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

The Budget and Economic Outlook: 2023 to 2033

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At a Glance

The Congressional Budget Office regularly publishes reports presenting its baseline projections of what the federal budget and the economy would look like in the current year and over the next 10 years if current laws governing taxes and spending generally remained unchanged. This report is the latest in that series.

The Budget. CBO projects a federal budget deficit of $1.4 trillion for 2023. (Deficits and spending have been adjusted to exclude the effects of shifts that occur in the timing of certain payments when October 1 falls on a weekend.) In the agency's projections, deficits generally increase over the coming years; the shortfall in 2033 is $2.7 trillion. The deficit amounts to 5.3 percent of gross domestic product (GDP) in 2023, swells to 6.1 percent of GDP in 2024 and 2025, and then declines in the two years that follow. After 2027, deficits increase again, reaching 6.9 percent of GDP in 2033—a level exceeded only five times since 1946 (see Chapter 1).

In CBO's projections, outlays and revenues measured as a percentage of GDP equal or exceed their 50-year averages through 2033. Outlays increase from 23.7 percent of GDP in 2023 (a high level by historical standards) to 24.9 percent in 2033, largely because of rising interest costs and greater spending on programs that provide benefits to elderly people. Revenues amount to 18.3 percent of GDP in 2023. They then decline over the next two years before increasing after 2025, when certain provisions of the 2017 tax act expire. Revenues are roughly stable after 2027; they total 18.1 percent of GDP in 2033.

Debt held by the public is projected to rise in relation to the size of the economy each year, reaching 118 percent of GDP by 2033—which would be the highest level ever recorded. Debt would continue to grow beyond 2033 if current laws generally remained unchanged.

Changes in CBO's Budget Projections. CBO's projection of the deficit for 2023 is now $0.4 trillion more than it was in May 2022; the projection of the cumulative deficit over the 2023–2032 period is now $3.1 trillion (or about 20 percent) more, largely because of newly enacted legislation and changes in CBO's economic forecast, including higher projected inflation and interest rates (see Appendix A).

The Economy. To combat high inflation, the Federal Reserve sharply increased the target range for the federal funds rate in 2022. In CBO's projections, inflation gradually slows in 2023 as pressures ease from factors that, since mid-2020, have caused demand to grow more rapidly than supply. Output stagnates and unemployment rises in 2023, partially as a result of tighter monetary policy. After that, inflation slowly returns to the Federal Reserve's long-run goal of 2 percent, and output grows at a more robust pace as interest rates decrease (see Chapter 2).

Changes in CBO's Economic Projections. The agency projects much weaker growth of real GDP for 2023 than it did last May, stronger growth during the 2024–2026 period, and similar rates of growth over the remainder of the projection period. CBO now projects higher inflation for 2023 and 2024 than it did last May, mainly for two reasons: Recent data suggest that inflation has been more persistent across many sectors of the economy than CBO anticipated, and supply-side disruptions have remained greater than the agency previously forecast. CBO now expects both short- and long-term interest rates to be higher, on average, over the next five years than forecast last May, mostly because of higher projected inflation.

