect upward pressure from growing federal debt and downward pressure from slower growth of the labor force.

See Figure 3-4 on page 36.

CBO's 2024 and 2025 Projections of Labor Force Growth

In CBO's current projections, the labor force grows at roughly the same rate through 2044 as CBO projected last year. After that, the labor force grows more slowly in this year's projections than in last year's because of slower projected growth of the population.

See Figure B-2 on page 46.



The Long-Term Economic Outlook, by Calendar Year

Percent	Average, 1995–2024	Actual, 2024	2025	2035	2045	2055
Growth of real (inflation-adjusted) GDP	2.5	2.8	2.1	1.8	1.5	1.4
Inflation						
Growth of the PCE price index	2.1	2.5	2.2	2.0	2.0	2.0
Growth of the consumer price index for all urban consumers	2.5	3.0	2.2	2.3	2.3	2.3
Labor force participation rate	64.7	62.6	62.7	61.4	61.4	61.2
Unemployment rate	5.6	4.0	4.3	4.3	4.2	4.0
Interest rates						
On 10-year Treasury notes	3.7	4.2	4.1	3.8	3.7	3.8
On all federal debt held by the public (by fiscal year)	3.8	3.4	3.4	3.6	3.6	3.6

See Chapter 3 and Appendix C.

Chapter 1: Debt and Deficits

Overview

Over the next 30 years, if current laws generally remained unchanged, federal debt held by the public would grow far beyond any previously recorded level, the Congressional Budget Office projects. That increase in the debt would be driven by persistently large total deficits—the result of high and rising interest costs and sustained primary deficits (that is, deficits excluding net outlays for interest; see Figure 1-1).

In CBO's projections, federal debt, measured in relation to the size of the economy, surpasses its historical peak in 2029. That large and growing debt has significant economic and financial consequences. Over time, it slows economic growth, drives up interest payments to foreign holders of U.S. debt, makes the nation's fiscal position more vulnerable to an increase in interest rates, heightens the risk of a fiscal crisis, and increases the likelihood of other adverse outcomes.

The long-term budget projections in this report are based on the demographic, economic, and 10-year budget projections that CBO published in January 2025. The demographic projections reflect information, laws, and policies that were in place as of November 15, 2024. The economic projections reflect laws, policies, and economic developments as of December 4, 2024. The budget projections incorporate the effects of legislation enacted as of January 6, 2025.[1] The projections do not reflect the effects of administrative actions taken or judicial decisions made after those respective dates, including actions and decisions affecting immigration, tariffs, and other policy areas. CBO is working to analyze the effects of policy changes that have occurred since the projections in this report were finalized. (Several of those would lower CBO's projections of net immigration.)

Even if federal laws and policies remained unchanged, CBO's budget projections would be subject to considerable uncertainty. If developments in the economy, demographics, or other factors that affect revenues and outlays diverged from the agency's projections, budgetary outcomes would diverge as well. That uncertainty grows over time because changes in factors that affect the budget become increasingly difficult to anticipate over longer time horizons.

Debt and Deficits Through 2055

In CBO's projections, federal debt held by the public rises in every year of the 2025–2055 period, reaches 156 percent of gross domestic product (GDP) in 2055, and remains on course to grow larger thereafter (see Table 1-1).[2] In 2029, it climbs to 107 percent of GDP, exceeding the historical peak of 106 percent reached in 1946, immediately after World War II.

An alternative measure, gross federal debt, amounts to 123 percent of GDP in 2025 and grows to 169 percent of GDP by 2055. Gross federal debt consists of debt held by the public and debt held by government accounts. It can be challenging to use as an indicator of the government's overall financial position because about one-fifth of gross federal debt is held in federal trust funds, mostly for Social Security, federal and military retirement programs, and Medicare. When outlays exceed revenues for such a program, gross debt is unchanged even though the government's overall financial position has worsened.[3]

1. For more details, see Congressional Budget Office, *The Demographic Outlook: 2025 to 2055* (January 2025), www.cbo.gov/publication/60875, *Additional Information About the Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/61135, and *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870.

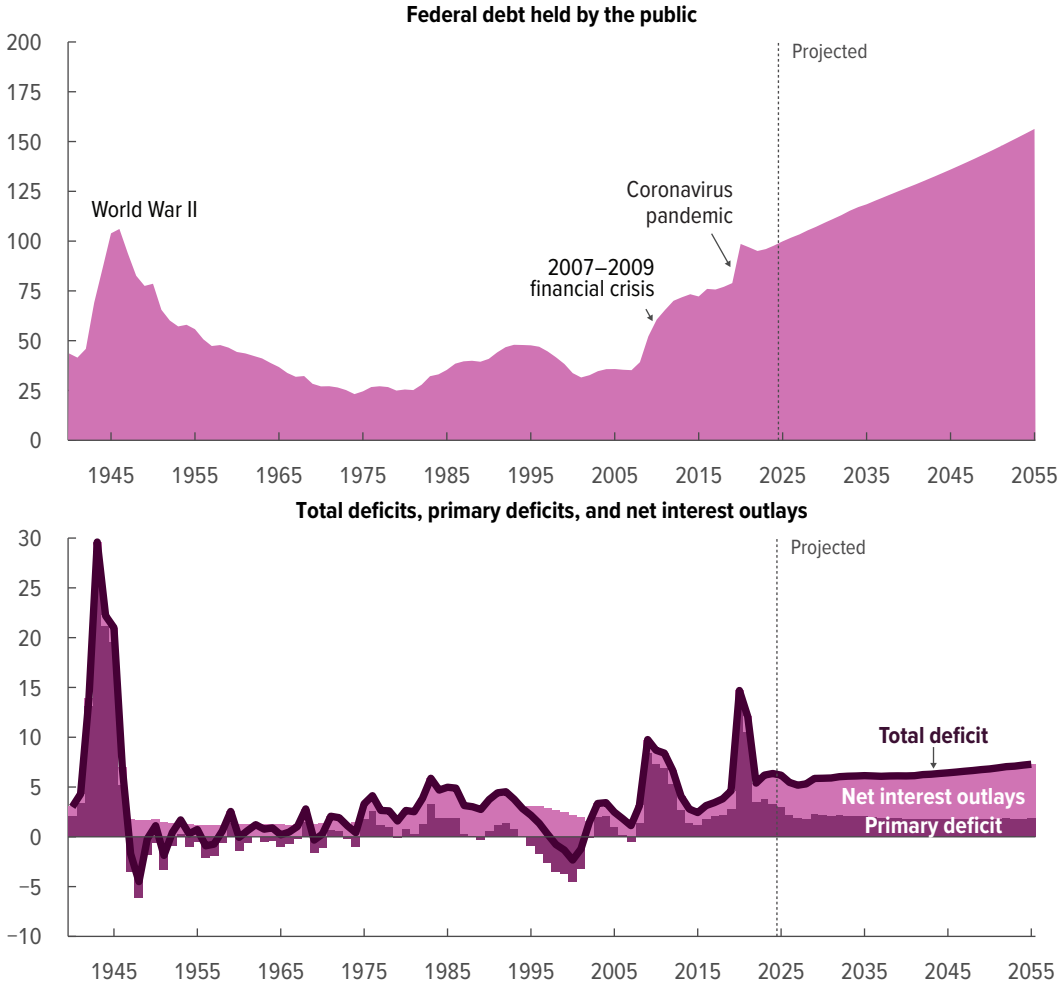
2. Debt held by the public is a measure that indicates the extent to which federal borrowing affects the availability of private funds for other borrowers. All else being equal, an increase in government borrowing reduces the amount of money available to other borrowers, putting upward pressure on interest rates and reducing private investment. That measure of debt is the one CBO uses most often in its reports on the budget.

3. When outlays for a program such as Social Security exceed its revenues, the Treasury issues debt to the public to cover the shortfall and finance payments to beneficiaries. After that issuance of securities to the public, the Treasury redeems a corresponding amount of securities from the trust funds, which reduces the debt held by government accounts.

Figure 1-1.

Debt and Deficits

Percentage of GDP



In CBO's projections, federal debt held by the public, which is already large by historical standards, grows further over the next 30 years. By 2055, that debt rises to 156 percent of GDP and is on track to continue increasing.

The total deficit increases over the next 30 years, reaching 7.3 percent of GDP in 2055. Net interest outlays reach 5.4 percent of GDP in 2055, boosted by the rising average interest rate on federal debt and by sustained primary deficits. Throughout that period, when measured as a share of GDP, those outlays are larger than their average over the past 50 years.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

Primary deficits exclude net outlays for interest. In this figure, deficits were calculated by subtracting revenues from outlays; thus, positive values indicate deficits, and negative values indicate surpluses, which occur when revenues exceed outlays.

GDP = gross domestic product.

The increase in debt held by the public in CBO's projections results from persistently large deficits. From 2025 to 2055, deficits average 6.3 percent of GDP—more than one and a half times their average over the past half century. By 2055, they reach 7.3 percent of GDP. That growth in total deficits occurs for two reasons: higher interest costs and sustained primary deficits.

Net interest costs increase in relation to GDP between 2025 and 2055. Those costs reach 5.4 percent of GDP in 2055 and are larger in every year than their average of 2.1 percent of GDP over the past 50 years. Higher average interest rates on federal debt held by the public account for about a quarter of the projected rise in net interest costs over the 2025–2055 period; primary deficits account for the rest.

The primary deficit averages 2.0 percent of GDP over the 30-year period and settles at 1.9 percent of GDP in

2055.[4] Over the past 50 years, by comparison, primary deficits averaged 1.7 percent of GDP. The persistent primary deficits in CBO's projections reflect a trend that began in 2008. Primary surpluses (in which revenues exceed noninterest spending) occurred in about one-third of the years between 1975 and 2007. None have occurred since.

Consequences of Large and Growing Federal Debt

If federal debt held by the public kept growing faster than GDP, as CBO projects it would under current law, it would have far-reaching implications for the nation's fiscal and economic outlook.[5] That large and growing debt would have many consequences, including the following:

- Borrowing costs throughout the economy would rise, reducing private investment and slowing the growth of economic output.
- Rising interest costs associated with federal debt would drive up interest payments to foreign holders of that debt and thus decrease national income.
- The United States' fiscal position would be more vulnerable to an increase in interest rates, because the larger debt is, the more an increase in interest rates raises debt-service costs.
- The risk of a fiscal crisis—that is, a situation in which investors lose confidence in the value of the U.S. government's debt—would increase. Such a crisis would cause interest rates to rise abruptly and other disruptions to occur.
- The likelihood of other adverse outcomes would also increase. For example, expectations of higher inflation could erode confidence in the U.S. dollar as the dominant international reserve currency.
- Lawmakers might feel constrained from using federal tax and spending policies to respond to unforeseen events or for other purposes, such as to promote economic activity or strengthen national defense.

When policymakers consider legislation that would increase the debt, they face a trade-off between those effects of greater debt and the other effects for people, businesses, and the economy as a whole of policies that would increase federal spending or reduce taxes.[6] For example, federal investment—including investment financed by deficits—raises productivity in the private sector and boosts output. That increased output would generally lead to increased revenues; however, those additional revenues would probably not fully offset the budgetary costs of the increased investment and any borrowing needed to finance it.[7] As another example, reductions in individual income tax rates would strengthen people's incentive to work, which would drive up the supply of labor and, thus, increase output. Again, that increased output would generally lead to increased revenues; however, those additional revenues would probably not fully offset the budgetary costs of the reductions in tax rates.[8] The effects of policy changes would depend on the specifics of the policies. Policymakers also might consider multiple policies together, taking their overall impact into account.

Slower Economic Growth

Large and growing federal debt would slow economic growth over time. That slower growth would result from a decrease in private investment, though some factors would bolster investment, partially offsetting that decline.

The increased federal borrowing associated with larger amounts of debt reduces the resources available for private investment. It also tends to drive up interest rates, which raises borrowing costs in both the public and private sectors. As a result, investment in capital used to produce goods and services decreases. That reduction in private investment would slow economic growth. Specifically, as investment in capital declined, workers would, on average, have fewer resources to do their jobs. Consequently, they would be less productive, their compensation would be lower, and they would therefore be less inclined to work. Those effects would increase over time as federal borrowing grew.

4. Primary deficits reflect the difference between noninterest spending and revenues—the main mechanisms through which lawmakers can directly influence the trajectory of federal debt and interest costs.

5. For more details about federal debt and the consequences of its growth, see Congressional Budget Office, *Federal Debt: A Primer* (March 2020), www.cbo.gov/publication/56165.

6. Larger debt can also have benefits. For instance, higher interest rates on Treasury securities can help people save for retirement by increasing the returns they earn on those assets.

7. See Congressional Budget Office, *Effects of Physical Infrastructure Spending on the Economy and the Budget Under Two Illustrative Scenarios* (August 2021), www.cbo.gov/publication/57327.

8. For a discussion of the effects of changes in individual income tax rates on revenues, see Congressional Budget Office, "Additional Information About the Effects of Expiring Provisions of the 2017 Tax Act in CBO's Baseline Projections," *CBO Blog* (December 4, 2024), www.cbo.gov/publication/60987.

Table 1-1.

Key Projections for Selected Years

Percentage of GDP

	2025	2035	2045	2055
Revenues				
Individual income taxes	8.7	10.0	10.5	10.9
Payroll taxes	5.8	5.9	5.9	5.9
Corporate income taxes	1.7	1.2	1.2	1.2
Other[a]	0.9	1.1	1.2	1.3
Total	**17.1**	**18.3**	**18.9**	**19.3**
Outlays				
Mandatory				
Social Security	5.2	6.0	5.9	6.1
Major health care programs[b]	5.8	6.7	7.6	8.1
Other	3.0	2.4	2.1	1.9
Subtotal	14.0	15.1	15.6	16.1
Discretionary	6.1	5.3	5.1	5.1
Net interest	3.2	4.1	4.6	5.4
Total	**23.3**	**24.4**	**25.3**	**26.6**
Total deficit (-)[c]	**-6.2**	**-6.1**	**-6.4**	**-7.3**
Primary deficit (-)[c,d]	**-3.0**	**-2.1**	**-1.8**	**-1.9**
Debt held by the public at the end of the period	**100**	**118**	**136**	**156**

Continued

The projected reduction in private investment stemming from larger amounts of debt is partially offset by several factors. First, additional government borrowing strengthens people's incentive to save, partly by driving up interest rates, and increased saving generally leads to increased investment.[9] Second, higher interest rates tend to attract more foreign capital to the United States, and some of those funds become available for private investment. And third, policies that increase federal borrowing while strengthening people's incentives to work and save, encouraging businesses to invest, or supporting effective federal investment would boost private-sector productivity and, therefore, private investment.[10]

Increased Interest Payments to Foreign Holders of U.S. Debt

If federal debt held by the public continued to grow, the government would spend more on interest payments—including payments to foreign investors, who currently hold roughly one-third of that debt overall. Increases in interest payments to foreign investors would, in turn, reduce the nation's net international income, which is the difference between income received from and paid to foreign residents, firms, and governments. When net international income declines, national income also declines, all else being equal.[11]

Greater Vulnerability to an Increase in Interest Rates

Larger amounts of debt make the United States' fiscal position more vulnerable to an increase in interest rates. The

9. Some people might also increase their saving if they expect lawmakers to raise taxes or cut spending on benefits to cover the cost of the additional debt. See Jonathan Huntley, *The Long-Run Effects of Federal Budget Deficits on National Saving and Private Domestic Investment*, Working Paper 2014-02 (Congressional Budget Office, February 2014), www.cbo.gov/publication/45140.

10. See Congressional Budget Office, *Effects of Physical Infrastructure Spending on the Economy and the Budget Under Two Illustrative Scenarios* (August 2021), www.cbo.gov/publication/57327, and *The Macroeconomic and Budgetary Effects of Federal Investment* (June 2016), www.cbo.gov/publication/51628.

11. When foreign holdings of U.S. debt increase, so do interest payments to foreign investors, which decreases national income—but the increase in demand for Treasury securities causes interest rates to fall, which increases national income. The net effect of those forces on national income depends on a number of factors, including the sensitivity of interest rates to increases in foreign demand for federal debt and the economic effects of changes in spending or revenues that the debt was issued to finance.

Table 1-1. Continued

Key Projections for Selected Years

Percentage of GDP

	2025	2035	2045	2055
Addendum:				
Social Security				
Revenues[e]	4.5	4.7	4.7	4.6
Outlays[f]	5.2	6.0	5.9	6.1
Contribution to the deficit (-)[c,g]	**-0.7**	**-1.3**	**-1.2**	**-1.4**
Medicare				
Revenues[e]	1.5	1.6	1.7	1.7
Outlays[f]	3.8	4.9	6.0	6.6
Offsetting receipts	-0.7	-0.9	-1.2	-1.4
Contribution to the deficit (-)[c,g]	**-1.7**	**-2.4**	**-3.1**	**-3.5**
GDP at the end of the period (trillions of dollars)	30.1	43.9	62.9	88.4

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

This table provides information specified in section 3111 of S. Con. Res. 11, the Concurrent Resolution on the Budget for Fiscal Year 2016.

CBO's long-term budget projections, referred to as the extended baseline, follow the agency's 10-year baseline budget projections (which conform to a set of assumptions specified in law) and then extend most of the concepts underlying those projections for an additional 20 years.

When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that ordinarily would have been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. All projections have been adjusted to exclude the effects of those timing shifts.

GDP = gross domestic product.

a. Consists of excise taxes, remittances to the Treasury from the Federal Reserve System, customs duties, estate and gift taxes, and miscellaneous fees and fines.

b. Consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, and the Children's Health Insurance Program, as well as premium tax credits for health insurance purchased through the marketplaces established under the Affordable Care Act and related spending. The premium tax credits subsidize the purchase of health insurance. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

c. When outlays exceed revenues, the result is a deficit. Values in this row were calculated by subtracting outlays from revenues; thus, negative values indicate deficits.

d. Primary deficits exclude net outlays for interest.

e. Includes payroll taxes other than the employer's share of payroll taxes that federal agencies pay; those payments are intragovernmental transactions. Also includes income taxes paid on Social Security benefits, which are credited to the Social Security and Medicare trust funds.

f. For Social Security, outlays do not include those related to the administration of the program, which are discretionary. For Medicare, outlays include those related to the administration of the program. Outlays for those two programs do not include intragovernmental offsetting receipts stemming from the employer's share of payroll taxes that federal agencies pay.

g. The net increase in the deficit shown here differs from the change in the trust fund balance for the program. It does not include intragovernmental transactions, interest earned on balances, or outlays related to the administration of the program.

amounts of debt in CBO's projections increase the risk that if interest rates were higher than projected, interest costs would be substantially greater. Conversely, lower interest rates would result in lower-than-projected interest costs.

Greater Risk of a Fiscal Crisis

The likelihood of a fiscal crisis would increase if federal debt continued to grow faster than GDP, because mounting debt could erode investors' confidence in the U.S. government's fiscal position. Such an erosion of confidence would lower the value of Treasury securities and further drive up interest rates on federal debt as investors demanded higher yields to purchase those securities. Concerns about the government's fiscal position could lead to a sudden increase in people's expectations for inflation or a drop in the value of the dollar, either of which would make a fiscal crisis more likely.

A fiscal crisis could lead to a financial crisis. In a fiscal crisis, increases in Treasury rates would reduce the market value of outstanding government securities. The resulting losses incurred by institutions and businesses—including insurance companies, banks, mutual funds, and pension funds—could be large enough to cause

some financial institutions to fail. Because the United States plays a central role in the international financial system, such a crisis could spread globally as liquidity declined and financial institutions reduced their lending, leading to an economic contraction.

Risk Factors. The risk of a fiscal crisis depends on more than the amount of federal debt. Ultimately, it is the government's cost of servicing the debt and its ability to refinance that debt that matter. Among the factors affecting debt-service costs and the ability to refinance are investors' expectations about the budget, the economy, and domestic and international financial conditions, including interest rates and exchange rates.

CBO cannot reliably quantify the probability of a fiscal crisis. In the agency's assessment, no tipping point can be identified at which the debt-to-GDP ratio would become so high that it would make a crisis likely or imminent, nor is there a specific tipping point beyond which interest costs would become so high in relation to GDP that they were unsustainable.

Risk of a Crisis in the Near Term. Although the risk of a fiscal crisis cannot be reliably quantified, it appears to be low in the near term despite the large amount of federal debt. The near-term risk is mitigated by certain characteristics of the U.S. financial system that tend to sustain demand for Treasury securities. For example, the Federal Reserve conducts independent monetary policy, government debt is issued in U.S. dollars, the dollar holds a central place in the global financial system, and few investments can provide returns comparable to those of Treasury securities at similarly low levels of credit risk.

Concern about a fiscal crisis in the near term is not currently apparent in financial markets. However, the risk of a fiscal crisis could change suddenly in the wake of unexpected events. For example, a rise in interest rates that persisted for an extended period could cause investors to become concerned about the government's fiscal position over the long term.

Increased Likelihood of Other Adverse Effects

Even in the absence of a fiscal crisis, large and growing debt could have adverse effects on the economy in addition to those already incorporated in CBO's projections. Those effects could include a gradual decline in the value of Treasury securities and other domestic assets, heightened expectations of inflation, and a loss of confidence in the U.S. dollar as the dominant international reserve currency. Such developments would make it more difficult to finance public and private activity.

Increased Perception of Fiscal Constraints Among Lawmakers

The size of the debt might make lawmakers feel constrained from using deficit-financed fiscal policy to respond to unforeseen events, promote economic activity, or further other goals. Large amounts of debt could also undermine the international geopolitical role of the United States if lawmakers were reluctant to increase spending to prepare for or respond to an international crisis. In addition, as debt and the resulting interest costs continued to grow, greater adjustments to the noninterest components of the budget would be required to reduce deficits.

Uncertainty of CBO's Long-Term Projections

CBO's budget projections are intended to show what would happen to federal spending, revenues, deficits, and debt if current laws governing taxes and spending generally remained the same. Actual outcomes will depend on future legislative, administrative, and judicial actions, which could increase or decrease budget deficits.

Even if federal laws remained unchanged over the next three decades, budgetary outcomes would differ from those in CBO's projections because of unanticipated changes in economic conditions, demographics, or other factors. Those other factors include the extent to which people receive benefits and tax preferences and the costs of goods and services linked to government subsidies, including food and health care.

Uncertainty About the Economic Outlook

CBO's economic projections are subject to a high degree of uncertainty. For instance, severe and protracted economic downturns are rare, but if such a downturn occurred, budgetary outcomes could significantly diverge from those in CBO's projections. Economic downturns can reduce revenues and raise outlays for unemployment insurance, nutrition assistance, and other programs that provide support to people and businesses. In addition, downturns have historically prompted lawmakers to enact legislation that further reduces revenues and increases federal spending in an effort to increase people's income, bolster the financial position of state and local governments, and stimulate economic activity and employment.

Conversely, economic growth could be stronger than CBO projects. An increase in productivity—because of technological changes, for example—or the discovery and development of natural resources could cause such a development. In that case, revenues would be higher than CBO projects, and outlays, including those for income support programs, would be lower.

The effect of artificial intelligence (AI) on the economic outlook is another source of uncertainty. Because AI has the potential to change how businesses and the federal government produce and provide goods and services, it could affect economic growth, employment and wages, and the distribution of income in ways that are difficult to predict. The direction of those effects (that is, whether they would increase or decrease federal revenues or spending), their size, and their timing are all uncertain.[12]

The impact of climate change is also uncertain. CBO expects climate change to reduce economic growth over the coming decades, and the effects of climate change are expected to increase over time. However, because climate change is an evolving phenomenon, the nature and extent of those effects are uncertain.[13] (For a discussion of the effects of climate change on CBO's projections of economic growth, see Appendix C.)

Another source of uncertainty is how the average interest rate on federal debt held by the public will evolve. A change in the international importance of the U.S. dollar could affect the overall demand for Treasury securities and, thus, the path of interest rates. And a shift in the average maturity of newly issued Treasury securities would affect the supply of long-term Treasury securities relative to short-term Treasury securities, which would also affect the path of long-term interest rates. Uncertainty about the path of interest rates contributes to uncertainty about the effects that larger deficits and debt would have on the economy.

Uncertainty About the Demographic Outlook

CBO's long-term demographic projections are subject to significant uncertainty because, compounded over many years, even small changes in rates of net immigration, fertility, or mortality could greatly affect outcomes later in the projection period.

Projections of net immigration are especially uncertain because national and international laws, policies, and economic and political events can have significant effects on migration, and information about migration—particularly information about people who leave the United States—can be scarce.

If fertility rates differed from the agency's projections, some effects on the budget and the economy would occur more quickly than others. For example, a change in fertility rates would affect spending for pregnant women and infants in the Medicaid program in the near term, but those children would not enter the labor force for some time.

In addition, differences in mortality rates would cause outlays for the major health care programs and Social Security to diverge from CBO's projections. If mortality rates were lower than CBO projects, outlays for Medicare and Social Security would grow as people lived longer. If mortality rates were higher than CBO projects, such outlays would be smaller.

12. See Congressional Budget Office, *Artificial Intelligence and Its Potential Effects on the Economy and the Federal Budget* (December 2024), www.cbo.gov/publication/60774.

13. See Chad Shirley and William Swanson, *The Effects of Climate Change on GDP in the 21st Century*, Working Paper 2025-02 (Congressional Budget Office, February 2025), www.cbo.gov/publication/61186; and Congressional Budget Office, *The Risks of Climate Change to the United States in the 21st Century* (December 2024), www.cbo.gov/publication/60845.

Chapter 2: Spending and Revenues

Overview

In the Congressional Budget Office's projections, which reflect the assumption that current laws governing taxes and spending generally remain unchanged, total federal outlays equal 23.3 percent of gross domestic product (GDP) in 2025, remain near that level through 2028, and increase as a share of the economy each year thereafter, reaching 26.6 percent in 2055.[1] Over the 2025–2055 period, outlays average about 25 percent of GDP—roughly 4 percentage points more than their average from 1975 to 2024 (see Figure 2-1). That increase in outlays over the next 30 years is driven mainly by three factors:

- Higher net interest costs, which result from growing federal debt and a rising average interest rate on that debt;
- Growth in spending on the government's major health care programs—particularly Medicare—caused by the rising cost of health care and the aging of the population (that is, an increase in the average age of the population); and
- Increased spending on Social Security, especially in the first decade of the projection period, which is also due to the aging of the population.

Measured as a percentage of GDP, federal revenues are projected to rise from 17.1 percent in 2025 to 18.2 percent in 2027 largely because of the scheduled expiration of certain provisions of the 2017 tax act (Public Law 115-97). Revenues remain near that level through 2030 in CBO's projections and rise steadily thereafter, reaching 19.3 percent of GDP in 2055. That steady increase occurs mainly because income grows faster than prices, resulting in larger individual income tax receipts. Over the next 30 years, revenues are projected to average about 19 percent of GDP, about 1 percentage point more than they averaged over the past 50 years.

CBO's long-term budget projections, often referred to as the extended baseline, follow the agency's 10-year baseline budget projections (which reflect a set of assumptions specified in law) and then extend most of the concepts underlying those projections for an additional 20 years. (For a description of the specifications underlying the projections, see Appendix A.)

Spending

Federal spending in the United States has exceeded the 26.6 percent of GDP that it is projected to reach in 2055 in only two periods—a three-year span during World War II and two years during the coronavirus pandemic. From 1943 to 1945, when defense expenditures increased sharply, total federal spending topped 40 percent of GDP. In 2020 and 2021, outlays rose to roughly 30 percent of GDP.

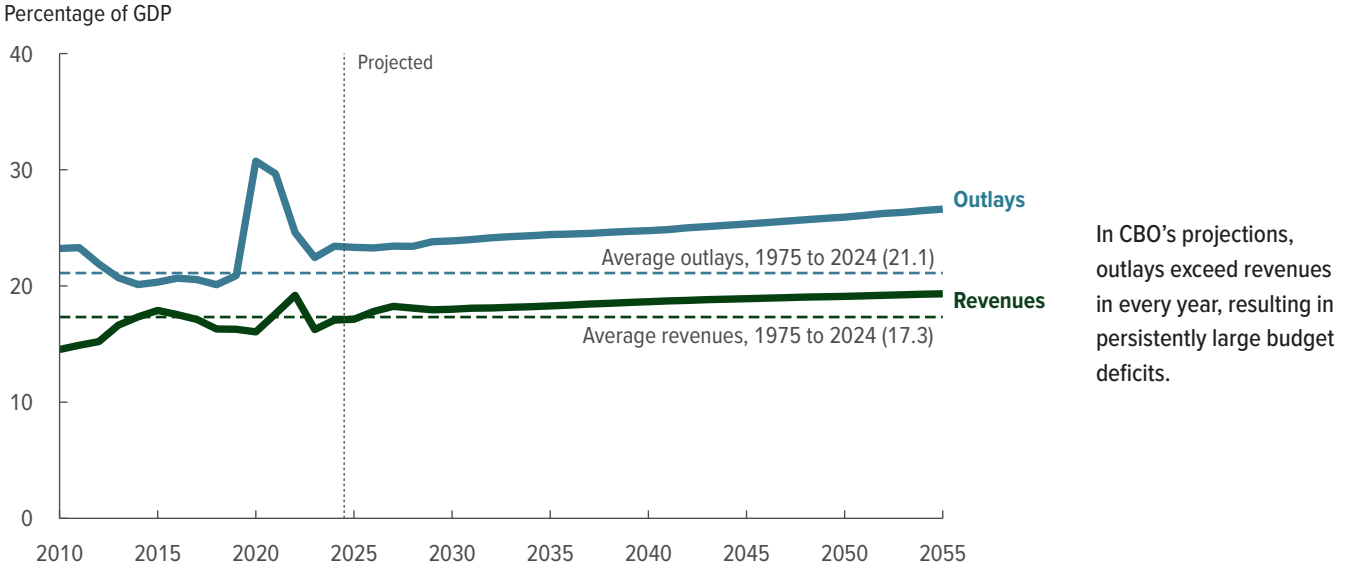
The government's spending falls into three broad categories: mandatory spending, discretionary spending, and net outlays for interest. Mandatory spending includes outlays for most federal benefit programs—including the major health care programs and Social Security—and outlays for certain other payments to people, businesses, nonprofit institutions, and state and local governments. Such spending is generally governed by statutory criteria and is not normally constrained by the annual appropriation process.

Discretionary spending encompasses outlays for an array of federal activities that are funded through or controlled

1. Deficits and outlays have been adjusted to exclude the effects of shifts that occur in the timing of certain payments when the fiscal year begins on a weekend. The long-term budget projections in this report are based on the demographic, economic, and 10-year budget projections that CBO published in January 2025. The demographic projections reflect information, laws, and policies as of November 15, 2024. The economic projections reflect laws, policies, and economic developments as of December 4, 2024. The budget projections incorporate the effects of legislation enacted as of January 6, 2025. The projections do not reflect the effects of administrative actions taken or judicial decisions made after those respective dates, including actions and decisions affecting immigration, tariffs, and other policy areas. See Congressional Budget Office, *The Demographic Outlook: 2025 to 2055* (January 2025), www.cbo.gov/publication/60875, *Additional Information About the Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/61135, and *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870.

Figure 2-1.

Total Outlays and Revenues



Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

GDP = gross domestic product.

by appropriations. That category includes most defense spending and spending for many nondefense activities, such as elementary and secondary education, housing assistance, international affairs, the administration of justice, and highway programs.

In the federal budget, net outlays for interest consist of the government's interest payments on federal debt, offset by interest income that the government receives.

CBO's extended baseline includes the following projections of those three categories of outlays (see Figure 2-2):

- Mandatory spending rises steadily from 14.0 percent of GDP in 2025 to 16.1 percent in 2055, driven mostly by growth in outlays for Medicare and, in the first decade, growth in outlays for Social Security.
- Discretionary spending amounts to 6.1 percent of GDP in 2025, declines to 5.1 percent in 2038, and then is assumed to remain at that level through 2055.
- Net outlays for interest increase from 3.2 percent of GDP in 2025 to 5.4 percent in 2055. Such outlays are expected to exceed mandatory spending on all programs other than the major health care programs and Social Security in 2025. If interest costs followed their projected path, net interest outlays would exceed all discretionary outlays in 2052.

Growth in outlays for the major health care programs and in net interest costs reshapes the spending patterns of the federal government over the next three decades in CBO's projections (see Figure 2-3). Net interest costs account for a larger portion of total federal spending in 2055 than they do in 2025. And the share of total noninterest spending going to the major health care programs and Social Security increases from a little more than one-half in 2025 to two-thirds in 2055.

Mandatory Spending

In CBO's extended baseline projections, the growth in mandatory spending is driven by increased spending on the major health care programs and, especially in the first decade, on Social Security. Other mandatory spending declines in relation to GDP over the next 30 years.

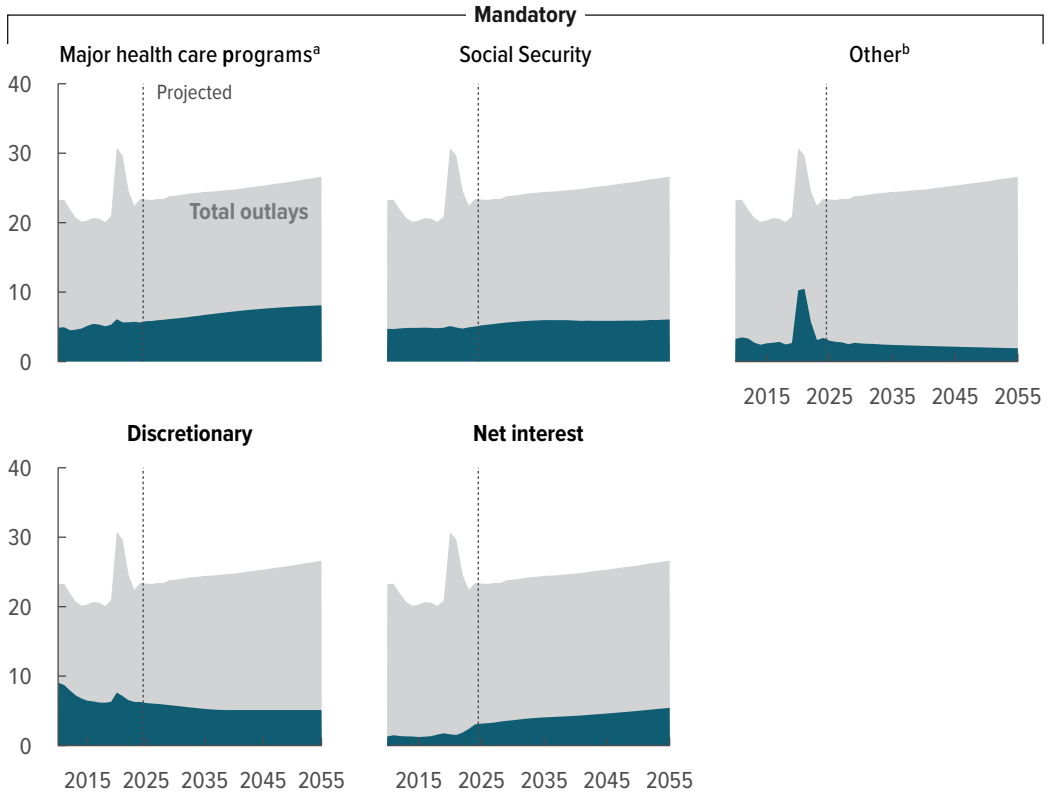
Spending on the major health care programs climbs largely because, in CBO's estimation, health care costs per person will continue to rise. The aging of the population also contributes to growth in spending on health care programs and on Social Security. Outlays for Social Security, Medicare, and Medicaid for people age 65 or older account for a share of total federal noninterest spending that increases from 40 percent in 2025 to more than 50 percent in 2055.

Major Health Care Programs. Spending on the major health care programs consists of outlays for Medicare,

Figure 2-2.

Outlays, by Category

Percentage of GDP



Over the long term, net outlays for interest and spending on the major health care programs and Social Security are projected to rise in relation to GDP; taken together, all other spending is projected to decline.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

GDP = gross domestic product.

a. Consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, the Children's Health Insurance Program, and premium tax credits and related spending. Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

b. Consists of all mandatory spending other than that for Social Security and the major health care programs. "Other mandatory" includes the refundable portions of the earned income tax credit, the child tax credit, and the American Opportunity Tax Credit.

Medicaid, the Children's Health Insurance Program (CHIP), and premium tax credits (which subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act) and related spending.[2] Net federal spending on those programs increases from 5.8 percent of GDP in 2025 to 8.1 percent in 2055 in CBO's projections.

The primary driver of that increase is spending on Medicare, which currently provides health insurance to 68 million people (about 90 percent of whom are at least 65 years old). Medicare spending (net of offsetting receipts, which are mostly premiums paid by enrollees) grows by 2.0 percent of GDP over the 30-year projection period, reaching 5.2 percent of GDP in 2055 (see Figure 2-4). Spending on the other major health care programs—that is, outlays for Medicaid, CHIP, and premium tax credits and related spending—grows by 0.2 percent of GDP over the next three decades, reaching 2.9 percent of GDP in 2055.

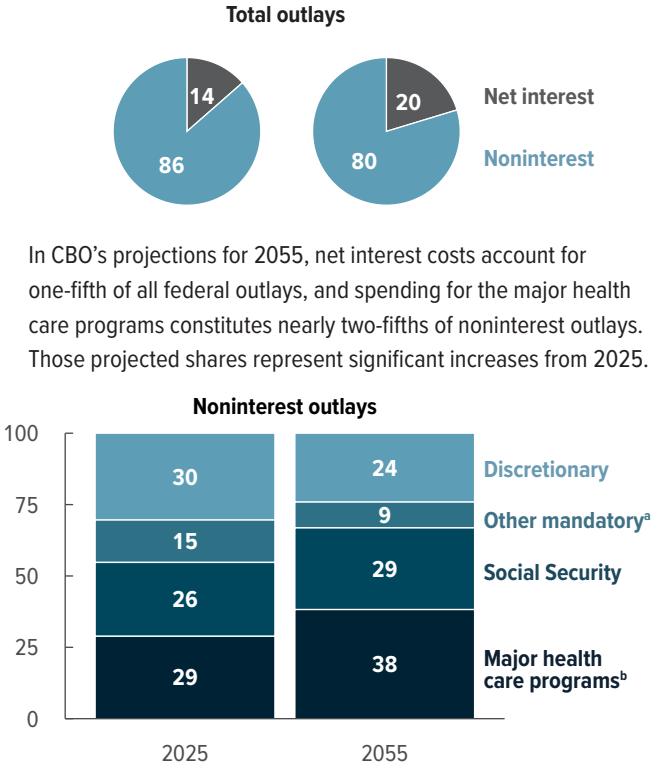
In CBO's projections, spending on Medicare accounts for over half of all spending on the major health care programs in 2025 and about two-thirds of such spending in 2055. The projected growth in Medicare spending in relation to the size of the economy over the next three

2. Related spending refers to spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

Figure 2-3.

Composition of Outlays, 2025 and 2055

Percent



In CBO's projections for 2055, net interest costs account for one-fifth of all federal outlays, and spending for the major health care programs constitutes nearly two-fifths of noninterest outlays. Those projected shares represent significant increases from 2025.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

a. Consists of all mandatory spending other than that for Social Security and the major health care programs. "Other Mandatory" includes the refundable portions of the earned income tax credit, the child tax credit, and the American Opportunity Tax Credit.

b. Consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, the Children's Health Insurance Program, and premium tax credits and related spending. Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

decades stems from rising health care costs per person and the aging of the population. (For a discussion of Medicare's trust funds, see Box 2-1.)

Social Security. In CBO's projections, over the next 10 years, spending on Social Security continues a trend that has been underway for nearly two decades by increasing as a percentage of GDP—from 5.2 percent in 2025 to 6.0 percent in 2035. It then remains at about that level through 2055. (For a discussion of the Social Security trust funds, see Box 2-2 on page 24.)

From 2025 to 2035, the number of Social Security beneficiaries increases by 12 million, from 70 million (or 20 percent of the population) to 82 million (or 22 percent of the population). The number of beneficiaries continues to increase thereafter, though more slowly, rising by 14 million over the 2036–2055 period and reaching 97 million (or 26 percent of the population) in that final year. The rate of increase in the number of beneficiaries slows after 2035, in part because the youngest members of the large baby boom generation turn 70—the age by which nearly everyone claims Social Security benefits—in 2034.[3]

Other Mandatory Programs. Other mandatory spending (that is, mandatory spending excluding outlays for the major health care programs and Social Security) includes outlays for the Supplemental Nutrition Assistance Program (SNAP), unemployment compensation, retirement programs for federal civilian and military employees, certain programs for veterans, Supplemental Security Income, and certain refundable tax credits.[4]

Spending on other mandatory programs is projected to total 3.0 percent of GDP in 2025. It then declines as a share of the economy in CBO's projections, falling to 2.4 percent of GDP in 2035 and 1.9 percent in 2055.[5] Such spending averaged 3.2 percent of GDP over the past 50 years and has generally remained between 2 percent and 4 percent of GDP since the mid-1960s.[6]

The projected decline in other mandatory spending through 2035 occurs in part because the benefit amounts for many of the programs are adjusted for inflation each

3. The baby boom generation comprises people born between 1946 and 1964.

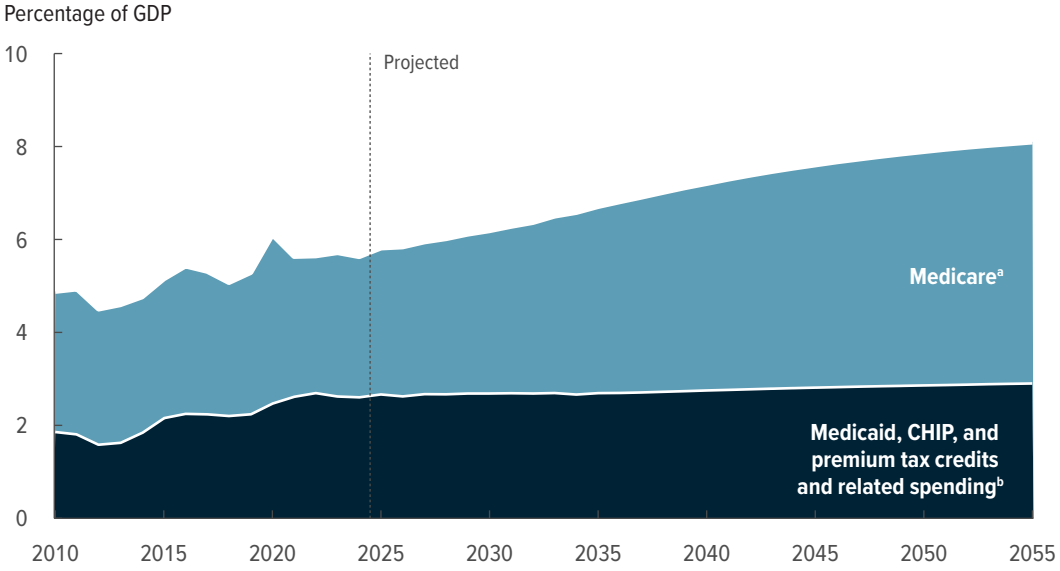
4. Refundable tax credits reduce a filer's overall income tax liability (the amount they owe); if the credit exceeds the filer's income tax liability, the government pays all or some portion of that excess to the taxpayer (and the payment is treated as an outlay in the budget). For more information, see Congressional Budget Office, *Refundable Tax Credits* (January 2013), www.cbo.gov/publication/43767.

5. CBO's baseline projections of mandatory spending generally reflect the assumption that current laws remain in place, but section 257(b)(2) of the Balanced Budget and Emergency Deficit Control Act of 1985, which governs those projections, makes exceptions to that general rule for certain programs whose authorization is scheduled to expire, such as SNAP: CBO's baseline projections reflect the assumption that those programs continue as currently authorized.

6. That spending was significantly greater in 2020 and 2021—10.3 percent and 10.5 percent of GDP, respectively.

Figure 2-4.

Composition of Outlays for the Major Health Care Programs



Growth in spending on Medicare is projected to account for more than 90 percent of the increase in spending on the major health care programs over the next 30 years.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

CHIP = Children's Health Insurance Program; GDP = gross domestic product.

a. Net of premiums and other offsetting receipts.

b. Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

year—and in CBO's economic forecast, inflation is less than the rate of growth in nominal GDP (that is, GDP without any adjustment to account for inflation). After 2035, spending on other mandatory programs, excluding that on refundable tax credits, is assumed to decline as a percentage of GDP at roughly the same annual rate at which it is projected to decline between 2032 and 2035. Outlays for refundable tax credits decline because certain energy-related refundable tax credits are scheduled to expire and because income is projected to grow, pushing more taxpayers into an income range in which tax credits reduce their tax liability (the amount they owe) rather than result in outlays.

Causes of Growth in Mandatory Spending. Rising health care costs per person and the aging of the population are the two main reasons for the sharp increase in projected spending on the major health care programs over the next 30 years. The aging of the population also leads to an increase in spending on Social Security. All told, if the population was not aging (that is, if the age distribution of the population remained as it is in 2025), spending on the major health care programs and Social Security in 2055 would be 2.7 percent of GDP less than CBO projects.

CBO assessed the combined effects of those two factors by projecting what would occur over the 2025–2055 period if health care costs per person (adjusted to remove the effects of demographic changes, such as the aging of the population) grew at the rate of potential GDP per person—a slower rate of cost growth than the agency currently projects—and the average age of the population did not increase.[7] Under those conditions, spending on the major health care programs would be 6.7 percent of GDP in 2055, 0.2 percentage points more than the agency currently projects for 2025. Without the aging of the population, spending on Social Security would be 4.8 percent of GDP in 2055, 0.4 percentage points less than the agency projects for 2025 (see Figure 2-5 on page 25).

Rising Health Care Costs per Person. In CBO's projections for the second and third decades of the projection period, federal health care spending per beneficiary (adjusted to remove the effects of demographic changes)

7. Potential GDP is the maximum sustainable output of the economy. The analysis of the causes of the growth in spending on the major health care programs encompasses gross spending on Medicare and does not reflect receipts credited to the program from premiums and other sources.

Box 2-1.

Medicare Trust Funds

The Hospital Insurance (HI) Trust Fund is used to pay for benefits under Medicare Part A, which covers inpatient hospital services, care provided in skilled nursing facilities, home health care, and hospice care. The HI trust fund derives income from several sources. In the Congressional Budget Office's projections, about three-quarters of the trust fund's annual income over the next 30 years comes from the Medicare payroll tax, and roughly one-eighth, from income taxes on Social Security benefits, on average. The rest comes from other sources. CBO's projections reflect the assumption—specified in law—that Medicare will continue to pay for benefits under Part A, regardless of the status of the program's trust fund.[1]

Medicare's other trust fund, the Supplementary Medical Insurance (SMI) Trust Fund, is used to pay for outpatient services (including physicians' services) under Part B of the program and prescription drugs under Part D. The SMI trust fund differs from the HI trust fund in that most of its income comes in the form of transfers from the general fund of the Treasury rather than from a specified set of revenues collected from the public.

Exhaustion of the Trust Funds' Balances

One measure of the financial position of a trust fund is the projected year in which the fund's balance would be exhausted. In CBO's projections, the HI trust fund's balance is exhausted in 2052. The balance generally increases through 2038, but expenditures begin to outstrip income the following year.

Although CBO's projections reflect the assumption that benefits would be paid as scheduled even after the HI trust fund was exhausted, total payments to health plans and providers for services covered under Part A would be limited by law to the amount of income credited to the fund after the balance's exhaustion. Total benefits would need to be reduced (in relation to the amounts in CBO's baseline projections) by 6.4 percent in 2053, 6.6 percent in 2054, and 6.9 percent in 2055 for the trust fund's outlays to match its revenues in those years, CBO estimates. It is unclear what changes the Centers for Medicare & Medicaid Services could make to operate the Part A program under those circumstances.

By contrast, the balance of the SMI trust fund cannot be exhausted. The transfers from the general fund that make up most of the fund's income are automatically adjusted to cover the differences between the program's spending and specified income.

Actuarial Balance

Another measure of the financial position of the HI trust fund is its actuarial balance, which is a single number that summarizes the fund's current balance and annual future streams of revenues and outlays over a certain period.[2] In CBO's projections, the HI trust fund's actuarial balance measured over a 25-year period is negative—an actuarial *deficit* of 0.13 percent of taxable payroll (or 0.06 percent of gross domestic product,

1. Provisions in section 257 of the Deficit Control Act require CBO to project spending for certain programs, including Medicare and Social Security, under the assumption that they will be fully funded, and thus able to make all scheduled payments, even if the trust funds associated with those programs do not have sufficient resources to make full payments. See sec. 257(b)(1) of the Balanced Budget and Emergency Deficit Control Act of 1985, Public Law 99-177 (codified at 2 U.S.C. § 907(b)(1)).

2. The actuarial balance is the sum of the present value of projected income and the current trust fund balance minus the sum of the present value of projected outlays and a year's worth of benefits at the end of the period. (A present value is a single number that expresses a flow of current and future income or payments in terms of an equivalent lump sum received or paid today.)

Continued

increases faster than the average of 3.4 percent that potential GDP per person grows annually: On average, annual growth in spending on Medicare per beneficiary is 0.9 percentage points faster, and that in spending on Medicaid per beneficiary 0.2 percentage points faster, than annual growth in potential GDP per person.[8]

That additional cost growth in health care accounts for about half of the increase over the 2025–2055 period in spending on the major health care programs measured as a percentage of GDP.[9]

Aging of the Population. Over the 2025–2055 period, about half of the projected increase in total spending on

8. The amount by which the growth rate of nominal health care spending per person (adjusted to remove the effects of demographic changes) exceeds the growth rate of potential GDP per person is referred to in this report as additional cost growth. For a discussion of how CBO projects federal spending on health care beyond the 10-year budget period, see Congressional Budget Office, *The 2022 Long-Term Budget Outlook* (July 2022), Appendix D, www.cbo.gov/publication/57971.

9. For a description of the methods CBO uses to assess how additional cost growth and the aging of the population affect spending on the major health care programs, see Appendix A.

Box 2-1. Continued

Medicare Trust Funds

or GDP).[3] In other words, the government could pay for the services prescribed by current law and maintain the necessary trust fund balance, including sufficient funds to provide an additional year's worth of benefits, through 2049 if lawmakers immediately and permanently raised the HI payroll tax rate, which is currently 2.9 percent, by 0.13 percentage points. Other ways to maintain the necessary trust fund balance include reducing payments, combining tax increases with payment reductions, or transferring money to the trust fund by amounts equivalent to 0.13 percent of taxable payroll.

Changes in CBO's Projections Since March 2024

The year in which the HI trust fund's balance is exhausted in CBO's current projections—2052—is 17 years later than it was in the agency's most recent estimate of that date, which was published in March 2024.[4] Measured in relation to taxable payroll, the HI trust fund's 25-year actuarial deficit is 0.45 percentage points smaller in the current projections than it was in last year's. (Measured in relation to GDP, the actuarial deficit is 0.20 percentage points smaller than projected last year.)

CBO now projects expenditures from the trust fund to be smaller and income to the trust fund to be greater than it projected last year. Expenditures are projected to be smaller for three reasons: Spending for Medicare Part A in 2024 was less than anticipated, CBO now expects payments to hospitals to grow more slowly than it did last year, and the agency updated its modeling of federal payments to insurers in the Medicare Advantage program, which allows beneficiaries to receive their Medicare coverage through private plans. Because Medicare fee-for-service spending determines Medicare Advantage benchmarks, the slower growth in Medicare Part A spending led CBO to lower its projections of Medicare Advantage spending. In addition, the Medicare program recently modified the Medicare Advantage payment formula to explicitly exclude payments that cover a portion of medical residency training, known as graduate medical education (GME) payments. Whereas in its previous projections, CBO modeled the effects of the exclusion of those payments as though they reduced Medicare Advantage payments in both Part A and Part B, CBO has changed its model so that the exclusion reduces only Part A Medicare Advantage payments because GME payments are covered only under Part A of Medicare.

CBO's projections of income to the HI trust fund are higher this year than they were last year for three main reasons. First, the agency increased its projections of revenues from payroll taxes because it now projects faster growth in wages and to account for updated historical data from the Department of the Treasury. Second, revenues from the taxation of benefits are greater in the current projections because of changes in the distribution of income and an upward revision to CBO's projections of pension income and Social Security benefits. Finally, interest income to the trust fund is now projected to be greater than estimated last year because of the larger trust fund balances in this year's projections.

Projections of the HI trust fund's finances are sensitive to small changes in projections of its expenditures and income. As a result, those estimates are highly uncertain.

3. Taxable payroll is the total amount of earnings (wages and self-employment income) that is subject to the payroll tax. Although the trust fund remains solvent beyond 2049 in CBO's projections, there is an actuarial deficit because the calculation of the actuarial balance includes an additional year of expenditures. Annual outlays exceed annual revenues to the trust fund in 2050 (the additional year in this case), so that balance is negative.

4. Congressional Budget Office, *The Long-Term Budget Outlook: 2024 to 2054* (March 2024), pp. 20–21, www.cbo.gov/publication/59711.

the major health care programs, measured as a percentage of GDP, is attributable to the aging of the population. The increase primarily results from greater spending on Medicare because it is the largest of the programs and most beneficiaries qualify for it at age 65. (See Figure 3-2 on page 31 for CBO's projections of the population by age group.)[10] As the group of people who qualify for Medicare becomes larger and, on average, older, Medicare spending will grow, not only because of the greater number of beneficiaries but also because spending on health care tends to increase as people age.

From 2025 to 2055, the projected increase in spending on Social Security, measured as a percentage of GDP, is entirely

10. In this report, "population" refers to the Social Security area population, which includes all residents of the 50 states and the District of Columbia, as well as civilian residents of U.S. territories. It also includes federal civilian employees and members of the U.S. armed forces living abroad and their dependents, U.S. citizens living abroad, and noncitizens living abroad who are eligible for Social Security benefits on the basis of their earnings while in the United States.

Box 2-2.

Social Security Trust Funds

The Social Security program is funded almost entirely by receipts from payroll taxes and income taxes on the program's benefits, which are credited to the Old-Age and Survivors Insurance (OASI) Trust Fund and the Disability Insurance (DI) Trust Fund. Currently, 96 percent of the funding comes from the Social Security payroll tax, which applies to annual earnings below a specified amount ($176,100 in 2025).[1]

Exhaustion of the Trust Funds' Balances

A commonly used measure of Social Security's financial position is the dates by which the balances of the two trust funds would be exhausted. CBO projects that, under current law, the balance of the OASI trust fund would be exhausted in 2033 and the balance of the DI trust fund would be exhausted after the 30-year projection period. If their balances were combined, the balance of the Old-Age, Survivors, and Disability Insurance (OASDI) trust funds would be exhausted in 2034.

CBO has estimated the amounts by which annual benefits would have to be reduced in each year after the trust funds' balances were exhausted for the trust funds' outlays to match their revenues. If the two funds were treated as separate entities, as they are under current law, and the transfer of resources between the funds was not permitted, the reductions in benefits for OASI would begin in 2034. CBO estimates that OASI benefits would need to be reduced (in relation to the amount in CBO's baseline projections) by an amount that rises from 24 percent that year to 28 percent in 2055. (As required by law, CBO's baseline projections reflect the assumption that spending on Social Security continues as scheduled regardless of the amounts in the program's trust funds.) DI benefits would not face reductions in the 2025–2055 projection period.

If the trust fund balances were combined, the reductions in benefits would begin one year later. Total OASI and DI benefits would need to be reduced by an amount that rises from 21 percent in 2035 to 26 percent in 2055.

Actuarial Balance

Another commonly used measure of Social Security's financial position is the program's actuarial balance, which summarizes the trust funds' current balances and annual streams of revenues and outlays over a future period, typically 75 years.[2] CBO will release updated projections about Social Security's financial position later this year.

Changes in CBO's Projections Since August 2024

Considering the trust funds individually, CBO projected in August 2024, when it last published its 75-year projections for the Social Security program, that the balance of the OASI trust fund would be exhausted in 2033.[3] The agency has not changed that projection. In the current projections, the balance of the DI trust fund would be exhausted after the 30-year projection period. (CBO will provide an updated projection of the year of exhaustion for the DI trust fund later this year.) In CBO's most recent 75-year projections for the program, that balance was exhausted in calendar year 2064. The year in which the Social Security trust funds' balances, were they combined, is projected to be exhausted—2034—has not changed since last August.

1. The rest of the funding is from receipts from income taxes on Social Security benefits and from interest earned on the trust funds' balances.

2. The actuarial balance is the sum of the present value of projected income and the current trust fund balance minus the sum of the present value of projected outlays and a year's worth of benefits at the end of the period. (A present value is a single number that expresses a flow of current and future income or payments in terms of an equivalent lump sum received or paid today.)

3. Congressional Budget Office, *CBO's 2024 Long-Term Projections for Social Security* (August 2024), www.cbo.gov/publication/60392.

attributable to the aging of the population.[11] The effects of that aging, which push spending on Social Security up, are partially offset by increases in the full retirement age for Social Security, which reduce lifetime benefits for affected beneficiaries and thus push spending down.[12]

Discretionary Spending

In CBO's long-term projections, discretionary outlays follow the agency's 10-year baseline projections through

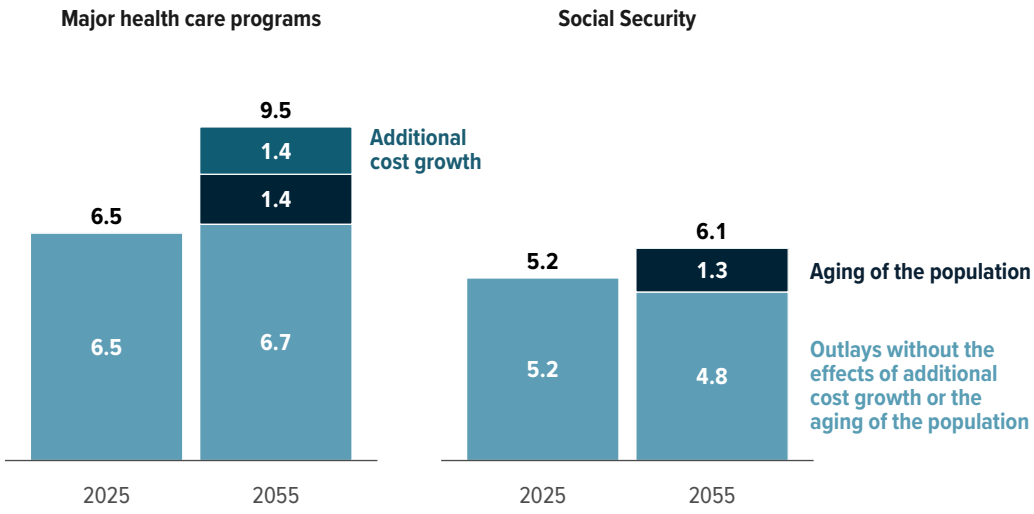
11. To assess how the aging of the population would affect spending on Social Security, CBO produced estimates using two scenarios: In the first scenario, the population does not age—that is, the age distribution of the population remains the same as it was in 2025 throughout the projection period. In the second scenario (the scenario underlying the extended baseline), the population ages as projected in CBO's demographic projections. The agency then compared the outcomes under the two scenarios.

12. For more details about the full retirement age for Social Security, see Zhe Li, *The Social Security Retirement Age*, Report R44670, version 14 (Congressional Research Service, July 6, 2022), https://tinyurl.com/yndurmpa.

Figure 2-5.

Composition of Growth in Outlays for the Major Health Care Programs and Social Security, 2025 to 2055

Percentage of GDP



Growth in spending on the major health care programs is driven in part by cost growth above and beyond that accounted for by demographic changes and the growth of potential GDP per person. Spending on those programs, as well as spending on Social Security, is also boosted by the aging of the population.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

The spending on the major health care programs examined here consists of gross spending on Medicare (which does not account for premiums or other offsetting receipts), Medicaid, the Children's Health Insurance Program, and premium tax credits and related spending. Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

Additional cost growth is the amount by which the growth rate of nominal health care spending per person (adjusted to remove the effects of demographic changes) exceeds the growth rate of potential GDP per person. Potential GDP is the maximum sustainable output of the economy.

GDP = gross domestic product.

2035.[13] On average, about half of all discretionary outlays in those years are dedicated to national defense, largely reflecting the allocation in 2025. The rest of those outlays are for nondefense spending, which funds an array of activities and programs. After 2035, discretionary spending in CBO's projections reflects the assumption that such spending transitions (over a five-year period) to grow at the rate of nominal GDP.

Discretionary spending generally decreases as a percentage of GDP in CBO's extended baseline projections—falling from 6.1 percent in 2025 to 5.1 percent in 2038 and remaining at that level through 2055. From 2038 to 2055, discretionary spending measured in relation to GDP is lower than in any year since at least 1962, the first year for which the Office of Management and Budget reports such data.

Net Outlays for Interest

Over the past 50 years, the government's net interest costs ranged from 1.2 percent to 3.2 percent of GDP, averaging 2.1 percent. In CBO's projections, such costs amount to 3.2 percent of GDP in 2025 and rise to 4.1 percent of GDP in 2035, as federal debt grows and the average interest rate on that debt rises. Net outlays for interest continue to increase thereafter and reach 5.4 percent of GDP in 2055. At that point, they are projected to amount to more than a quarter of revenues, to surpass all discretionary outlays, and to exceed total mandatory outlays for all programs other than the major

13. CBO's current 10-year baseline projections reflect laws that were in place as of January 6, 2025. The continuing resolution then in effect (the American Relief Act, 2025, P.L. 118-158) provided funding for the federal government through March 14, 2025. CBO's baseline incorporates the funding provided by that continuing resolution on an annualized basis—that is, calculated as if the funding provided by the continuing resolution was in effect for the entire fiscal year. Because the resulting amount exceeds the limit, or cap, on discretionary funding for defense programs in 2025 that was established by the Fiscal Responsibility Act of 2023 (P.L. 118-5) and in place when CBO finalized its budget projections, the total amount of such funding and the resulting outlays were adjusted to comply with that cap.

health care programs and Social Security. And measured as a percentage of GDP, those outlays would be about 70 percent greater than they were at their highest point since at least 1940 (the first year for which the Office of Management and Budget reports such data).

The projected increase in net outlays for interest is the result of increasing interest rates and the rising amount of debt stemming from sustained deficits. In CBO's projections, the average interest rate on federal debt held by the public is 3.4 percent in 2025 and 3.6 percent in 2055. The increase in the average interest rate accounts for about a quarter of the rise in net interest costs over the 2025–2055 period.[14]

Revenues

In CBO's projections, revenues increase from 17.1 percent of GDP in 2025 to 18.2 percent of GDP in 2027. That increase is largely due to the scheduled expiration of certain provisions of the 2017 tax act. In 2028 and 2029, revenues decline in relation to the size of the economy, falling to 17.9 percent of GDP in 2029. But then they increase steadily over the 2030–2055 period, mainly because growth in income boosts individual income tax receipts. In every year after 2025, revenues measured as a percentage of GDP are higher than their average over the past 50 years.[15]

Projected Revenues

In CBO's projections, total revenues measured as a percentage of GDP grow by 2.2 percentage points over the next three decades, reaching 19.3 percent of GDP in 2055. That growth is mainly driven by an increase in individual income tax receipts, which amount to 10.9 percent of GDP in 2055—2.2 percentage points more than the 8.7 percent of GDP they equal in 2025 (see Figure 2-6).

Payroll taxes also increase as a percentage of GDP over the next three decades—by 0.1 percentage point, reaching 5.9 percent of GDP in 2055. Payroll taxes account for most of the revenues credited to the Hospital Insurance Trust Fund and the Social Security trust funds. (For a discussion of the Hospital Insurance Trust Fund, see Box 2-1 on page 22; for more about the Social Security trust funds, see Box 2-2 on page 24.)

The growth in receipts from individual income and payroll taxes is partially offset by declining receipts from corporate income taxes (measured in relation to the size of the economy). Such receipts fall by 0.5 percent of GDP over the next decade and remain at that lower level through the end of the projection period. Receipts from other, smaller sources increase by 0.4 percent of GDP, primarily because remittances to the Treasury from the Federal Reserve increase.

Factors Affecting Revenues

The projected increase over the next 30 years in total revenues measured as a percentage of GDP stems from several factors, including real bracket creep and scheduled changes to individual income tax provisions.

Real Bracket Creep. The income thresholds for the various tax rate brackets in the individual income tax system are indexed to increase with inflation (as measured by the chained consumer price index for all urban consumers, published by the Bureau of Labor Statistics). In CBO's projections, nominal income grows faster than prices, so more income is pushed into higher tax brackets even when the underlying distribution of income remains unchanged. Many other parameters of the tax system are also indexed for inflation, including the amounts of the standard deduction and the earned income tax credit. But certain parameters, such as the amount of the child tax credit, are fixed in nominal dollars and are not adjusted for inflation. The individual income tax system is thus not indexed for real growth (that is, growth beyond the rate of inflation). The process by which real growth pushes income into higher brackets and more taxpayers above the range of income in which they would be eligible for some credits is called real bracket creep. That phenomenon is the largest source of growth in total projected revenues over the next three decades.

If current laws generally remained unchanged, real bracket creep would continue to gradually boost taxes in relation to income, CBO projects, thereby increasing tax receipts by 1.5 percent of GDP over the 2025–2055 period. From 2026 (the first year after certain provisions of the 2017 tax act are scheduled to expire) to

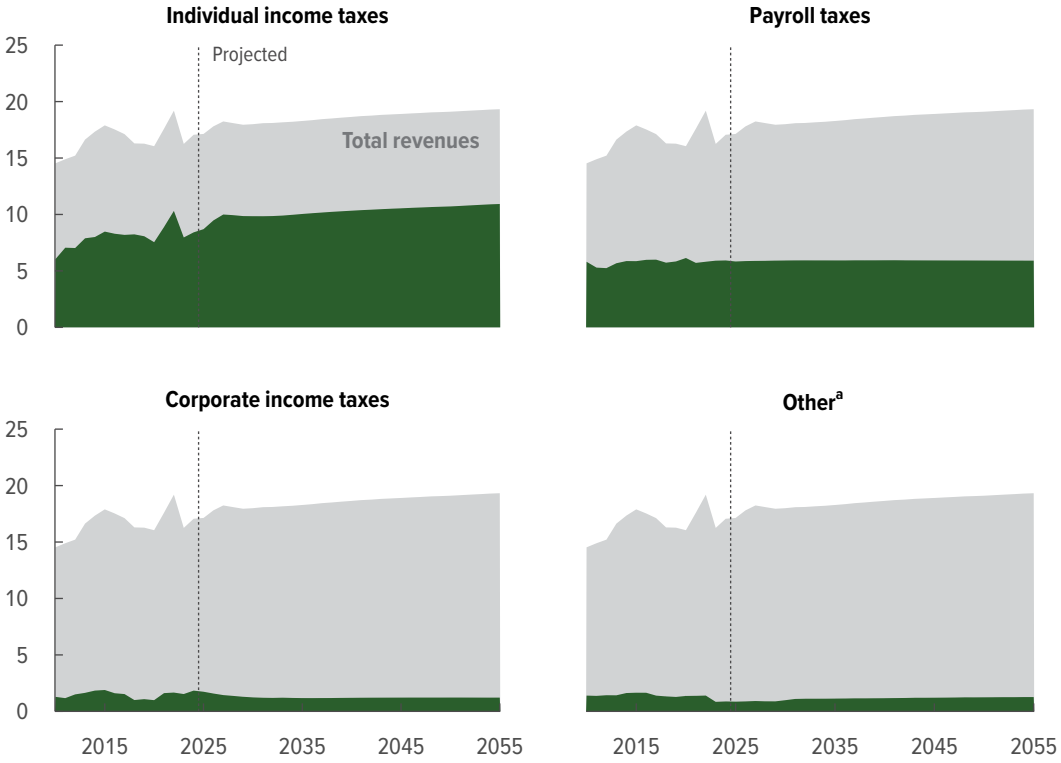
14. For a description of the methods CBO used to determine the change in net interest costs attributable to primary deficits (that is, deficits excluding net outlays for interest) and to changes in the average interest rate, see Appendix A.

15. In general, the projections are based on the assumption that the rules for all tax sources (individual income taxes, corporate income taxes, payroll taxes, and other taxes) will change as scheduled under current law: The sole exception to that assumption is expiring excise taxes dedicated to trust funds. The Balanced Budget and Emergency Deficit Control Act of 1985 requires that CBO's baseline reflect the assumption that those taxes will be extended at their current rates. That law does not stipulate that the baseline include the extension of other expiring tax provisions, even if lawmakers have routinely extended them in the past.

Figure 2-6.

Revenues, by Source

Percentage of GDP



Total revenues grow by more than 2 percent of GDP from 2025 to 2055 in CBO's projections. A decline in corporate income tax receipts, measured in relation to the size of the economy, is more than offset by growth in receipts from individual income taxes, which accounts for nearly all of the net increase. Revenues from payroll taxes and from other taxes also increase, but by a much smaller percentage of GDP.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

GDP = gross domestic product.

a. Consists of excise taxes, remittances to the Treasury from the Federal Reserve System, customs duties, estate and gift taxes, and miscellaneous fees and fines.

2055, the share of income in the highest income bracket (taxed at the top rate of 39.6 percent) would rise by 2 percentage points, and the share of income excluded from taxation (mostly because of exemptions and deductions) would fall by 3 percentage points (see Figure 2-7).[16]

Scheduled Changes to Individual Income Tax Provisions After 2025. Under current law, nearly all the provisions of the 2017 tax act that affect the individual income tax are scheduled to expire at the end of calendar year 2025. Those expirations would boost tax revenues in relation to income. Once in effect, the scheduled changes would lead to higher statutory tax rates, a smaller standard deduction, the return of personal exemptions, and a reduction in the child tax credit. Those changes would cause tax liabilities to rise beginning in calendar year 2026, pushing up receipts in fiscal year 2026 and beyond. CBO projects that in 2055, the scheduled expirations would boost individual income tax revenues, measured as a percentage of GDP, by 0.8 percentage points.

Other Factors. Several other factors affect projected revenues. On net, those factors cause revenues to decrease by 0.1 percent of GDP from 2025 to 2055.

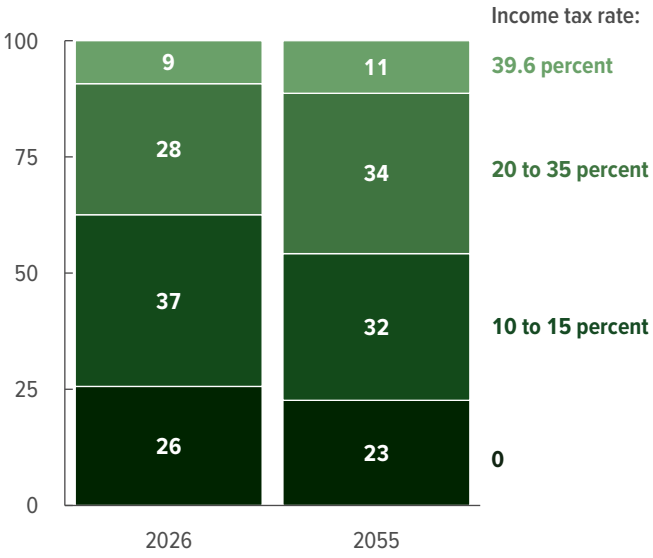
One factor is the projected decrease in corporate income tax receipts, which fall from 1.7 percent of GDP in 2025 to 1.2 percent in 2035 in CBO's projections and then remain at roughly that level through 2055. The decline of 0.5 percent of GDP is attributable to scheduled changes in tax rules, increased claims of tax credits, and the fact that corporate profits grow more slowly than the overall economy.

Another factor causing revenues to decline is the projected growth in health care costs, which reduces revenues by

16. Congressional Budget Office, "How Income Growth Affects Tax Revenues in CBO's Long-Term Budget Projections" (June 2019), www.cbo.gov/publication/55368.

Figure 2-7.

Shares of Income Taxed at Different Rates Under the Individual Income Tax System



Most of the long-term growth in revenues in CBO's projections is due to changes in the shares of individual income taxed at different rates. As income rises faster than prices, more individual income is pushed into higher tax brackets. The share of income taxed at higher rates grows, and the share exempt from taxation shrinks.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

In this figure, income refers to adjusted gross income—that is, income from all sources not specifically excluded by the tax code, minus certain deductions. The income tax rate is the statutory rate specified under the individual income tax system. The lowest statutory tax rate is zero (because of deductions and exemptions).

This figure begins in 2026, the first year after certain provisions of the 2017 tax act are scheduled to expire, so that tax policies remain constant over the period.

0.4 percent of GDP over the next three decades in CBO's projections. The share of employees' compensation that is paid in the form of employment-based health insurance, which is generally not taxable, increases. Consequently, the share of employees' compensation that is paid in the form of wages and salaries, which are subject to income and payroll taxes, declines. That shift in compensation reduces taxable income—and thus revenues from both income and payroll taxes—in relation to GDP.

Partially offsetting those effects are two factors that cause revenues to rise. First, the Federal Reserve is projected to remit larger amounts to the Treasury. Those remittances, which are recorded as revenues, are near zero in 2025 but rise to 0.5 percent of GDP in 2055 in CBO's projections. The second, much smaller, factor is that earnings are projected to grow faster for higher-earning people than for other people in the long term, which would cause a larger share of earnings to be taxed at higher individual income tax rates. The resulting increase in individual income tax revenues would be largely offset by a decrease of nearly the same amount in payroll tax receipts.[17]

17. For additional information, see Brooks Pierce, *How Changes in the Distribution of Earnings Affect the Federal Deficit*, Working Paper 2021-12 (Congressional Budget Office, October 2021), www.cbo.gov/publication/57217.

Chapter 3: Long-Term Demographic and Economic Projections

Overview

Demographic and economic trends are key determinants of the long-term budget outlook. By the Congressional Budget Office's estimate, the U.S. population will grow more slowly over the next 30 years than it did over the past 30 years. CBO projects that without immigration, the population would begin to shrink in calendar year 2033, in part because fertility rates are projected to remain below the rate necessary for a generation to replace itself. In addition, the average age of the population is projected to increase (a trend referred to as the aging of the population), primarily because of low fertility rates and a general decline in mortality rates.

The output of the U.S. economy—as measured by the nation's gross domestic product (GDP)—is also projected to grow more slowly over the next three decades than it did over the past three decades. That slowdown stems partly from CBO's projection that the labor force will expand at a slower pace through 2055 than it has over the past 30 years, mainly because of slower population growth and a declining rate of participation in the labor force. The projected slowdown in the growth of output also stems from a slower accumulation of capital in the economy because of increased federal borrowing to fund the budget deficits projected to occur under current law (see Chapter 1).

In CBO's economic projections, the annual rate of inflation slows in 2025 and 2026 and then remains consistent with the Federal Reserve's long-term goal of 2 percent. Over the 2025–2055 period, the interest rate on 10-year Treasury notes stays close to its average of the past 30 years. Projected interest rates reflect upward pressure from increases in federal borrowing and downward pressure from slowdowns in the growth of the labor force. CBO's economic projections account for the effects on the economy of deficits and of changes in taxes and spending scheduled to take place under current law.

The demographic projections in this report reflect information, laws, and policies as of November 15, 2024. The economic projections reflect developments in the economy as of December 4, 2024, as well as laws enacted and policy measures taken through that date. The projections do not reflect the effects of administrative actions taken or judicial decisions made after those respective dates, including actions and decisions affecting immigration, tariffs, and other policy areas. CBO is working to analyze those effects. (For a description of the specifications underlying these long-term projections, see Appendix A.)

Demographic Projections

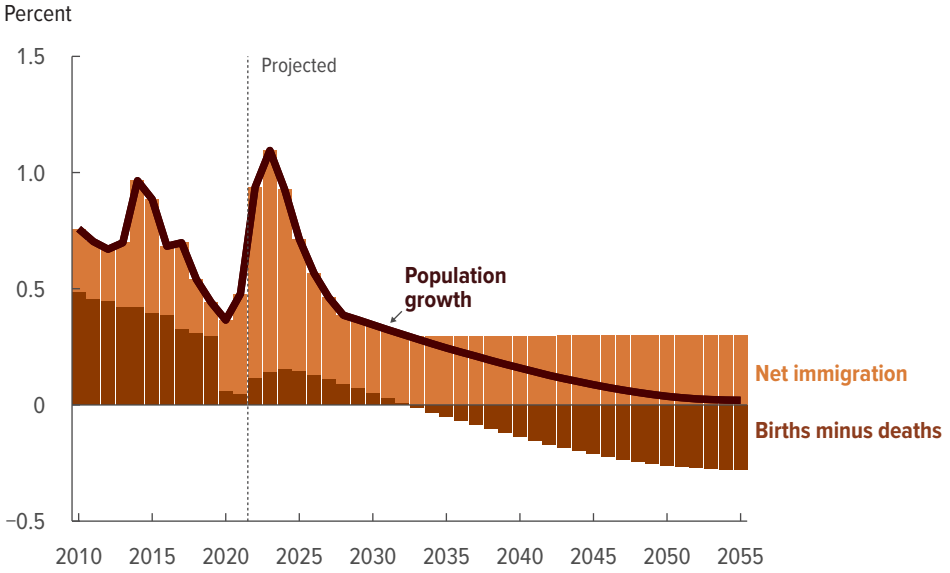
The size and the age profile of the population affect the U.S. economy and the federal budget. For instance, the population's size and age structure largely determine the number of people in the labor force and thus affect GDP and federal tax revenues. Those demographic factors also affect federal spending—for example, the size of the population age 65 or older influences the number of beneficiaries of Social Security, Medicare, and Medicaid.

To estimate the size and structure of the population in future years, CBO projects rates of fertility, mortality, and net immigration (the number of people who enter the United States minus the number who leave). In CBO's projections, the U.S. population increases from 350 million people at the beginning of 2025 to 372 million at the beginning of 2055.[1] The average growth rate over that 30-year period—0.2 percent a year—is about one-quarter of the average annual rate seen over the past three decades (0.8 percent).

1. The measure of population that CBO uses in its demographic projections is the Social Security area population, which is relevant for estimating payroll taxes and benefits for Social Security. That population includes all residents of the 50 U.S. states and the District of Columbia, as well as civilian residents of U.S. territories. It also includes federal civilian employees and members of the U.S. armed forces living abroad and their dependents, U.S. citizens living abroad, and noncitizens living abroad who are eligible for Social Security benefits on the basis of their earnings while in the United States. For more information about CBO's population projections, see Congressional Budget Office, *The Demographic Outlook: 2025 to 2055* (January 2025), www.cbo.gov/publication/60875.

Figure 3-1.

Population Growth and Contributing Factors



By 2033, annual deaths exceed annual births in the United States in CBO's projections. After that, net immigration more than accounts for projected population growth; without immigration, the U.S. population would shrink after 2033.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

The population referred to in this figure is the Social Security area population, which includes all residents of the 50 U.S. states and the District of Columbia, as well as civilian residents of U.S. territories. It also includes federal civilian employees and members of the U.S. armed forces living abroad and their dependents, U.S. citizens living abroad, and noncitizens living abroad who are eligible for Social Security benefits on the basis of their earnings while in the United States.

In CBO's projections, population growth is increasingly driven by immigration, partly because the total fertility rate remains below the rate needed for a generation to replace itself.[2] Starting in 2033, the number of deaths begins to exceed the number of births, meaning that the U.S. population would shrink without immigration (see Figure 3-1).[3]

The share of the population age 65 or older is projected to increase over the coming decades, continuing a long-standing trend (see Figure 3-2). From 2015 to 2024, that share rose from 14.4 percent to 17.9 percent, driven mainly by the aging of members of the large baby boom generation that was born between 1946 and 1964. The percentage of the population age 65 or older continues to increase in CBO's projections, rising from 18.3 percent in 2025 to 21.2 percent in 2035 and 23.4 percent in 2055.

Economic Projections

The state of the U.S. economy in coming decades will affect the federal government's budget deficits and debt. Key to CBO's long-term budget projections are its projections of real GDP (nominal GDP adjusted to remove the effects of changes in prices), the labor force, inflation, and interest rates. Among other factors, CBO's economic forecast incorporates the effects of projected deficits on private investment and the effects of marginal tax rates (the percentage of an additional dollar of income that is paid in taxes) on the supply of labor and on saving by households and businesses.

CBO's long-term economic projections are extended versions of the 10-year baseline projections that the agency published earlier this year.[4] For a discussion of how the long-term economic projections have changed since March 2024, when CBO published its previous

2. The total fertility rate represents the average number of children that a woman would have if, in each year of her life, she experienced the birth rates observed or assumed for that year and if she survived her entire childbearing period (which CBO defines as ages 14 to 49).

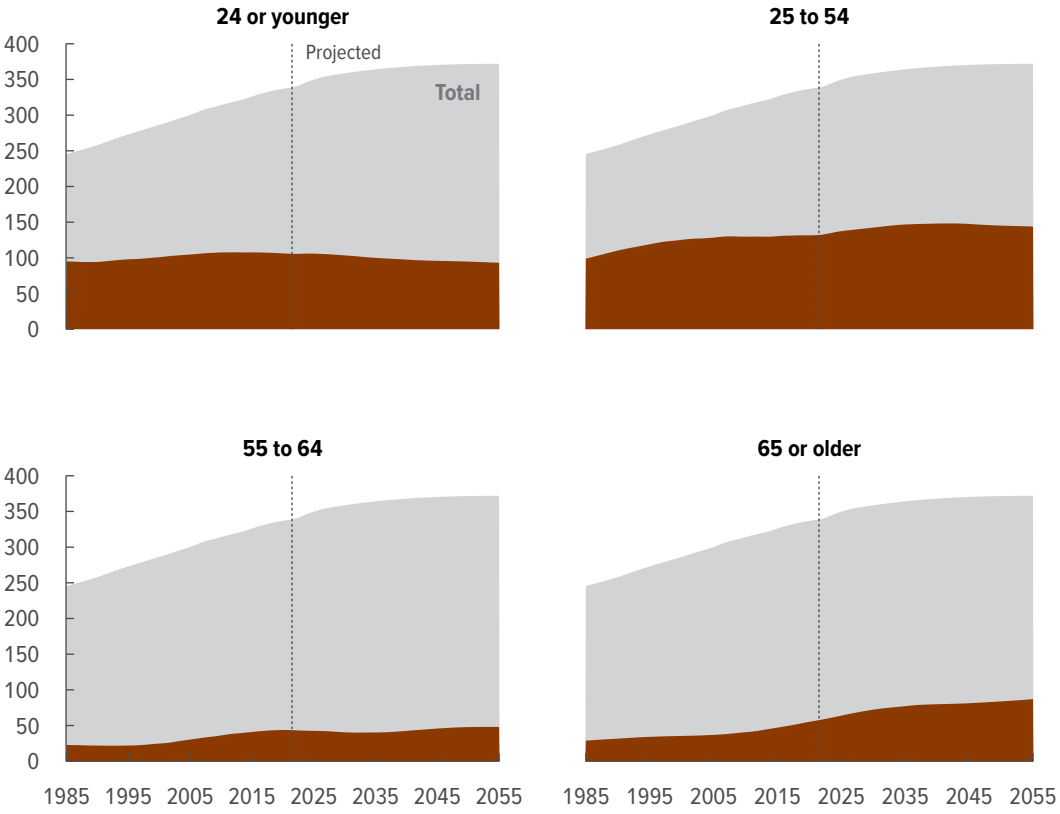
3. For details about CBO's projections of fertility, mortality, and net immigration, see Congressional Budget Office, *The Demographic Outlook: 2025 to 2055* (January 2025), www.cbo.gov/publication/60875.

4. The 10-year projections are described in Congressional Budget Office, *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870.

Figure 3-2.

Population, by Age Group

Millions of people



In CBO's 30-year projections, the number of people age 65 or older grows more quickly than the number of people ages 25 to 54. That difference affects the size of the labor force because people age 65 or older are less likely to work and are generally eligible for Social Security retirement benefits and Medicare. In addition, the number of people age 24 or younger declines in CBO's projections.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

The population referred to in this figure is the Social Security area population, which includes all residents of the 50 U.S. states and the District of Columbia, as well as civilian residents of U.S. territories. It also includes federal civilian employees and members of the U.S. armed forces living abroad and their dependents, U.S. citizens living abroad, and noncitizens living abroad who are eligible for Social Security benefits on the basis of their earnings while in the United States.

extended baseline projections, see Appendix B. For long-term projections of other economic factors—such as employment, capital accumulation, and productivity—see Appendix C.

Real GDP

In CBO's projections of economic output—which affect the agency's projections of revenues from income and payroll taxes—real GDP grows at an average rate of 1.6 percent a year through 2055. The growth of real GDP slows over that 30-year period, from an annual average of 1.8 percent in the first decade to 1.4 percent in the third decade (see Table 3-1).

That decline in the growth of real GDP reflects a projected decline in the growth of real potential GDP—the amount of real GDP that the U.S. economy could produce if labor and capital were employed at their maximum sustainable rates. In CBO's projections, real GDP is larger than real potential GDP (a difference known as the output gap) from 2025 to 2028. Real GDP grows more slowly through 2032 as it returns to its long-run relationship with real potential GDP, in which the total amount of real GDP is 0.5 percent smaller than real potential GDP.

The growth rates of real GDP and real potential GDP are projected to converge in 2032. After that, GDP is projected to be smaller than potential GDP by 0.5 percent, on average, through 2055. That projection reflects CBO's assessment that real GDP falls short of real potential GDP during and after economic downturns for

Table 3-1.

Average Annual Values for Key Economic Variables That Underlie CBO's Extended Baseline Projections

Percent

	1995–2024	2025–2035	2036–2045	2046–2055	Overall, 2025–2055
Growth of GDP					
Real GDP	2.5	1.8	1.6	1.4	1.6
Real potential GDP[a]	2.4	2.0	1.6	1.4	1.7
Potential labor force[b]	0.8	0.6	0.2	0.1	0.3
Potential labor force productivity[c]	1.6	1.4	1.3	1.3	1.3
Real GDP per person	1.7	1.2	1.4	1.3	1.3
Nominal GDP (fiscal years)	4.7	3.9	3.7	3.5	3.7
Labor force growth	0.8	0.6	0.2	0.1	0.3
Labor force participation rate[d]	64.7	61.8	61.4	61.4	61.5
Inflation					
Growth of the PCE price index	2.1	2.0	2.0	2.0	2.0
Growth of the CPI-U	2.5	2.3	2.3	2.3	2.3
Growth of the GDP price index	2.2	2.0	2.0	2.0	2.0
Interest rates					
On 10-year Treasury notes					
Nominal rate	3.7	3.9	3.7	3.8	3.8
Real rate	1.2	1.6	1.5	1.5	1.5
On all federal debt held by the public (fiscal years)[e]	3.8	3.5	3.6	3.6	3.6

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Bureau of Labor Statistics; Federal Reserve. See www.cbo.gov/publication/61187#data.

Real values are nominal values that have been adjusted to remove the effects of changes in prices.

The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm.

CPI-U = consumer price index for all urban consumers; GDP = gross domestic product; PCE = personal consumption expenditures.

a. An estimate of the amount of real GDP that could be produced if labor and capital were employed at their maximum sustainable rates.

b. An estimate of how big the labor force would be if economic output and other key variables were at their maximum sustainable amounts.

c. The ratio of real potential GDP to the potential labor force. The sum of growth of the potential labor force and growth of potential labor force productivity is equal to growth of real potential GDP.

d. The percentage of the civilian noninstitutionalized population age 16 or older that is in the labor force.

e. The interest rate on all federal debt held by the public equals net interest payments in the current fiscal year divided by debt held by the public at the end of the previous fiscal year.

longer periods, and by larger amounts, than it exceeds real potential GDP during economic expansions.[5]

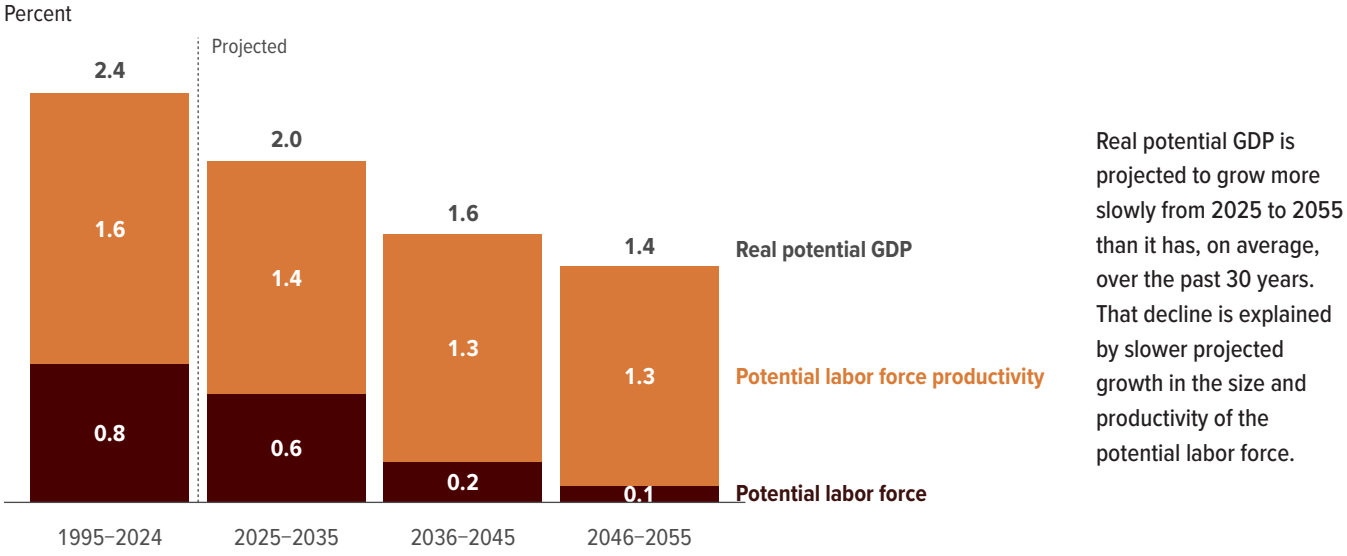
Real Potential GDP

As part of its economic forecasting, CBO estimates how factors such as the supply and productivity of labor drive the growth of real potential GDP. That estimated output grew at an average rate of 2.4 percent a year from 1995 to 2024. In CBO's extended baseline projections, the growth of real potential GDP slows in the next 30 years—from an average of 2.0 percent a year over the next decade to an average of 1.4 percent a year over the 2046–2055 period—and averages 1.7 percent a year over the entire projection period. That projected slowdown

5. One recent study explains the existence of an average negative output gap (in which actual output is smaller than potential output) by examining asymmetric fluctuations in the unemployment rate. See Stéphane Dupraz, Emi Nakamura, and Jón Steinsson, "A Plucking Model of Business Cycles" (unpublished draft, April 2024), https://tinyurl.com/yvcb2emu. Also see Congressional Budget Office, *Why CBO Projects That Actual Output Will Be Below Potential Output on Average* (February 2015), www.cbo.gov/publication/49890.

Figure 3-3.

Average Annual Growth of Real Potential GDP and Its Components



Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

Real values are nominal values that have been adjusted to remove the effects of changes in prices.

Real potential GDP is an estimate of the amount of real GDP that could be produced if labor and capital were employed at their maximum sustainable rates. Its growth is the sum of the growth of the potential labor force and of potential labor force productivity. The potential labor force is an estimate of how big the labor force would be if economic output and other key variables were at their maximum sustainable amounts. Potential labor force productivity is the ratio of real potential GDP to the potential labor force.

The bars show average annual growth rates over the specified periods.

GDP = gross domestic product.

is attributable to slower growth in the two variables that determine the growth of real potential GDP:

- The potential labor force (an estimate of how big the labor force would be if economic output and other key variables were at their maximum sustainable amounts), and
- Potential labor force productivity (the ratio of real potential GDP to the potential labor force).

Potential Labor Force. The rate which the potential labor force expands each year is projected to slow in coming decades, from an average of 0.6 percent over the 2025–2035 period to 0.1 percent over the 2046–2055 period (see Figure 3-3). Much of the growth of the labor force over the next decade—especially in 2025 and 2026—results from projected increases in net immigration. (CBO's immigration projections are based on information available as of November 15, 2024.)

Over the next 30 years, the potential labor force grows at an average rate of 0.3 percent per year in CBO's projections. That growth is much slower than the average rate of 0.8 percent per year seen over the past 30 years. Most of the projected slowdown reflects slower population growth and the aging of the population.

Potential Labor Force Productivity. The productivity of the potential labor force is also projected to grow more slowly over the next three decades: at an average annual rate of 1.3 percent, down from an average of 1.6 percent over the past 30 years. In CBO's projections, potential labor force productivity increases by an average of 1.4 percent per year from 2025 to 2035 and by an average of 1.3 percent per year from 2046 to 2055.

Two key factors are largely responsible for the slower projected growth of potential labor force productivity: a slowdown in the accumulation of capital (such as structures and equipment, computer software and other intellectual property products, and residential housing) and slower growth of total factor productivity (TFP) in the nonfarm business sector. (TFP is the average real output per unit of combined labor and capital services.

Its growth is defined as the growth of real output that is not explained by the growth of labor and capital.)

The accumulation of capital is projected to be slower over the next three decades than it was in the past, partly because increased federal borrowing is projected to reduce the resources available for private investment. Greater federal borrowing also tends to raise borrowing costs in both the public and private sectors by driving up interest rates. As a result, investment in capital used for the production of goods and services declines. (The effects of growing federal deficits and borrowing on CBO's economic projections are discussed in more detail at the end of this chapter.)

Total factor productivity in the nonfarm business sector is also expected to increase more slowly over the next three decades than it did over the past three decades. Whereas TFP grew by an average of 1.3 percent per year from 1995 to 2024, CBO projects that it will grow at an average rate of 1.0 percent per year through 2055. That slower growth is attributable to several projected changes, including a slowdown in the pace at which workers' educational attainment increases, declines in federal investment spending measured in relation to the size of the economy, and the effects of climate change on factors that affect production (see Appendix C for more details).[6]

Real GDP per Person

On a per-person basis, real GDP is expected to increase at an average annual rate of 1.3 percent over the 2025–2055 period—more slowly than the average annual growth rate of 1.7 percent seen over the past 30 years.[7] In CBO's projections, the annual growth of real GDP per person rises from an average of 1.2 percent over the first decade of the projection period to an average of 1.4 percent over the 2036–2055 period, as population growth slows more than growth of real GDP.

Nominal GDP

Nominal GDP (which includes the effects of inflation) affects CBO's projections of federal spending. The agency projects that nominal GDP will increase by 4.4 percent in 2025 and then grow more slowly over the next several years. That projected slowdown reflects a slowing of inflation—as measured by the change in the GDP price index—and of the growth of real GDP. Over the second and third decades of the projection period, the growth rate of nominal GDP reflects the projected growth of real potential GDP and projected inflation as measured by the GDP price index. At the end of that period, in 2055, nominal GDP is projected to grow by 3.4 percent.

The Labor Force

CBO's projections of the labor force affect the agency's projections of other economic variables, such as potential GDP.[8] For example, when the potential labor force grows more quickly, potential GDP increases faster than it would otherwise. And as the labor force expands, the amount of investment increases to equip new workers with capital (such as equipment or software) to use in production. That increase causes private capital to accumulate more quickly than it would otherwise, further boosting the growth of potential GDP.

Growth of the Labor Force. In CBO's projections, the labor force expands from 171 million people in 2025 to 185 million in 2055. The growth of the labor force slows over that 30-year period, averaging 0.6 percent a year from 2025 to 2035 and 0.1 percent a year from 2046 to 2055—much lower than the average growth rate of 0.8 percent a year seen over the past three decades.

The size and growth of the labor force depend on the number of people in different demographic groups and on the rates at which they participate in the labor market. For its economic projections, CBO uses its projections of the number of people in various demographic groups. Those population projections can be significantly affected by net immigration. For example, CBO projects that net immigration will increase the size of the overall population in

6. For more information about the effects of climate change on the economy, see Chad Shirley and William Swanson, *The Effects of Climate Change on GDP in the 21st Century*, Working Paper 2025-02 (Congressional Budget Office, February 2025), www.cbo.gov/publication/61186; and Congressional Budget Office, *The Risks of Climate Change to the United States in the 21st Century* (December 2024), www.cbo.gov/publication/60845.

7. To develop its projections of real GDP per person, CBO uses a measure called the resident population plus armed forces overseas. That measure of population includes U.S. residents and members of the armed forces on active duty stationed outside the United States but excludes military dependents, and other U.S. citizens, living abroad.

8. The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm. The labor force participation rate is the percentage of the civilian noninstitutionalized population age 16 or older that is in the labor force.

coming years and boost the share of people in age groups that have higher rates of labor force participation.

Labor Force Participation Rate. In CBO's projections, the total labor force participation rate drops over the next decade from 62.6 percent to 61.4 percent, remains fairly steady until 2050, and then declines again, equaling 61.2 percent in 2055. Over the 2025–2055 period as a whole, the participation rate averages 61.5 percent, much lower than the average rate of 64.7 percent seen over the past 30 years.

The projected decline in the labor force participation rate in the next decade continues a downward trend that began in the mid-2000s—a trend that has been driven mostly by the aging of the population. The effect of aging on the participation rate is more pronounced during the next decade, as baby boomers continue to retire, and again starting in 2050, as another large generation (people born between 1981 and 1996) retires. From 2035 to 2050, the impact of aging is fully offset by other factors that affect labor force participation in CBO's projections, such as increases in average educational attainment, keeping the labor force participation rate relatively stable.

To assess the importance of population aging in its projections of the labor force participation rate, CBO calculated what the rate would be in each year of the 30-year projection period if the age-and-sex composition of the population remained the same as it is in 2025. In that hypothetical scenario, the labor force participation rate would rise from 62.6 percent in 2025 to 63.9 percent in 2055, rather than falling to 61.2 percent. Without the aging of the population, the labor force participation rate would rise because educational attainment is projected to increase, on average, and people with higher levels of education generally participate in the labor force at a higher rate. Thus, CBO estimates that the aging of the population reduces the labor force participation rate by 2.7 percentage points by 2055. (In CBO's projections, other factors lessen the decline in the participation rate over the 2025–2055 period to 1.4 percentage points.)

Inflation

General increases in prices affect interest rates and thus interest payments on federal debt. Inflation also affects federal tax revenues and spending by altering income, the parameters of the various tax rate brackets in the federal income tax, and cost-of-living adjustments for certain benefits, such as Social Security. CBO projects several measures of inflation, which focus on changes in the prices of consumer goods and services or in the prices of all goods and services that contribute to GDP.

Personal Consumption Expenditures Price Index. One measure of change in consumer prices is the growth rate of the price index for personal consumption expenditures (PCE), which encompasses a broad range of goods and services. The Federal Reserve sets an explicit goal of 2 percent for the long-term average rate of inflation as measured by the PCE price index. In CBO's projections, the PCE price index grows at rates that are consistent with that goal from 2027 to 2055.

Consumer Price Index. A second measure of change in consumer prices is the consumer price index for all urban consumers (CPI-U). In CBO's projections, CPI-U inflation averages 2.3 percent per year over the 2025–2055 period. That average rate is consistent with the relationship between the CPI-U and the PCE price index during the two decades before the coronavirus pandemic, when CPI-U inflation was 0.3 percentage points higher than PCE inflation, on average. CBO projects that CPI-U inflation will resume that relationship in 2026 and maintain it for the rest of the 30-year projection period.[9]

GDP Price Index. In CBO's projections, the prices of goods and services that contribute to GDP—as measured by the GDP price index—increase at an average rate of 2.0 percent a year over the 2025–2055 period. That average rate is consistent with the relationship between the GDP and PCE price indexes over the past 30 years. In the long term, GDP inflation and PCE inflation are roughly equal.

Interest Rates

CBO projects a set of interest rates that affect the federal budget, including rates on various securities issued by

9. Another measure of inflation is the chained consumer price index for all urban consumers (chained CPI-U). Many tax parameters are adjusted for changes in the chained CPI-U. Historically, inflation as measured by the chained CPI-U has been about 0.25 percentage points lower, on average, than inflation as measured by the CPI-U. CBO's projections reflect that average difference between the two measures. The chained CPI-U tends to grow more slowly than the traditional CPI-U for two reasons. First, it uses a formula that better accounts for households' tendency to substitute goods and services with similar but cheaper alternatives when prices rise. Second, the chained CPI-U is less affected than the CPI-U by statistical bias related to the limited amount of price data that the Bureau of Labor Statistics has available to compute the indexes.

Figure 3-4.

Average Interest Rates on Federal Debt and on 10-Year Treasury Notes

In CBO's 30-year projections, the interest rate on 10-year Treasury notes and the average rate on federal debt held by the public remain close to the averages seen over the past three decades. CBO expects continued downward pressure on interest rates because of slower growth of the labor force, roughly offset by upward pressure on interest rates because of growing federal debt.

Data sources: Congressional Budget Office; Federal Reserve. See www.cbo.gov/publication/61187#data.

Data are for fiscal years. The average interest rate on all federal debt held by the public equals net interest payments in the current year divided by debt held by the public at the end of the previous year.

the Department of the Treasury and rates on special-issue Social Security bonds.

Rate on 10-Year Treasury Notes. In CBO's projections for the 2025–2055 period, the interest rate on 10-year Treasury notes averages 3.8 percent—similar to the 3.7 percent average recorded over the past three decades. The interest rate on 10-year Treasury notes remains roughly flat over the 30-year projection period, averaging 3.9 percent in the first decade and 3.8 percent in the third decade (see Figure 3-4).

The real interest rate on 10-year Treasury notes (calculated by subtracting the percentage increase in the consumer price index from the nominal yield on those notes) is projected to average 1.5 percent over the 2025–2055 period. That rate is 0.3 percentage points higher than the average from 1995 to 2024. (Since 2008, the real interest rate on 10-year Treasury notes has averaged 0.1 percent.)

Factors Affecting Interest Rates. In CBO's assessment, interest rates are largely determined over the long run by structural factors, including demographic trends, people's saving and investment behavior, and the amount of federal debt. Changes in several of those factors have caused real interest rates in the United States to trend downward since the early 1980s.[10]

CBO expects continued downward pressure on interest rates through 2055 because of changes such as slower growth of the labor force, more private domestic and foreign savings available for investment, and slower growth of total factor productivity, relative to their averages over the past three decades. A slowdown in the growth of the labor force and an increase in the total amount of savings available for investment tend to boost the amount of capital per worker in the long run, reducing the return on capital and thus the return on government bonds and other investments.[11] Slower growth of TFP also reduces the return on capital and results in lower interest rates, all else being equal.

10. Edward N. Gamber, *The Historical Decline in Real Interest Rates and Its Implications for CBO's Projections*, Working Paper 2020-09 (Congressional Budget Office, December 2020), www.cbo.gov/publication/56891.

11. For more information about the relationship between the growth of the labor force and interest rates, see Congressional Budget Office, *How Slower Growth in the Labor Force Could Affect the Return on Capital* (October 2009), www.cbo.gov/publication/41325.

That downward pressure is expected to be roughly offset by upward pressure on interest rates from two other changes: increases in federal debt and in capital income. In CBO's projections, federal debt equals a larger percentage of GDP over the 2025–2055 period than it did, on average, over the past 30 years. When federal debt grows, interest rates tend to go up, raising the cost of borrowing and in turn reducing private investment.[12] That reduction in investment tends to decrease the amount of capital per worker and further increase interest rates and the return on capital over time. In addition, capital income is expected to make up a larger percentage of total income, on average, over the projection period than it did over the past 30 years. In CBO's estimation, having a larger share of income accrue to owners of capital would directly increase the return on capital and thus raise interest rates.

Average Rate on Federal Debt Held by the Public. The interest rate on 10-year Treasury notes tends to be higher than the average interest rate on all federal debt held by the public. The reason is that the average term to maturity of federal debt has been less than 10 years since the 1950s, and interest rates on shorter-term debt are generally lower than those on longer-term debt (which is more risky for investors). In CBO's projections, the average interest rate, by fiscal year, on all federal debt held by the public is 3.6 percent over the 2025–2055 period—0.2 percentage points less than the average interest rate on 10-year Treasury notes.

Rate on Special-Issue Social Security Bonds. The two trust funds that finance the Social Security program (the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund) hold special-issue bonds. In CBO's projections, the interest rate on those bonds averages 2.6 percent through 2035—the year after which the combined balance of the two trust funds is projected to be exhausted. Because interest rates have been low for most of the past decade and are expected to rise, that projected average rate for all bonds held by the Social Security trust funds is lower over the next decade than the projected average interest rate on newly issued bonds. In CBO's projections, the interest rate on newly issued bonds held by the Social Security trust funds equals the rate on 10-year Treasury notes.

Effects of Federal Tax and Spending Policies on CBO's Economic Projections

CBO's economic projections incorporate the effects of the growing federal budget deficits and borrowing projected to occur under current law. Increases in federal borrowing reduce the amount of resources available for private investment and put upward pressure on interest rates, further reducing private investment in capital assets. As a result, economic output is smaller in the long term than it would be otherwise—especially in the last two decades of CBO's 30-year projections. Less private investment also reduces the amount of capital per worker, making workers less productive and leading to lower wages. Those lower wages reduce people's incentive to work and, consequently, lead to a smaller supply of labor.

CBO's economic projections also incorporate the effects of changes in federal tax policies that are scheduled to occur under current law, including the expiration of certain provisions of the 2017 tax act.[13] The expiration of those provisions is scheduled to increase tax rates on individuals' income at the end of 2025.

Even without those rate increases, more income is typically pushed into higher tax brackets over time as income rises faster than inflation. That trend, known as real bracket creep, results in higher effective marginal tax rates on income from labor and capital.[14] Higher marginal tax rates on labor income reduce people's after-tax wages and weaken their incentive to work. Likewise, higher marginal tax rates on capital income weaken people's incentives to save and invest, thereby reducing the stock of capital and in turn decreasing labor productivity. In CBO's projections, that reduction in labor productivity puts downward pressure on wages. All told, less private investment and a smaller labor supply reduce economic output and income in CBO's extended baseline projections.

12. For more information about interest rates and federal debt, see Andre R. Neveu and Jeffrey Schafer, *Revisiting the Relationship Between Debt and Long-Term Interest Rates*, Working Paper 2024-05 (Congressional Budget Office, December 2024), www.cbo.gov/publication/60314.

13. For more information, see Congressional Budget Office, "How the Expiring Individual Income Tax Provisions in the 2017 Tax Act Affect CBO's Economic Forecast" (December 2024), www.cbo.gov/publication/60986.

14. For more information about the effects of real bracket creep on CBO's long-term projections, see Congressional Budget Office, "How Income Growth Affects Tax Revenues in CBO's Long-Term Budget Projections" (June 2019), www.cbo.gov/publication/55368.

Appendix A: Policy Specifications, Modeling, and Methods

The Congressional Budget Office's long-term budget projections, often referred to as the extended baseline, follow the agency's 10-year baseline budget projections (which reflect a set of assumptions specified in law) and then extend most of the concepts underlying those projections for an additional 20 years.

Policy Specifications

CBO's extended baseline projections give lawmakers a benchmark against which to measure the effects of policy options or proposed legislation. The projections are not predictions of budgetary outcomes. Rather, they represent the agency's assessment of future spending, revenues, deficits, and debt under the following policy specifications (the first three of which CBO is required by law to incorporate in its baseline projections):

- Current laws affecting revenues and spending generally remain unchanged;
- Some programs—for example, the Supplemental Nutrition Assistance Program—are nevertheless extended after their authorizations lapse;
- Spending on Medicare and Social Security continues as scheduled regardless of the amounts in those programs' trust funds; and
- Discretionary spending follows CBO's 10-year baseline projections through 2035 and then transitions (over a five-year period) to grow at the same rate as nominal gross domestic product (that is, GDP without any adjustment to remove the effects of inflation).

The long-term budget projections in this report are based on the demographic, economic, and 10-year budget projections that CBO published in January 2025. The demographic projections reflect information, laws, and policies as of November 15, 2024. The economic projections reflect laws, policies, and economic developments as of December 4, 2024. The budget projections include the effects of legislation enacted as of January 6, 2025.[1] The projections do not reflect the effects of administrative actions taken or judicial decisions made after those respective dates, including actions and decisions affecting immigration, tariffs, and other policy areas.

For a summary of the policy specifications about outlays and revenues that underlie CBO's extended baseline projections, see Table A-1.[2]

Models Used to Produce the Extended Baseline

To develop the extended baseline projections, the agency uses a modeling approach that combines the following components:

- A *demographic model*, which is used to project the size of the population and its composition in terms of age and sex;
- A set of *economic forecasting models*, which are used to make baseline projections of economic variables;
- A set of *models for projecting revenues* from each major source;
- A *microsimulation model* that is used to project Social Security outlays beyond CBO's standard 10-year projection period; and

1. Congressional Budget Office, *The Demographic Outlook: 2025 to 2055* (January 2025), www.cbo.gov/publication/60875, *Additional Information About the Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/61135, and *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870.

2. For more information about the specifications in law that CBO is required to incorporate in its baseline projections, see Congressional Budget Office, *CBO Explains the Statutory Foundations of Its Budget Baseline* (May 2023), www.cbo.gov/publication/58955.

Table A-1.

Policy Specifications Underlying CBO's Extended Baseline Projections

	Policy specification
	Outlays
Social Security	As scheduled under current law[a]
Medicare	As scheduled under current law through 2035; thereafter, spending depends on the estimated growth rates of the number of beneficiaries, health care costs per beneficiary, and potential GDP per person, as well as on the estimated additional cost growth for Medicare (which is projected separately for Parts A, B, and D and moves smoothly to a rate of 0.1 percent, 0.2 percent, and 0.6 percent, respectively, by 2055)[a]
Medicaid	As scheduled under current law through 2035; thereafter, spending depends on the estimated growth rates of the number of beneficiaries, health care costs per beneficiary, and potential GDP per person, as well as on the estimated additional cost growth for Medicaid (which is projected to move smoothly to a rate of 0.6 percent by 2055)
Children's Health Insurance Program	As projected in CBO's baseline through 2035; thereafter, spending remains constant as a percentage of GDP
Premium tax credits and related spending[b]	As scheduled under current law through 2035; thereafter, spending depends on the estimated growth rates of the number of beneficiaries and potential GDP per person, as well as on the estimated additional cost growth for private health insurance premiums (which is projected to move smoothly to a rate of 0.6 percent by 2055)
Other mandatory spending	Refundable tax credits are as scheduled under current law through 2055; all other mandatory spending is as scheduled under current law through 2035 and, thereafter, is assumed to decline as a percentage of GDP at roughly the same annual rate at which it declines from 2032 to 2035 in CBO's baseline
Discretionary spending	As projected in CBO's baseline through 2035; thereafter, following a five-year transition period, discretionary spending grows at the same rate as nominal GDP
	Revenues
Individual income taxes	As scheduled under current law
Payroll taxes	As scheduled under current law
Corporate income taxes	As scheduled under current law
Excise taxes	As scheduled under current law[c]
Estate and gift taxes	As scheduled under current law
Other sources of revenues	As scheduled under current law through 2035; thereafter, receipts from other revenue sources remain constant as a percentage of GDP

Data source: Congressional Budget Office.

The extended baseline projections follow the agency's 10-year baseline budget projections and then extend most of the concepts underlying those projections for an additional 20 years.

For CBO's most recent 10-year baseline projections, see Congressional Budget Office, *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870.

Additional cost growth is the amount by which the growth rate of nominal health care spending per person (adjusted to remove the effects of demographic changes) exceeds the growth rate of potential GDP per person. Potential GDP is the maximum sustainable output of the economy.

GDP = gross domestic product.

a. Reflects the assumption that full benefits would be paid as scheduled under current law, regardless of the amounts in the program's trust funds.

b. Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

c. The exception to the current-law assumption applies to expiring excise taxes dedicated to trust funds. The Balanced Budget and Emergency Deficit Control Act of 1985 requires that CBO's baseline reflect the assumption that those taxes would be extended at their current rates. That law does not stipulate that the baseline include the extension of other expiring tax provisions, even if they have been routinely extended in the past.

- A *long-term budget model* and an *interest rate model*, which are used to project all federal outlays other than those for Social Security beyond the 10-year projection period and to calculate deficits and debt in those years.[3]

Method for Assessing Causes of Growth in Spending on the Major Health Care Programs

One of the main drivers of growing deficits is rising spending on the government's major health care programs—that is, outlays for Medicare, Medicaid, the Children's Health Insurance Program, and premium tax credits and related spending.[4] To assess how additional cost growth and the aging of the population would affect spending on the major health care programs, CBO produced estimates of such spending in 2055 under the following four scenarios:

- **Scenario 1:** The age distribution of the population remains unchanged after 2025, and additional cost growth is held at zero—that is, rather than exceed the growth of potential GDP per person as it does in CBO's projections, nominal health care spending per person (adjusted to remove the effects of demographic changes) grows at the same rate as potential GDP per person. (Potential GDP is an estimate of the amount of GDP that could be produced if labor and capital were employed at their maximum sustainable rates.)
- **Scenario 2:** The age distribution of the population changes as it does in CBO's demographic projections, and there is no additional cost growth.
- **Scenario 3:** The age distribution is held constant after 2025, and additional cost growth occurs as it does in CBO's projections.
- **Scenario 4:** The age distribution of the population and additional cost growth follow CBO's projections. (This is the scenario underlying the extended baseline.)

To estimate the effects of aging alone on spending on the major health care programs, CBO compared such spending under Scenarios 1 and 2. To estimate the effects of additional cost growth alone on spending on the major health care programs, the agency compared such spending under Scenarios 1 and 3. CBO estimated the interaction between those two effects by comparing spending on the major health care programs under Scenario 4 with the sum of the effects of aging alone and the effects of additional cost growth alone. The agency then allocated that estimate of the interaction proportionally between the two factors.

Method for Assessing Causes of Growth in Net Spending on Interest

To separate the changes in net interest costs attributable to primary deficits (that is, deficits excluding net outlays for interest) from those due to changes in the average interest rate on federal debt, CBO produced estimates of net interest costs after 2024 under the following four scenarios:

- **Scenario 1:** The average interest rate does not change, and there are no primary deficits adding to the amount of federal debt held by the public.
- **Scenario 2:** The average interest rate on federal debt does not change, and primary deficits are equal to those in CBO's budget projections.
- **Scenario 3:** The average interest rate on federal debt is the same as it is in CBO's projections, and there are no primary deficits adding to the amount of federal debt.
- **Scenario 4:** The average interest rate on federal debt and primary deficits are the same as they are in CBO's projections.

To estimate the effect of primary deficits on net interest costs, CBO compared interest costs under Scenarios 1 and 2. To estimate the effect that the change in the average interest rate on federal debt has on net interest costs, the agency compared interest costs under Scenarios 1 and 3. Finally, the agency used the relative size of those two estimates to allocate the total increase in net interest costs in Scenario 4 (CBO's baseline projections) proportionally between those two factors.

3. For information about CBO's demographic model, see Congressional Budget Office, *The Demographic Outlook: 2025 to 2055* (January 2025), www.cbo.gov/publication/60875. For details about modeling the baseline projections of economic variables, see Robert W. Arnold, *How CBO Produces Its 10-Year Economic Forecast*, Working Paper 2018-02 (Congressional Budget Office, February 2018), www.cbo.gov/publication/53537; and Robert Shackleton, *Estimating and Projecting Potential Output Using CBO's Forecasting Growth Model*, Working Paper 2018-03 (Congressional Budget Office, February 2018), www.cbo.gov/publication/53558. For information about CBO's methods for projecting revenues and for projecting the average interest rate on federal debt, see Congressional Budget Office, *CBO Explains How It Develops the Budget Baseline* (April 2023), www.cbo.gov/publication/58916, and *The 2022 Long-Term Budget Outlook* (July 2022), Appendix D, www.cbo.gov/publication/57971, respectively.

4. Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

Appendix B: Changes in CBO's Long-Term Economic Projections Since March 2024

Overview

Compared with the 30-year economic projections that the Congressional Budget Office published last year, the agency's current projections show slower average annual growth of real gross domestic product (GDP) from calendar year 2025 to 2054 (the final year of the previous long-term projection period).[1] CBO's current projections also show slower growth of real potential GDP over the latter part of the projection period, a smaller labor force by 2054, little change in the outlook for inflation, and generally lower interest rates.[2]

Changes in GDP Projections

The growth of real GDP, which affects CBO's projections of revenues from income and payroll taxes, is projected to be slower over the next 10 years than the agency projected last year. In CBO's current projections, real GDP grows at an average rate of 1.8 percent a year over the next decade, lower than the 2.0 percent average rate projected last year (see Figure B-1).

That revision mainly results from lower projections of the growth of private investment and consumer spending. CBO reduced its projection of real private investment in structures because of an upward revision to data about the past growth of prices for structures. Compared with last year's projections, the average growth of investment prices has risen more than the growth of nominal investment, causing the growth of real investment to be lower than CBO projected last year. CBO also reduced its projection of the growth of real consumer spending over the next decade, largely because it projects stronger growth in individual income tax receipts and weaker growth in asset prices than it did last year, which would leave consumers with less disposable income and wealth to finance consumption. In addition, recent data show that real GDP grew more slowly in 2024 than CBO projected last March.

The agency's projections of real GDP growth from 2035 to 2044 have not changed since last year. But its projections of real GDP growth over the 2045–2054 period are lower than last year's projections by an average of 0.2 percentage points per year. CBO projects that starting in 2033, real GDP will grow at the same rate as real potential GDP.

CBO is projecting similar growth of real potential GDP over the next two decades as it did last March, but slower growth over the 2045–2054 period. Real potential GDP is now projected to increase at an average rate of 1.4 percent a year from 2045 to 2054, down from last year's projected average growth rate of 1.6 percent. That decrease reflects a reduction in CBO's projections of population growth.

Real GDP per person is now projected to grow more slowly over the next decade, more quickly over the second decade of the projection period, and at much the same pace over the third decade as CBO projected last March.[3] The agency now projects that real GDP per person will increase at an average rate of 1.2 percent a year from 2025 to 2034, down from last year's projection of 1.4 percent average annual growth. The reduction in the projected growth of real GDP per person over the next decade reflects the decrease in CBO's projection of the growth of total real GDP over that period.

From 2035 to 2044, real GDP per person is projected to grow by 1.4 percent a year, on average, up from last year's projected average rate of 1.3 percent. That increase occurs

1. Real GDP is nominal GDP that has been adjusted to remove the effects of changes in prices. CBO's previous projections were published in Congressional Budget Office, *The Long-Term Budget Outlook: 2024 to 2054* (March 2024), www.cbo.gov/publication/59711.

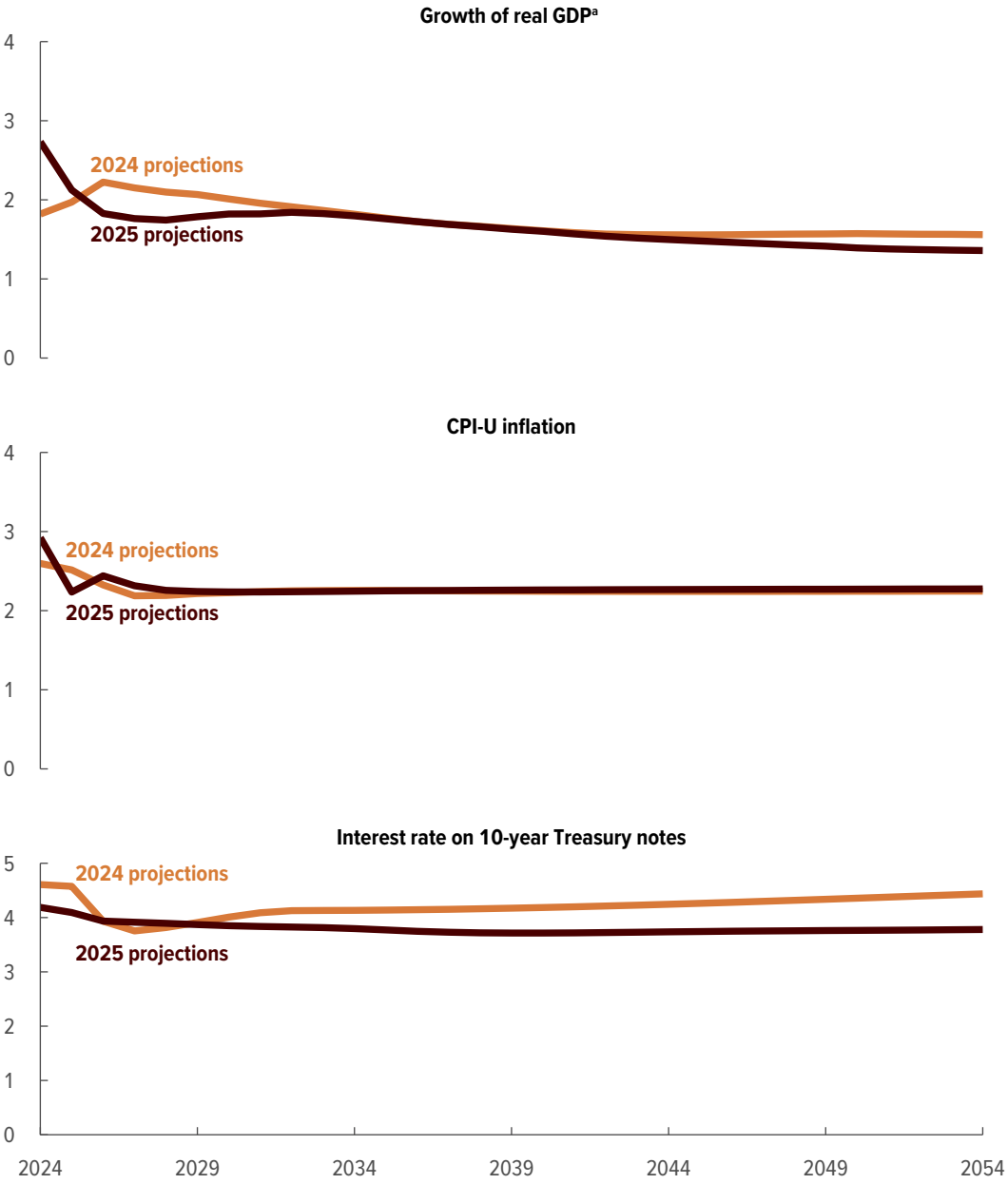
2. Real potential GDP is an estimate of the amount of real GDP that could be produced if labor and capital were employed at their maximum sustainable rates.

3. To develop its projections of real GDP per person, CBO uses a measure called the resident population plus armed forces overseas. That measure of population includes U.S. residents and members of the armed forces on active duty stationed outside the United States but excludes military dependents, and other U.S. citizens, living abroad.

Figure B-1.

CBO's 2024 and 2025 Projections of Selected Economic Variables

Percent



CBO's long-term projections of real GDP growth—which affect its projections of revenues from income, payroll, and corporate taxes—are slightly lower over the first and third decades of the projection period than they were last year.

The agency's projections of CPI-U inflation—which affect its projections of spending on Social Security and other benefit programs with cost-of-living adjustments—are roughly the same as last year's.

Projections of the average nominal interest rate on 10-year Treasury notes—a key factor in CBO's projections of the federal government's net interest costs—are lower in most years of the projection period than they were last year.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

CPI-U = consumer price index for all urban consumers; GDP = gross domestic product.

a. Real GDP is nominal GDP that has been adjusted to remove the effects of changes in prices.

because although CBO's projection of real GDP growth over that period is similar to last year's, its projection of population growth is slower. For the 2045–2054 period, CBO's projection of the growth of real GDP per person is similar to last year's projection. The reason is that downward revisions to projections of the growth of real GDP and the population during that decade offset one another.

Nominal GDP is projected to grow more slowly, on average, over the first and third decades of the projection period, and about the same in the second decade, as CBO forecast last March. In the agency's current projections, nominal GDP grows at an average rate of 3.9 percent per fiscal year over the 2025–2034 period, down from an average of 4.0 percent in last year's projections. That difference is attributable to downward revisions to CBO's projections of the growth of real GDP, slightly offset by increases in projections of the growth of the GDP price index. (To project nominal GDP growth, CBO first projects real GDP growth and then adjusts those values by using its projections of the growth of the GDP price index to incorporate the effects of inflation.)

Over the second decade of the projection period, nominal GDP is projected to grow at an average rate of 3.7 percent per fiscal year, similar to last year's projection. For the 2045–2054 period, however, CBO projects that nominal GDP will grow by an average of 3.5 percent per year, down from the 3.6 percent rate projected in March 2024. That decrease reflects the agency's current expectation of slower growth of real GDP during that period.

The level of GDP is higher in this year's projections than in last year's projections by 1.5 percent, on average, over the next 30 calendar years. That difference is mainly attributable to revised, newly released data indicating that GDP was larger in 2024 than CBO estimated last March.

Changes in Labor Force Projections

Projections of the size of the labor force depend on projections of the population categorized by age, sex, and education, as well as on projections of those groups' rates of participation in the labor force.[4] CBO now projects that the labor force will expand more quickly over the next decade, but more slowly over the 2045–2054 period, than it forecast last year. Those changes are driven by revisions to CBO's projections of the labor force participation rates of various groups and changes to the size and composition of the population.

Growth of the Labor Force

In CBO's current projections, the labor force grows slightly faster over the next decade, roughly the same over the following decade, and more slowly over the 2045–2054 period than CBO projected last year. The slight increase to projected labor force growth in the next decade stems from upward revisions to CBO's projections of population growth during that period. Conversely, CBO now projects slower population growth from 2035 to 2054 than it did last year. That change offsets changes that increase the labor force participation rate in the second decade of the projection period, leaving labor force growth during that decade roughly unchanged from last year's projections.

Over the third decade, significantly slower population growth than CBO projected last year more than offsets upward revisions to projections of the labor force participation rate, reducing the growth of the labor force. The labor force is now projected to increase at an average rate of 0.1 percent a year over the 2045–2054 period, down from 0.2 percent in last year's projections (see Figure B-2).

Labor Force Participation Rate

In CBO's current projections, the rate of participation in the labor force is similar to last year's projections over the next decade but higher than those projections over the following two decades (see Figure B-2). The agency projects a participation rate of 61.4 percent in 2034, the same as in last year's projections. But it projects higher participation rates than it did last year for the rest of the 30-year period: 61.4 percent in 2044, up from 60.9 percent; and 61.3 percent in 2054, up from 60.7 percent.

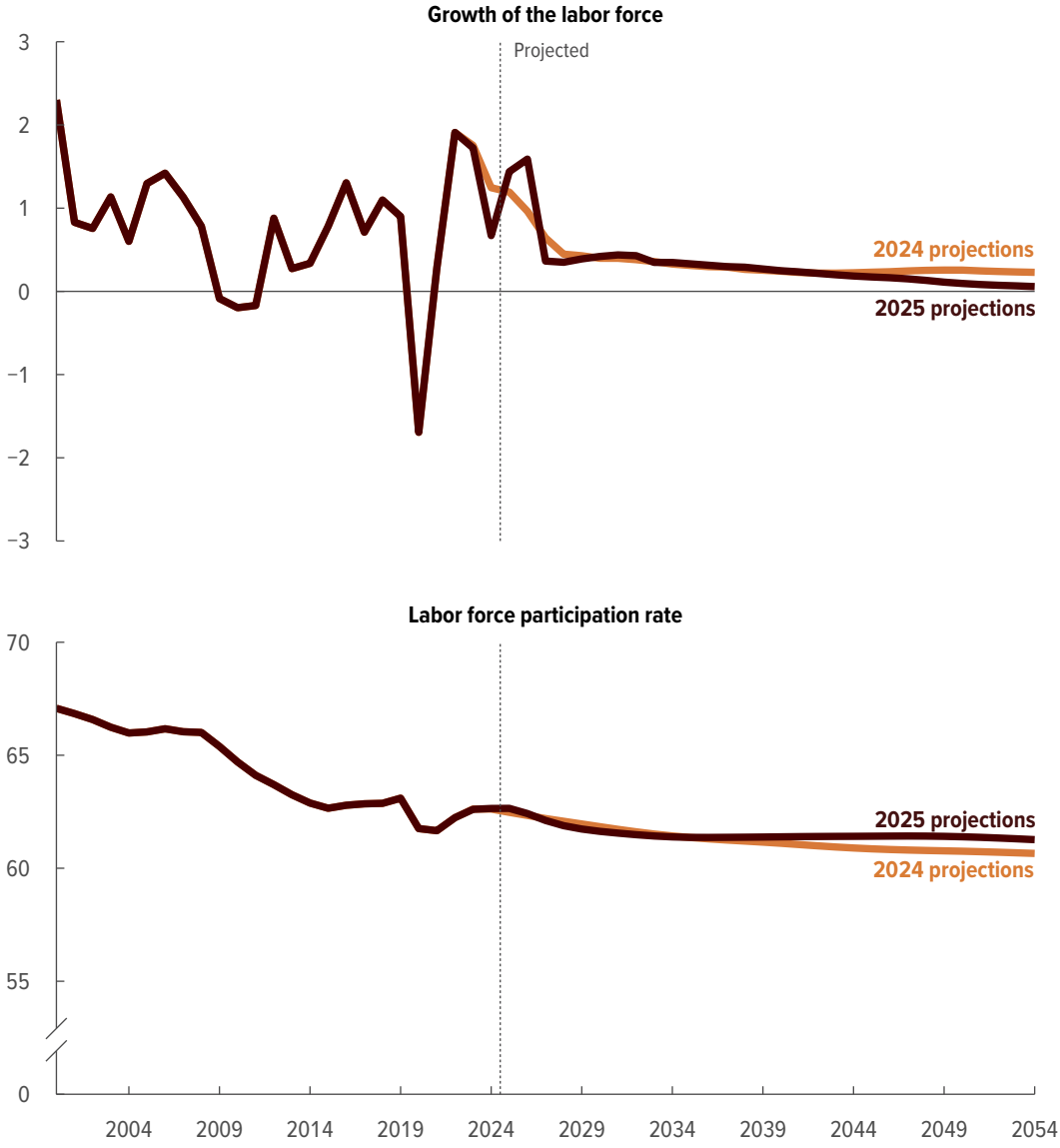
The upward revisions to the labor force participation rate in the second and third decades of the projection period reflect a change in CBO's forecasting method. Last year, CBO projected participation rates for different groups of the population—categorized by age, sex, and education—on the basis of past trends in family structure,

4. The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The labor force participation rate is the percentage of the civilian noninstitutionalized population age 16 or older that is in the labor force. The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm.

Figure B-2.

CBO's 2024 and 2025 Projections of the Labor Force

Percent



In this year's projections, the labor force grows at roughly the same pace as CBO projected last year through 2044. After that, the labor force grows more slowly in this year's projections than in last year's projections because of slower projected growth of the population.

CBO's current projections of the overall rate of participation in the labor force are similar to last year's projections over the next decade but higher than those projections over the following two decades.

Data sources: Congressional Budget Office; Bureau of Labor Statistics. See www.cbo.gov/publication/61187#data.

The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The labor force participation rate is the percentage of the civilian noninstitutionalized population age 16 or older that is in the labor force. The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm.

tax rates, and wages for each group.[5] This year, CBO estimated the most recent trend in the participation rate for each group and held it constant over the projection period.[6] As a result, in this year's projections, changes in the overall rate of labor force participation result entirely from changes in the age, sex, and educational composition of the population. In CBO's assessment, demographic changes are the most important factors driving the long-term projection of the labor force participation rate. The current method, which relies only on population projections, reflects the effects of demographic changes and does not rely on projections of additional factors, which can add to the uncertainty of the projections.

Trends in the composition of the population are responsible for keeping the projected labor force participation rate relatively constant from 2034 to 2050 and then reducing it. In CBO's current projections, the aging of the population puts less downward pressure on the labor force participation rate in the second and third decades of the projection period than it does in the first decade, while increases in educational attainment continue to boost the participation rate. Those two effects roughly balance each other out from 2034 to 2050, causing the labor force participation rate to remain fairly stable over those years instead of declining, as in the previous projections. After 2050, the labor force participation rate is projected to fall as the large generation of people born in the 1980s reaches retirement age. Last year, CBO projected that the participation rate would keep declining over the whole projection period, because factors other than the composition of the population, such as family structure, put additional downward pressure on the projection.

Changes in Inflation Projections

After 2026, CBO's projections of inflation—whether measured by growth in the consumer price index for all urban consumers (CPI-U), in the personal consumption expenditures (PCE) price index, or in the GDP price index—are similar to last year's projections. In 2025, however, CPI-U inflation is expected to be slightly lower than CBO forecast last year (see Figure B-1 on page 44).

Changes in Interest Rate Projections

CBO has lowered its projection of the nominal interest rate on 10-year Treasury notes over the next three decades (see Figure B-1 on page 44). Downward revisions to the nominal 10-year rate are smaller in the first decade of the projection period than in the third decade, averaging roughly 0.2 percentage points from 2025 to 2034 and roughly 0.6 percentage points from 2045 to 2054. On average for the entire 30-year period, CBO lowered its projection of the nominal 10-year rate to 3.8 percent from the 4.2 percent projected last year.[7] That revision largely results from changes to the agency's method for forecasting interest rates on Treasury securities.

This year, CBO forecast the long-run difference (or spread) between interest rates on long-term and short-term Treasury securities by using the relationship between the interest rate on long-term Treasury securities, the expected interest rate on short-term Treasury securities, and the expected rate of inflation from the mid-1950s to the present. Previously, CBO projected that the spread between those interest rates over the long run would roughly equal the average spread seen since the early 1980s. However, for much of that historical period, the expected rate of inflation was much higher than the Federal Reserve's goal of 2 percent. CBO's new method accounts for the changes in long-run inflation expectations that have occurred in the past several decades.

The new method reduced CBO's projection of the long-run spread between rates on long- and short-term Treasury securities. If everything else is unchanged, the smaller estimated spread over the projection period than the historical average spread used last year lowers the projected interest rate on 10-year Treasury notes by roughly 0.6 percentage points in the last two decades of the projection period.

The downward revision to the rate on 10-year Treasury notes because of CBO's new forecasting method is partly offset by an upward revision to the agency's projection of short-term interest rates (whose expected path influences long-term rates). That upward revision results from changes to CBO's projections of economic variables other

5. Specifically, last year CBO assigned specific factors (such as family structure) to each group, projected the factors, and forecast the labor force participation rate for each group by drawing on the historical relationship between the factors and that group's labor force participation rate.

6. CBO expects to publish additional information about its new method later this year.

7. CBO made roughly the same changes to its projections of interest rates on newly issued bonds held in the Social Security program's trust funds.

than interest rates. The agency currently projects that, on average, the rate of private saving in the United States will be lower, and capital income as a share of total income will be higher, than previously projected. Both of those changes increase short-term interest rates if everything else is unchanged. In addition, CBO expects that, on average, the growth rate of the labor force and the ratio of federal debt to GDP will be lower than previously projected. Both of those changes reduce short-term interest rates if everything else is unchanged. In all, the changes result in an upward revision, on average, to CBO's projection of short-term interest rates over the 2025–2054 period.

The upward revision to short-term interest rates diminishes over the projection period. The downward revisions to projections of labor force growth and of federal debt as a percentage of GDP increase over time. By the final decade of the projection period, their effects on short-term interest rates roughly offset the effects of a lower projected rate of private saving and higher projections of capital income as a share of total income.

Like the average nominal interest rate on 10-year Treasury notes, the average real rate on those notes (which CBO calculates by subtracting the percentage increase in the CPI-U from the notes' nominal yield) is lower in this year's projections. The real 10-year rate is now projected to average 1.5 percent over the 2025–2054 period instead of the 1.9 percent projected last year.

The average nominal interest rate on all federal debt held by the public is projected to be higher through 2042 than CBO forecast last year: 3.5 percent instead of 3.3 percent. From 2043 to 2054, that rate is projected to be lower than CBO projected last year: 3.6 percent instead of 3.7 percent.

Appendix C: CBO's Projections of Additional Economic Factors

Overview

The Congressional Budget Office develops its assessment of the long-term outlook for the federal budget using its projections of economic factors over the next three decades.[1] The projections presented in this report are consistent with the economic forecast for calendar years 2025 to 2035 that CBO published in January 2025.[2] Those projections reflect the assumption that current laws governing federal taxes and spending generally remain unchanged.

Projections of federal budgetary outcomes depend on many economic factors, some of which are discussed in Chapter 3. This appendix describes CBO's long-term projections of other economic factors, which are closely related to its projections of gross domestic product (GDP), inflation, and interest rates. Those additional factors include several labor market outcomes—such as unemployment, hours worked, and earnings—and factors related to capital accumulation and productivity.

CBO's projections of those factors reflect its assessment of various economic and demographic developments as well as its estimates of the effects of the Federal Reserve's monetary policy and the federal government's tax and spending policies on economic activity. (The projections reflect developments in the economy and laws and policies that were in place as of December 4, 2024.)

Labor Market Outcomes

In addition to the growth of the labor force and the rate of labor force participation (described in Chapter 3), CBO projects the unemployment rate, the average and total number of hours that people work, and various measures of workers' earnings. The agency regularly updates those projections to account for revisions to historical data, reassessments of economic and demographic trends, and changes to its analytical methods.

Unemployment Rate

In CBO's projections, the unemployment rate generally rises through 2028 and then declines through 2055.[3] The unemployment rate averages 4.4 percent over the next decade and 4.1 percent over the third decade of the projection period (see Table C-1). From 2032 to 2055, the unemployment rate remains roughly 0.2 percentage points higher than the noncyclical rate of unemployment (the unemployment rate resulting from all sources except changes in aggregate demand). That difference is consistent with the projected gap of 0.5 percent between actual GDP and potential GDP (the maximum sustainable output of the economy).

CBO's projection of the noncyclical rate of unemployment declines for most of the 30-year projection period—from an average of 4.2 percent over the first decade to 3.9 percent over the third decade. That slow decline reflects continuing shifts in the composition of the workforce toward older and more educated workers, whose unemployment rates tend to be lower (when they participate in the labor force), and away from younger and less educated workers, whose unemployment rates tend to be higher.

Average Weekly Hours Worked

Given current laws and past long-term trends, CBO expects growth in the average number of hours worked per week to rise over the next decade from its current historical low and then resume its previous downward trend from 2035 to 2055. In 2055, the average worker in the nonfarm business sector is projected to work roughly one-quarter of an hour more per week than such a worker does today.

1. Those long-term economic projections are included in the supplemental data posted along with this report at www.cbo.gov/publication/61187#data.

2. Congressional Budget Office, *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870.

3. The unemployment rate is the percentage of people in the labor force who are not working but are available for work and are either seeking work or expecting to be recalled from a temporary layoff. The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm.

Table C-1.

Average Annual Values for Additional Economic Variables That Underlie CBO's Extended Baseline Projections

Percent

	1995–2024	2025–2035	2036–2045	2046–2055	Overall, 2025–2055
Unemployment					
Unemployment rate[a]	5.6	4.4	4.2	4.1	4.2
Noncyclical rate of unemployment[b]	4.8	4.2	4.0	3.9	4.0
Growth of average weekly hours worked	-0.1	0.1	*	*	*
Growth of total hours worked	0.8	0.5	0.2	0.1	0.3
Earnings as a share of compensation	81.5	82.3	82.1	81.8	82.0
Growth of real earnings per worker	1.1	1.3	1.1	1.0	1.1
Growth of total factor productivity[c]	1.3	1.0	1.1	1.1	1.0
Growth of labor productivity (real GDP per hour worked)	1.7	1.3	1.3	1.3	1.3

Data sources: Congressional Budget Office; Bureau of Labor Statistics. See www.cbo.gov/publication/61187#data.

Real values are nominal values that have been adjusted to remove the effects of changes in prices.

GDP = gross domestic product; * = between -0.05 percent and 0.05 percent.

a. The percentage of people in the labor force who are not working but are available for work and are either seeking work or expecting to be recalled from a temporary layoff.

b. The rate of unemployment resulting from all sources except changes in aggregate demand.

c. Total factor productivity is the average real output per unit of combined labor and capital services.

In CBO's projections, growth in the average number of hours worked declines from 2035 to 2055 because of increases in the effective tax rate on labor income.[4] Effective tax rates on individuals' income rise because of real bracket creep—a trend in which, as people's income grows faster than inflation, more of their income is pushed into higher tax brackets. When people face higher tax rates, their returns from working decline, leading them to work fewer hours, on average.

Total Hours Worked

CBO projects that the total number of hours worked per year will increase at an average annual rate of 0.3 percent over the next 30 years—more slowly than the 0.8 percent average growth rate seen over the past three decades. The growth of total hours worked averages 0.5 percent per year over the next decade and 0.1 percent per year over the third decade of the projection period. That growth is projected to slow mainly because the labor force is expected to expand more slowly in the future than it has over the past 30 years. (The total number of hours worked is calculated using projections of the growth of the labor force, average weekly hours worked, and unemployment.)

Earnings as a Share of Compensation

Workers' total compensation consists of earnings (which include wages and salaries but exclude proprietors' income) and nonwage compensation (such as employers' contributions for health insurance, for pensions, and for government social insurance programs). Since 1960, the share of total compensation paid in the form of wages and salaries has declined—from 91 percent in that year to an average of 82 percent over the past decade—mainly because employer's contributions for health insurance have increased more quickly than total compensation.[5] CBO anticipates that the cost of health insurance will grow slightly more rapidly than wages and salaries over the next 30 years. As a result, in CBO's projections, the share of compensation that workers receive as earnings slowly declines over that period, from 83 percent in 2024 to 82 percent in 2055.

Real Earnings per Worker

Real earnings (employees' wages and salaries and proprietors' income, adjusted to remove the effects of changes in prices) per worker are projected to grow by an average of 1.1 percent a year over the 2025–2055 period—the same

4. The effective tax rate is the ratio of taxes paid to a given tax base. For individual income taxes and for payroll taxes paid by employees, the effective tax rate is typically expressed as the ratio of taxes paid to a taxpayer's adjusted gross income.

5. For more discussion about CBO's projections of the various components of income, see Congressional Budget Office, *How CBO Projects Income* (July 2013), www.cbo.gov/publication/44433.

growth rate they averaged over the past 30 years. CBO's projections of real earnings per worker are based on its projections of total factor productivity (the average real output per unit of combined labor and capital services) in the nonfarm business sector, capital per worker, the growth of real wages, and the amount of nonwage compensation.

Distribution of Earnings

In CBO's projections, the share of earnings accruing to high earners increases over the next 30 years, and the share accruing to lower earners declines accordingly. That process occurs more slowly than it did in the past, however. The share of earnings accruing to workers in the top 10 percent of the earnings distribution increases by an average of 0.1 percentage point per year from 2025 to 2055. That growth is slower than it was from 1978 to 2023 (the most recent year for which data are available), when the share of earnings accruing to workers in the top 10 percent of the distribution grew by 0.2 percentage points per year, on average.

The way in which earnings are distributed across the population affects revenues from income taxes as well as from payroll taxes (particularly those for Social Security). Income taxes are affected by the distribution of earnings because of the progressive rate structure of the individual income tax: People with lower income pay a smaller percentage of their earnings in taxes than people with higher income do.

Payroll taxes for Social Security are affected by the distribution of earnings because those taxes are levied on covered earnings up to a maximum annual amount ($176,100 in 2025).[6] As earnings have grown more for high earners than for others, the share of covered earnings subject to Social Security payroll taxes has fallen from 90 percent in 1983 to 84 percent in 2023 (the most recent year for which data are available). In CBO's projections, the portion of covered earnings subject to Social Security payroll taxes declines from 83 percent in 2025 to 81 percent in 2055, reducing revenues from those taxes.

Changes in CBO's Projections of Labor Market Outcomes Since March 2024

Some of this year's long-term projections of labor market outcomes are similar to the ones CBO published in March 2024, in its previous *Long-Term Budget Outlook*.[7] For example, CBO's projection of the growth of real earnings per worker through 2054 (the final year covered by the March 2024 projections) is roughly the same as last year's projection.

Other projections differ:

- The unemployment rate and the noncyclical rate of unemployment are slightly lower, on average, in this year's projections than they were in last year's projections. Those revisions reflect a change in CBO's method for estimating the noncyclical rate of unemployment. The new method improves on the earlier method by incorporating information about the growth of wages and prices and long-term trends in labor productivity.[8]
- Total hours worked grow slightly more slowly over the next 30 years in the current projections than they did in last year's projections, mainly because of downward revisions to CBO's forecast of the growth of the labor force over the next three decades.
- Earnings make up a larger share of compensation from 2035 to 2054 in CBO's current projections than they did in last year's projections. That increase reflects slower projected growth in employers' contributions for health insurance.
- To reflect recent data, CBO lowered its projection of the share of earnings accruing to workers at the very top of the earnings distribution and increased its projection of the share of earnings accruing to other workers.

Capital Accumulation and Productivity

Like outcomes in the labor market, capital accumulation and increases in the average real output per unit of combined labor and capital services (total factor productivity, or TFP) directly affect CBO's projections of the growth of economic output. The accumulation of productive capital helps production grow from one year to the next.

6. Social Security benefits accrue only on covered earnings up to that maximum taxable amount. Covered earnings are those received by workers in jobs subject to Social Security payroll taxes. Most workers pay payroll taxes on their earnings, although a small number of workers are exempt (mostly those in state or local government jobs or in the clergy). Earnings above the maximum taxable amount are also exempt from Social Security payroll taxes.

7. Congressional Budget Office, *The Long-Term Budget Outlook: 2024 to 2054* (March 2024), www.cbo.gov/publication/59711.

8. CBO's new method for estimating the noncyclical rate of unemployment takes account of wage growth and inflation as well as many other factors, including trends in labor productivity, energy prices, and export prices. The method uses those factors to identify the past noncyclical rates of unemployment for specific demographic groups. CBO projects the total noncyclical rate by applying those groups' projected shares of the labor force to their noncyclical rates of unemployment at the beginning of the projection period. CBO expects to publish more information about the new method later this year.

In the nonfarm business sector, TFP growth contributes directly to the growth of output. Increases in TFP have been the biggest contributor to the growth of potential output in past decades, and they continue to be the main driver of such growth in CBO's projections.

Increases in the productivity of labor, which is measured by real GDP per hour worked, reflect the growth of real GDP that is not attributable to the growth of total hours worked. Thus, labor productivity includes the contributions of capital accumulation and TFP to real GDP growth.

Capital Accumulation

In CBO's projections, private capital accumulates in the nonfarm business sector more quickly over the next 10 years than it does over the second and third decades of the projection period. In that sector, capital services (the flow of productive services from the stock of capital assets) grow at an average rate of 2.3 percent a year over the next decade. By the third decade of the projection period, that average growth falls to 1.8 percent a year.

The accumulation of private capital mainly depends on the growth of factors such as private saving, international flows of capital, federal borrowing, the labor force, and TFP. In CBO's projections, private saving and inflows of foreign investment are larger relative to GDP, on average, than they were over the past 30 years. Those two factors increase the speed of capital accumulation over the next 30 years compared with the past 30 years. That increase, however, is more than offset by three other factors:

- An increase in federal borrowing as a percentage of GDP, which pushes up interest rates, thereby reducing the growth of both private investment and the stock of private capital;
- A slowdown in the growth of the labor force, which slows capital accumulation by decreasing the demand for capital to equip new workers; and
- A deceleration in the growth of total factor productivity.

Total Factor Productivity

In CBO's projections, TFP grows by an average of 1.0 percent a year from 2025 to 2055. That rate is 0.3 percentage points lower than the average annual rate of growth since 1950 and 0.2 percentage points lower than the average rate since 1990.

CBO's analysis of historical trends in TFP growth suggests that projections for the next few decades should place greater weight on the slower growth in recent years than on the faster growth in the more distant past. Thus, although CBO projects that TFP growth will accelerate moderately from its recent, unusually slow pace, the growth rate in the agency's projections is less than the long-term historical average.

Labor Productivity

Given projected slowdowns in the accumulation of capital and the growth of TFP, the growth of potential labor force productivity (the ratio of real potential GDP to the potential labor force) slows in CBO's projections—from an average of 1.4 percent a year over the first decade of the projection period to 1.3 percent over the third decade.[9] The growth of labor productivity (real GDP per hour worked) is projected to maintain a similar pace over the next 30 years, averaging 1.3 percent in each of the next three decades.

Changes in CBO's Projections of Capital Accumulation and Productivity Since March 2024

CBO's projections of capital accumulation over the last two decades of the projection period are lower now than they were last year because the agency has reduced its projection of real investment. As a result, CBO now projects that capital services in the nonfarm business sector will grow at an average annual rate of 2.0 percent over the 2025–2054 period, instead of the 2.1 percent rate projected last year. CBO lowered its projection of real private investment in structures because of an increase to the projected growth of prices for those structures. The average growth of investment prices has risen more than the growth of nominal investment, causing the growth of real investment to be lower than it was in last year's projections. Since last year, CBO has also reduced its projections of the growth of the labor force over the last two decades of the projection period. That change leads to lower projections of private investment by reducing the number of workers to equip with capital.

TFP is now projected to grow more slowly, on average, over the next three decades than CBO projected last year. The agency's projections of TFP growth depend mainly on a weighted historical average over the past 25 years. That historical average is lower than it was last year because it includes fewer observations from the late 1990s, an era when productivity grew sharply.

9. The potential labor force is an estimate of how big the labor force would be if economic output and other key variables were at their maximum sustainable amounts.

CBO's long-term projection of the growth of real GDP per hour worked is slightly lower than it was last year. The reason is that downward revisions to the projected growth of capital services were mostly offset by downward revisions to the growth of total hours worked in the agency's current projections.

Factors Affecting Capital Accumulation and Productivity

In CBO's view, the long-term growth of the nation's stock of private capital (which results from private investment) will be driven by the growth of the labor force, private saving, international flows of direct foreign investment and financial capital, and federal borrowing. Private saving tends to move in the same direction as growth of the labor force, and both private saving and international flows of capital tend to move in tandem with the rate of return on investment (a rate that measures the extent to which investment in the stock of capital results in a flow of income).

In the agency's view, increased federal borrowing decreases the amount of funds available for private investment and puts upward pressure on interest rates. Higher interest rates reduce the growth of business investment by making it more costly for companies to borrow money to expand their productive capacity. Higher interest rates also reduce the growth of residential investment by raising mortgage rates.

Total factor productivity is projected to grow more slowly, on average, over the next 30 years than it has over the past 30 years for several reasons. One is that CBO expects improvements in labor quality (an overall measure of workers' skills that accounts for educational attainment and work experience) to slow over the next three decades, on average. The workforce is likely to become more experienced as improvements in health and increases in life expectancy lead people (particularly highly educated people) to continue working past the ages at which previous generations retired. However, those gains in experience are projected to be more than offset by slowdowns in the growth of overall educational attainment. Improvements in labor quality are implicitly included in CBO's measure of TFP.

Another factor that reduces CBO's projection of TFP growth is a projected decline in the federal government's spending as a percentage of GDP on physical capital (such as transportation infrastructure and water and power projects), on education and training, and on research and development. Such investment spending produces income and other benefits (such as higher productivity and greater efficiency) for private businesses. In CBO's projections, federal discretionary spending is smaller as a percentage of GDP over the next decade than it was in past decades. If federal investment generally remained unchanged as a share of discretionary spending, and if discretionary spending declined as a percentage of GDP, federal investment would also decline relative to GDP. In CBO's assessment, such a reduction in federal investment would dampen the growth of TFP.[10]

Climate change also affects the agency's projections of TFP growth in future decades. Drawing on studies of the historical relationship between regional output and regional temperature, and on projections of future conditions, CBO has projected that, on net, climate change will cause real GDP in 2055 to be 0.9 percent smaller than it would be if climatic conditions remained stable after 2024.[11] CBO adjusts its projection of the long-term trend of TFP to be consistent with that change in GDP. The projected 0.9 percent reduction in real GDP represents the average of a wide range of possible outcomes and does not reflect all the ways in which climate change, future technological advances, or adaptation could affect economic output.

10. For more details about how CBO estimates the economic effects of federal investment, see Congressional Budget Office, *Effects of Physical Infrastructure Spending on the Economy and the Budget Under Two Illustrative Scenarios* (August 2021), www.cbo.gov/publication/57327, and *The Macroeconomic and Budgetary Effects of Federal Investment* (June 2016), www.cbo.gov/publication/51628.

11. Last year, CBO estimated that climate change would reduce real GDP at the end of the projection period by 0.4 percent. For details about the method CBO used for those estimates, see Evan Herrnstadt and Terry Dinan, *CBO's Projection of the Effect of Climate Change on U.S. Economic Output*, Working Paper 2020-06 (Congressional Budget Office, September 2020), www.cbo.gov/publication/56505; and Congressional Budget Office, "Technical Information About How CBO Models the Effects of Climate Change on Output in Its Long-Term Economic Projections" (September 2021), www.cbo.gov/publication/57421. The agency has since updated its estimate of the effects of climate change on real GDP. For more information on those updated estimates, see Chad Shirley and William Swanson, *The Effects of Climate Change on GDP in the 21st Century*, Working Paper 2025-02 (Congressional Budget Office, February 2025), www.cbo.gov/publication/61186; and Congressional Budget Office, *The Risks of Climate Change to the United States in the 21st Century* (December 2024), www.cbo.gov/publication/60845.

Appendix D: Changes in CBO's Long-Term Budget Projections Since March 2024

Overview

The long-term budget projections in this report are based on the demographic, economic, and 10-year budget projections that the Congressional Budget Office published in January 2025. The demographic projections reflect information, laws, and policies as of November 15, 2024. The economic projections reflect laws, policies, and economic developments as of December 4, 2024. The budget projections include the effects of legislation enacted as of January 6, 2025.[1] The projections do not reflect the effects of administrative actions taken or judicial decisions made after those respective dates, including actions and decisions affecting immigration, tariffs, and other policy areas.

CBO's current budget projections for the 2025–2054 period differ from the projections the agency published in March 2024.[2] The differences are attributable to changes in law, changes in the agency's demographic and economic projections, and the availability of more recent data.[3]

In CBO's current projections:

- Spending measured as a percentage of gross domestic product (GDP) is 0.2 percentage points lower, on average, over the 2025–2054 period than it was in last year's projections.
- Revenues are 0.4 percent of GDP higher, on average, over that period than they were in last year's projections.
- Debt held by the public rises from 100 percent of GDP in 2025 to 154 percent in 2054 (see Figure D-1). Such debt is lower than the agency projected last year by 2 percent of GDP in 2025 and by 12 percent in 2054.
- Total deficits measured as a percentage of GDP are generally larger through 2033 and smaller thereafter than they were in last year's projections. They are smaller over the 2025–2054 period than previously estimated by 0.5 percent of GDP, on average. Primary deficits (that is, total deficits excluding net outlays for interest) are smaller than projected last year by 0.3 percent of GDP, on average.

This past January, CBO published budget projections for the 2025–2055 period. The agency's current long-term projections differ from those earlier projections, which did not constitute a full update and were developed using a simplified approach for estimating spending on Social Security beyond 2035.

In the current projections, federal debt held by the public amounts to 156 percent of GDP in 2055. In the January 2025 projections, such debt totaled 154 percent of GDP in that year.

Changes in Projected Spending

In CBO's current projections, noninterest spending is 0.1 percent of GDP higher, on average, than it was in last year's projections; such spending is higher through 2037 but is about the same thereafter. (Noninterest spending is spending on mandatory and discretionary programs combined.) That initial increase in relation to last year's projections is the result of higher projections of spending on Medicaid and other health-related programs (excluding Medicare) and of discretionary spending that are partially offset by lower projections of spending on

1. Congressional Budget Office, *The Demographic Outlook: 2025 to 2055* (January 2025), www.cbo.gov/publication/60875, *Additional Information About the Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/61135, and *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870.

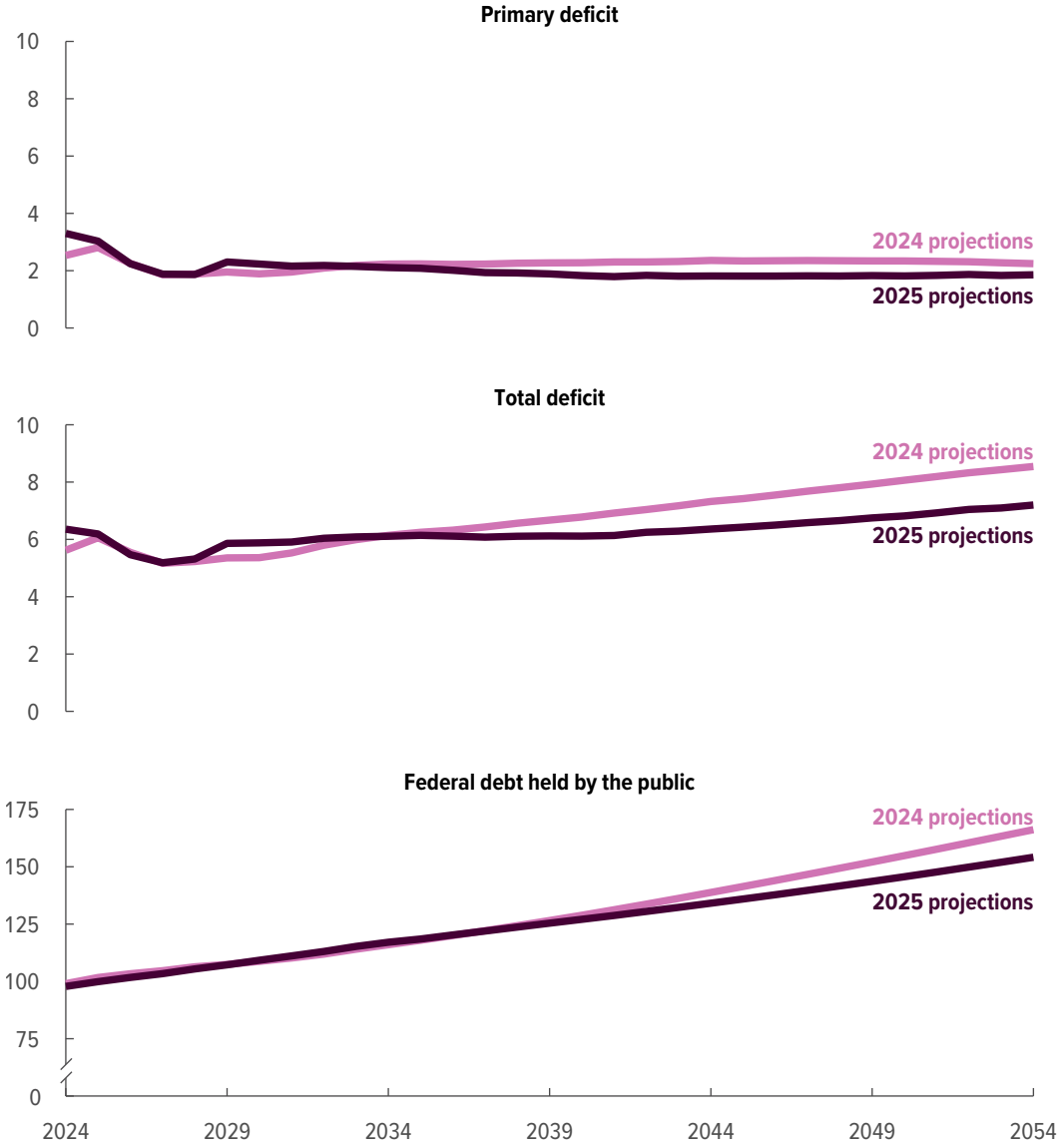
2. Congressional Budget Office, *The Long-Term Budget Outlook: 2024 to 2054* (March 2024), www.cbo.gov/publication/59711. Because most of last year's projections ended in 2054, this appendix generally makes comparisons through that year.

3. For changes in CBO's economic projections since 2024, see Appendix B and Appendix C of this report. For changes in projections of demographic factors since January 2024, see Congressional Budget Office, *The Demographic Outlook: 2025 to 2055* (January 2025), www.cbo.gov/publication/60875. For details about how CBO's budget projections for 2025 to 2034 have changed since June of last year, see Congressional Budget Office, *The Budget and Economic Outlook: 2025 to 2035* (January 2025), Appendix A, www.cbo.gov/publication/60870.

Figure D-1.

CBO's 2024 and 2025 Projections of Deficits and Federal Debt Held by the Public

Percentage of GDP



In CBO's current projections, primary deficits measured as a percentage of GDP are 0.2 percentage points smaller, on average, over the 2025–2054 period than they were in last year's projections.

CBO's current projections of total deficits are generally larger through 2033 but smaller in subsequent years.

Measured as a percentage of GDP, federal debt is now projected to be smaller, on average, over the 2025–2054 period than CBO previously projected.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

CBO's long-term budget projections, referred to as the extended baseline, follow the agency's 10-year baseline budget projections (which conform to a set of assumptions specified in law) and then extend most of the concepts underlying those projections for an additional 20 years.

In this figure, deficits were calculated by subtracting revenues from outlays; thus, positive values indicate deficits.

Primary deficits exclude net outlays for interest.

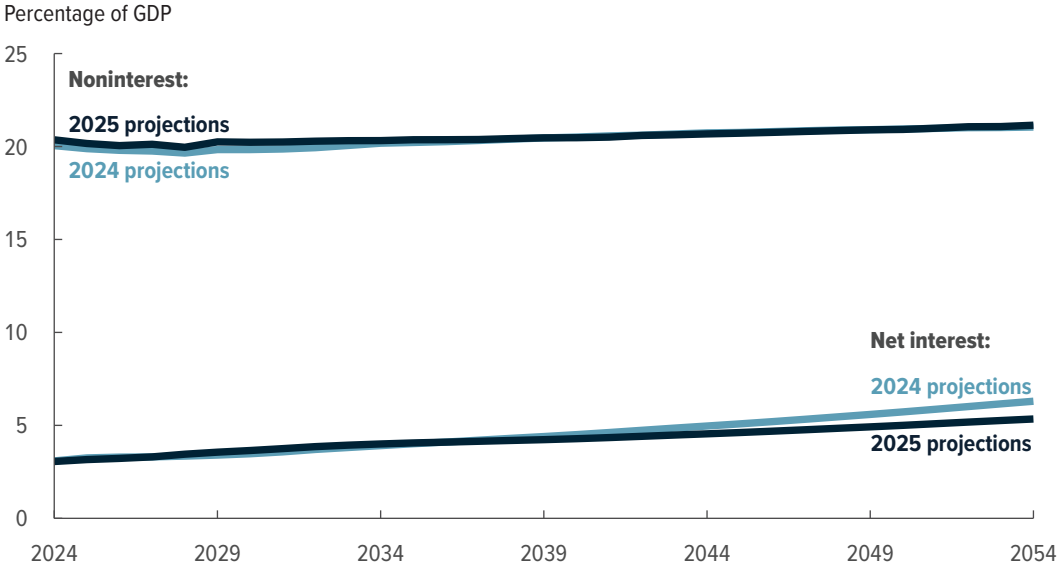
GDP = gross domestic product.

Medicare and other mandatory programs. In the later years of the projection period, when projected Medicaid spending is about the same in this year's projections as in last year's, the reduction in Medicare spending fully offsets the increases in discretionary spending. Spending on Social Security in this year's projections is about the same as in last year's.

Total spending measured as a percentage of GDP is higher through 2037 than it was in last year's projections and lower thereafter. Net outlays for interest are generally higher through 2036 than previously projected and lower thereafter (see Figure D-2).

Figure D-2.

CBO's 2024 and 2025 Projections of Outlays



In CBO's current projections, noninterest spending measured in relation to GDP is higher through 2037 than it was in last year's projections and about the same thereafter.

Net outlays for interest, measured as a percentage of GDP, are lower, on average, over the 2025–2054 period than they were in last year's projections.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

CBO's long-term budget projections, referred to as the extended baseline, follow the agency's 10-year baseline budget projections (which conform to a set of assumptions specified in law) and then extend most of the concepts underlying those projections for an additional 20 years.

GDP = gross domestic product.

Mandatory Spending

Mandatory spending consists of outlays for most federal benefit programs—including the major health care programs and Social Security—and outlays for certain other payments to people, businesses, nonprofit institutions, and state and local governments.[4] Such outlays are generally governed by statutory criteria and are not normally constrained by the annual appropriation process.

In CBO's current projections, mandatory spending amounts to 14.0 percent of GDP in 2025 (0.1 percentage point more than it was in last year's projections) and 16.0 percent in 2054 (0.2 percentage points less than projected last year). Such spending is now higher than previously estimated through 2032 and lower thereafter (see Table D-1).

Medicare. Measured in relation to GDP, spending on Medicare over the 2025–2054 period is 0.3 percentage points lower, on average, than projected last year. Such spending is now lower in every year of the projection period by amounts that generally increase over time. Medicare spending now averages 4.3 percent of GDP over the 2025–2054 period, totaling 3.1 percent of GDP in 2025 and 5.1 percent in 2054. In CBO's March 2024 projections, such spending averaged 4.6 percent of GDP over that same period and totaled 3.2 percent and 5.4 percent of GDP in 2025 and 2054, respectively.

Current projections of Medicare spending are lower than last year's projections for three reasons.

- CBO lowered its projections of Medicare enrollment after improving the model it uses to develop those projections. The improvements included removing foreign-born people who are not eligible for Medicare benefits from the enrollment projections.
- The agency reduced its projections of growth in the amounts that Medicare pays to clinical laboratories to better reflect the amounts paid in recent years.
- CBO's latest economic forecast includes downward revisions to the producer price index for prescription drugs, which reduced expected growth in payments to hospitals, skilled nursing facilities, and other providers.

4. Spending on the major health care programs consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, the Children's Health Insurance Program, and premium tax credits and related spending. Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchased by individuals and small employers.

Table D-1.

CBO's 2024 and 2025 Projections of Revenues, Outlays, Deficits, and Federal Debt Held by the Public in Selected Years

Percentage of GDP

	2025	2036	2046	2054
Revenues				
Individual income taxes				
2024 projections	8.6	9.6	10.0	10.3
2025 projections	8.7	10.1	10.6	10.9
Payroll taxes				
2024 projections	5.9	5.9	5.9	5.8
2025 projections	5.8	5.9	5.9	5.9
Corporate income taxes				
2024 projections	1.7	1.3	1.4	1.4
2025 projections	1.7	1.2	1.2	1.2
Other[a]				
2024 projections	0.8	1.2	1.3	1.3
2025 projections	0.9	1.1	1.2	1.3
Total revenues				
2024 projections	**17.1**	**18.0**	**18.5**	**18.8**
2025 projections	**17.1**	**18.4**	**18.9**	**19.3**
Outlays				
Mandatory				
Social Security				
2024 projections	5.3	5.9	5.8	5.9
2025 projections	5.2	6.0	5.9	6.0
Major health care programs[b]				
2024 projections	5.5	6.9	7.9	8.3
2025 projections	5.8	6.8	7.7	8.1
Other[c]				
2024 projections	3.1	2.4	2.2	2.0
2025 projections	3.0	2.4	2.1	1.9
Subtotal, mandatory				
2024 projections	13.9	15.3	15.9	16.2
2025 projections	14.0	15.2	15.7	16.0
Discretionary				
2024 projections	6.0	4.9	4.9	4.9
2025 projections	6.1	5.2	5.1	5.1
Net interest				
2024 projections	3.3	4.1	5.2	6.3
2025 projections	3.2	4.1	4.7	5.3
Total outlays				
2024 projections	**23.1**	**24.4**	**26.0**	**27.3**
2025 projections	**23.3**	**24.5**	**25.4**	**26.5**

Continued

Medicaid and Other Health-Related Programs. Measured as a percentage of GDP, combined outlays for Medicaid, the Children's Health Insurance Program, and premium tax credits and related spending are greater over the 30-year projection period than CBO estimated last year. (Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act.) Mainly driven by projected spending on Medicaid, the increases are larger earlier in the projection period and decline over time. In CBO's current projections, spending on Medicaid amounts to 2.2 percent of GDP in 2025 and 2.5 percent in 2054. In the agency's March 2024 projections, such spending equaled 1.9 percent and 2.5 percent of GDP for those years, respectively.

Table D-1. Continued

CBO's 2024 and 2025 Projections of Revenues, Outlays, Deficits, and Federal Debt Held by the Public in Selected Years

Percentage of GDP

	2025	2036	2046	2054
Total deficit (-)[d]				
2024 projections	**-6.1**	**-6.3**	**-7.5**	**-8.5**
2025 projections	**-6.2**	**-6.1**	**-6.5**	**-7.2**
Federal debt held by the public				
2024 projections	**102**	**120**	**144**	**166**
2025 projections	**100**	**120**	**138**	**154**
Addendum:				
Noninterest spending				
2024 projections	19.9	20.3	20.8	21.0
2025 projections	20.2	20.4	20.8	21.1
Primary deficit (-)[d,e]				
2024 projections	-2.8	-2.2	-2.3	-2.2
2025 projections	-3.0	-2.0	-1.8	-1.9

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

CBO's long-term budget projections, referred to as the extended baseline, follow the agency's 10-year baseline budget projections (which conform to a set of assumptions specified in law) and then extend most of the concepts underlying those projections for an additional 20 years.

GDP = gross domestic product.

a. Consists of excise taxes, remittances to the Treasury from the Federal Reserve System, customs duties, estate and gift taxes, and miscellaneous fees and fines.

b. Consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, the Children's Health Insurance Program, and premium tax credits and related spending. Premium tax credits subsidize the purchase of health insurance through the marketplaces established under the Affordable Care Act. Related spending is spending to subsidize health insurance provided through the Basic Health Program and to stabilize premiums for health insurance purchases by individuals and small employers.

c. Includes the refundable portions of the earned income tax credit, the child tax credit, and the American Opportunity Tax Credit.

d. When outlays exceed revenues, the result is a deficit. Values in this row were calculated by subtracting outlays from revenues; thus, negative values indicate deficits.

e. Excludes net outlays for interest.

CBO increased its projections of spending on Medicaid because enrollment in the program and costs per enrollee were greater than expected in 2024. The costs were higher than expected because of a reported decrease in the average health status of Medicaid enrollees after the continuous eligibility put in place during the coronavirus pandemic was fully wound down during 2024. CBO expects that beginning in 2026 (when payment rates start to reflect the decrease in average health status), higher costs per enrollee will lead to higher-than-previously-projected payment rates for health plans that manage care for Medicaid enrollees.[5]

Social Security. Spending on Social Security is about the same in CBO's current projections as in last year's. Such spending averages 5.8 percent of GDP over the 2025–2054 period, unchanged from last year's projections.

Other Mandatory Programs. Current projections of spending on mandatory programs other than Social Security and the major health care programs are generally lower in relation to GDP than last year's projections of such spending. Several factors, including increases in projected outlays for clean vehicle and energy-related tax credits, boosted the current projections. But those factors were more than offset by others. One offsetting factor is greater GDP in this year's projections, attributable to revised and newly released data indicating that GDP was greater in 2024 than CBO estimated last March. (An increase in GDP reduces any given

5. For more details, see Congressional Budget Office, *The Budget and Economic Outlook: 2025 to 2035* (January 2025), Appendix A, www.cbo.gov/publication/60870.

amount of spending measured as a percentage of GDP.) Another factor is decreased projections of outlays in some areas of the budget, including outlays for deposit insurance and the Supplemental Nutrition Assistance Program.

Discretionary Spending

CBO now projects that, measured as a percentage of GDP, outlays for discretionary programs will be larger over the next three decades than the agency estimated last March.[6] Those larger outlays contribute to greater projected noninterest spending through 2037. In the agency's current projections, discretionary spending averages 5.3 percent of GDP over the 2025–2054 period, up from 5.1 percent in last year's projections.

In accordance with provisions of the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177), CBO's projections of funding for discretionary programs generally reflect the assumptions that funding in the current year (in this case, 2025) includes an extension of the funding provided in the current continuing resolution through the end of the fiscal year, and that funding in future years is equal to the amount provided for the current year with increases for inflation.

CBO's current estimate of discretionary spending in 2025 is higher than last year's, and that higher estimate flows through to future years in the projection period. The largest contributor to that increased estimate for 2025 was the emergency supplemental appropriations for disaster relief provided in the American Relief Act, 2025 (P.L. 118-158). In addition, that law continued through March 14, 2025, the discretionary funding provided for 2024 by the Consolidated Appropriations Act, 2024 (P.L. 118-42), and the Further Consolidated Appropriations Act, 2024 (P.L. 118-47). That increased amount of discretionary funding exceeded the amount reflected in CBO's March 2024 projections.

Some of the projected increase in discretionary spending for 2025 was offset by a reduction in projected funding to comply with the cap that was in place for defense programs in 2025 when CBO's current projections were finalized. (The Fiscal Responsibility Act of 2023, P.L. 118-5, established caps on most defense and nondefense discretionary funding for 2024 and 2025. Supplemental emergency appropriations are not subject to those caps.)[7]

Net Interest Spending

CBO's current projections of net outlays for interest over the 2025–2054 period are lower by 0.3 percent of GDP, on average, than last year's projections.[8] Such outlays now total 3.2 percent of GDP in 2025 (0.1 percentage point less than previously projected) and 5.3 percent in 2054 (1.0 percentage point less than previously projected). Net outlays for interest are generally greater through 2036 than CBO projected last March. But from 2037 to 2054, they are less than previously projected because estimates of the average interest rate on federal debt and of the amount of federal debt held by the public are lower in those years. (For a discussion of the changes in the long-term projections of interest rates, see Appendix B.)

Changes in Projected Revenues

In CBO's current projections, federal revenues measured as a percentage of GDP are higher over the entire 30-year projection period than they were in the agency's March 2024 projections—by an average of 0.4 percentage points (see Figure D-3). Projected revenues are now higher by 0.1 percentage point in 2025 and 0.5 percentage points in 2054. The overall increase in projected revenues is largely driven by increased estimates of receipts from individual income taxes—the largest source of revenues—in the current projections.

Measured in relation to GDP, projected receipts from individual income taxes are higher by an average of 0.5 percentage points over the projection period. That increase is due to higher projections of asset values, which increase expected distributions from taxable retirement accounts as a percentage of GDP, and lower projections of mortgage interest, which is deductible for taxpayers who itemize their deductions. Payroll tax receipts are higher than previously projected by less than 0.1 percentage point, on average. Corporate income tax receipts are lower than previously projected by 0.1 percentage point, on average. Receipts from other revenue sources,

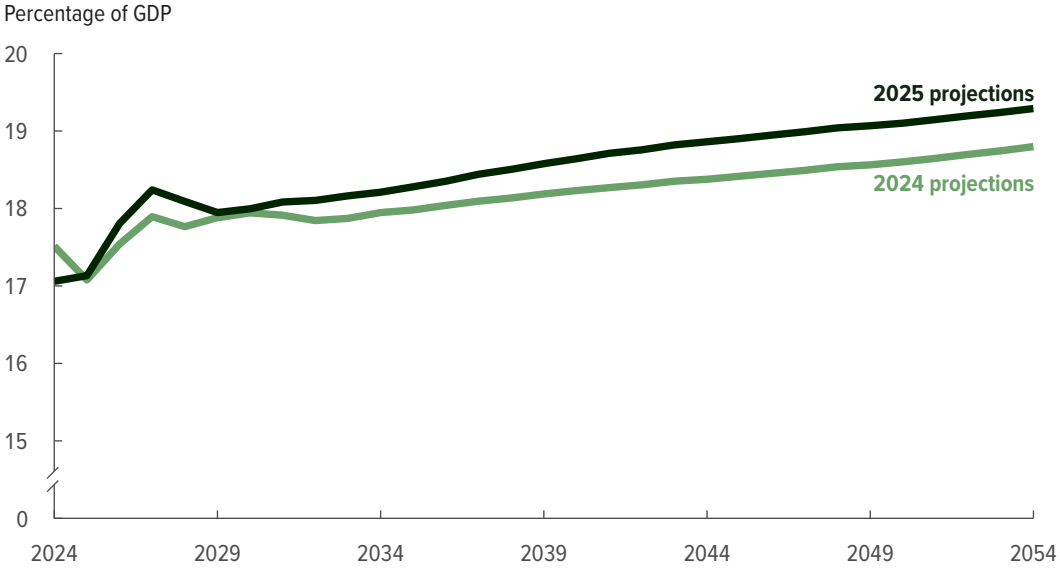
6. Discretionary spending encompasses outlays for an array of federal activities that are funded through or controlled by appropriations. That category includes most defense spending and spending for many nondefense activities, such as elementary and secondary education, housing assistance, international affairs, the administration of justice, and highway programs.

7. For a more detailed explanation of the caps established by the Fiscal Responsibility Act of 2023, see Congressional Budget Office, *The Budget and Economic Outlook: 2024 to 2034* (February 2024), Box 1-1, www.cbo.gov/publication/59710.

8. In the federal budget, net outlays for interest consist of the government's interest payments on federal debt, offset by interest income that the government receives.

Figure D-3.

CBO's 2024 and 2025 Projections of Revenues



In CBO's current projections, federal revenues measured in relation to GDP are higher throughout the 2025–2054 period than they were in last year's projections.

Data source: Congressional Budget Office. See www.cbo.gov/publication/61187#data.

CBO's long-term budget projections, referred to as the extended baseline, follow the agency's 10-year baseline budget projections (which conform to a set of assumptions specified in law) and then extend most of the concepts underlying those projections for an additional 20 years.

GDP = gross domestic product.

including remittances from the Federal Reserve, are lower by less than 0.1 percentage point.[9]

Changes in Projected Debt and Deficits

As a result of the changes to CBO's projections of spending and revenues, total debt held by the public, measured as a percentage of GDP, is now projected to be smaller through 2029, then larger through 2036, and smaller thereafter. In the current projections, debt held by the public increases from 100 percent of GDP in 2025 to 154 percent in 2054; last year, CBO projected that it would increase from 102 percent of GDP in 2025 to 166 percent in 2054.

The same changes to spending and revenues underlying the changes in projected debt from 2025 to 2054 also affected CBO's projections of deficits. In the current projections, the total deficit for 2025 equals 6.2 percent of GDP, 0.1 percentage point larger than projected last year. In 2054, the total deficit is 7.2 percent of GDP, 1.3 percentage points smaller than last year's projection. The larger total deficit in 2025 is attributable to higher noninterest spending in this year's projections (net interest costs are slightly lower and revenues are about the same in 2025). In later years, total deficits are smaller because primary deficits are smaller and interest costs are lower than CBO previously projected. Those reduced primary deficits are driven by a projected increase in revenues that outweighs the projected increase in noninterest spending.

Measured in relation to GDP, primary deficits over the 2025–2054 period are smaller, on average, in CBO's current projections than in the projections published last March. Primary deficits now average 2.0 percent of GDP over that period, down from the 2.2 percent of GDP they averaged in last year's projections. Those smaller primary deficits reflect increases in projected revenues (which were 0.4 percentage points higher, on average, over the period) that are greater than the increases in projected noninterest spending (which was 0.1 percentage point higher, on average).

9. In CBO's current projections, tax receipts measured in nominal dollars are higher than in last year's projections because the agency increased its projections of factors that boost the size of the economy, including wages and salaries. (Nominal dollars are dollars that have not been adjusted to remove the effects of inflation.) Because those factors increase GDP as well as revenues, they affect tax receipts measured as a percentage of GDP less than they affect receipts measured in nominal dollars.

Changes in Long-Term Budget Projections Since January 2025

CBO last published long-term budget projections in January 2025.[10] Those projections and the ones presented here are based on the agency's current economic and budget projections for 2025 to 2035 and incorporate its long-term projections of the population, the economy, and revenues—none of which have changed since January. The long-term projections of spending on Social Security that CBO released in January were prepared using a simplified approach that the agency regularly uses between full updates. The projections in this report, however, constitute a full update.

In January, CBO projected that federal debt held by the public would reach 154 percent of GDP in 2055. Such debt is now projected to reach 156 percent of GDP in that year. In the agency's current projections, average spending on Social Security over the 2025–2055 period increased by less than 0.1 percentage point, leading to an increase, also of less than 0.1 percentage point, in net outlays for interest.

10. Congressional Budget Office, "Long-Term Budget Projections" (supplemental material for *The Budget and Economic Outlook: 2025 to 2035*, January 2025), www.cbo.gov/data/budget-economic-data#1.

List of Tables and Figures

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About This Document

This volume is one of a series of reports on the state of the budget and the economy that the Congressional Budget Office issues each year. CBO's long-term budget projections, referred to as the extended baseline, follow the agency's 10-year baseline budget projections and then extend most of the concepts underlying those projections for an additional 20 years. In keeping with CBO's mandate to provide objective, impartial analysis, the report makes no recommendations.

Overseen by Molly Dahl and prepared with guidance from Robert Arnold (a consultant to CBO), Devrim Demirel, Edward Harris, Joseph Kile, John McClelland, Jaeger Nelson, and Julie Topoleski, the report is the work of many analysts at CBO. Molly Dahl prepared the executive summary and wrote Chapter 1 with contributions from Aaron Betz, Daniel Fried, Jaeger Nelson, and Jeffrey Schafer. Molly Dahl wrote Chapter 2 in collaboration with Kathleen Burke and with contributions from Alia Abdelkader, Joseph Anderson, Xinzhe Cheng, and Madeleine Fischer. Aaron Betz wrote Chapter 3 with contributions from Daniel Crown, Edward Gamber, Chandler Lester, Jeffrey Schafer, and Byoung Hark Yoo. Molly Dahl compiled Appendix A. Aaron Betz authored Appendix B and Appendix C with contributions from Daniel Crown, Edward Gamber, Chandler Lester, James Pearce, Jeffrey Schafer, Chad Shirley, William Swanson, and Byoung Hark Yoo. Molly Dahl authored Appendix D with contributions from Joseph Anderson, Barry Blom, Kathleen Burke, Xinzhe Cheng, Sarah Sajewski, and Robert Stewart.

Austin Barselau, Cornelia Hall, Katherine Kim, Noah Meyerson, Eamon Molloy, Hudson Osgood, Aaron Pervin, Dan Ready, Lara Robillard, Sarah Sajewski, Julia Sheriff, Delaney Smith, Robert Stewart, Carolyn Ugolino, and Noah Zwiefel contributed to the analysis in this report with guidance from Christina Hawley Anthony, Barry Blom, Chad Chirico, Elizabeth Cove Delisle, Sean Dunbar, Alexandra Minicozzi, Sam Papenfuss, Asha Saavoss, and Emily Stern.

The long-term budget simulations were coordinated and prepared by Joseph Anderson along with Alia Abdelkader, Xinzhe Cheng, Daniel Crown, and Madeleine Fischer.

Edward Harris, John McClelland, Molly Saunders-Scott, and Joshua Shakin coordinated the revenue simulations, which were prepared by Kathleen Burke, Dorian Carloni, Nathaniel Frentz, Bilal Habib, Jack Lynch, Shannon Mok, Daniel Page, James Pearce, Kevin Perese, Kurt Seibert, Jennifer Shand, Molly Sherlock, Naveen Singhal, Ellen Steele, Emma Uebelhor, and James Williamson.

Robert Arnold (a consultant to CBO), Devrim Demirel, Sebastien Gay, and Jaeger Nelson coordinated the macroeconomic projections, which were prepared by Nicholas Abushacra, Joyce Bai, Aaron Betz, Daniel Crown, Daniel Fried, Edward Gamber, Ron Gecan, Mark Lasky, Chandler Lester, Kyoung Mook Lim, Michael McGrane, Christine Ostrowski, and Jeffrey Schafer.

Molly Dahl, Kathleen FitzGerald, Xiaotong Niu, Sam Papenfuss, and Julie Topoleski coordinated the population projections, which were developed by Daniel Crown with contributions from Jeremy Crimm, Rebecca Heller, Delaney Smith, and Katherine Starkey.

Mark Doms and Jeffrey Kling reviewed the report. Valuable comments were provided by Ann E. Futrell, Evan Herrnstadt, Kyoung Mook Lim, Shannon Mok, John Seliski, Molly Sherlock, Emily Stern, and James Williamson, and that work was coordinated by Michael Fialkowski.

Christine Bogusz, Christine Browne, Scott Craver, Christian Howlett, Bo Peery, and Caitlin Verboon edited the report, and R. L. Rebach created the graphics and prepared the text for publication. Madeleine Fischer coordinated the fact-checking of the report with contributions from Nicholas Abushacra, Margot Berman, Jodi Capps (a consultant to CBO), Alexander Gniewecki, Jada Ho, Jack Lynch, Daniel Page, Natalia Reyes, Youstiena Shafeek, Noah Swart, Emma Uebelhor, Grace Watson, and Griffin Young. Nicholas Abushacra, Daniel Crown, Natalia Reyes, and Noah Swart prepared the supplemental information files. The report is available at www.cbo.gov/publication/61187.

CBO seeks feedback to make its work as useful as possible. Please send comments to communications@cbo.gov.

Phillip L. Swagel
Director
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