www.cbo.gov/publication/58848

By the Numbers

Budget Outlook, by Fiscal Year

	Percentage of Gross Domestic Product					Billions of Dollars			
	Average, 1973–2022	Actual, 2022	2023	2024	2033	Actual, 2022	2023	2024	2033
Revenues, Total	**17.4**	**19.6**	**18.3**	**17.7**	**18.1**	**4,896**	**4,812**	**4,838**	**7,098**
Individual income taxes	8.0	10.5	9.6	9.0	9.7	2,632	2,523	2,467	3,803
Payroll taxes	6.0	5.9	6.0	6.0	5.9	1,484	1,562	1,633	2,307
Corporate income taxes	1.8	1.7	1.8	1.8	1.4	425	475	479	539
Other	1.6	1.4	1.0	1.0	1.1	356	251	260	449
Outlays, Total	**21.0**	**24.8**	**23.7**	**23.8**	**24.9**	**6,208**	**6,206**	**6,493**	**9,799**
Mandatory, subtotal	10.9	16.3	14.6	14.3	15.3	4,076	3,825	3,885	5,997
Social Security	4.4	4.8	5.1	5.3	6.0	1,213	1,336	1,450	2,355
Major health care programs	3.3	5.6	5.7	5.6	6.7	1,404	1,508	1,528	2,629
Medicare, net of offsetting receipts	2.0	2.8	3.1	3.3	4.1	710	820	894	1,623
Medicaid, CHIP, and marketplace subsidies	1.2	2.8	2.6	2.3	2.6	695	688	634	1,005
Other	3.2	5.8	3.7	3.3	2.6	1,459	981	908	1,014
Discretionary, subtotal	8.0	6.6	6.6	6.9	6.0	1,657	1,741	1,869	2,373
Defense	4.3	3.0	3.1	3.1	2.8	746	800	848	1,105
Nondefense	3.8	3.6	3.6	3.7	3.2	910	941	1,022	1,269
Net interest	2.0	1.9	2.4	2.7	3.6	475	640	739	1,429
Deficit, Total	**-3.6**	**-5.2**	**-5.3**	**-6.1**	**-6.9**	**-1,312**	**-1,394**	**-1,655**	**-2,702**
Deficit, Primary	-1.5	-3.3	-2.9	-3.4	-3.2	-837	-755	-916	-1,273
Debt Held by the Public	46.9	97.0	98.0	100.4	118.2	24,257	25,716	27,370	46,445

See Chapter 1. When October 1 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. Mandatory outlays, discretionary outlays, and deficits have been adjusted to exclude the effects of those timing shifts.

Economic Outlook, by Calendar Year

Percent

					Annual Average	
	Actual, 2022	2023	2024	2025	2026–2027	2028–2033
			Change From Year to Year			
Real (Inflation-adjusted) GDP	2.1	0.3	1.8	2.7	2.4	1.8
Inflation						
PCE price index	6.2	3.8	2.7	2.2	2.1	2.0
Consumer price index	8.0	4.8	3.0	2.2	2.1	2.3
			Annual Average			
Unemployment Rate	3.6	4.7	4.9	4.7	4.5	4.5
Payroll Employment (Monthly change, in thousands)	427	9	66	97	80	67
Interest Rates						
3-month Treasury bills	2.0	4.5	3.2	2.5	2.2	2.3
10-year Treasury notes	3.0	3.9	3.8	3.8	3.8	3.8
Tax Bases (Percentage of GDP)						
Wages and salaries	43.8	44.3	44.5	44.5	44.3	44.0
Domestic corporate profits (Estimated value for 2022)	9.7	7.9	7.5	7.9	8.2	8.0

See Table 2-1 on page 35. Actual values for 2022 reflect data available from the Bureau of Economic Analysis and the Bureau of Labor Statistics in early February 2023. The data contain values for the fourth quarter of 2022, which were not available when CBO developed its current projections.

Contents

Notes

The budget projections in this report include the effects of legislation enacted through January 9, 2023, and are based on the Congressional Budget Office's economic projections. Those economic projections reflect economic developments and information as of December 6, 2022, and are available on CBO's website (www.cbo.gov/data/budget-economic-data#4).

Unless this report indicates otherwise, the historical data shown in figures, tables, and text describing the economic forecast reflect more recent fourth-quarter data available from the Bureau of Economic Analysis and other sources in early February 2023.

Unless the report indicates otherwise, all years referred to in describing the budget outlook 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 the economic outlook are calendar years.

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

Some of the figures in this report use shaded vertical bars to indicate periods of recession. (A recession extends from the peak of a business cycle to its trough.)

Previous editions of this report often included an appendix of historical budget data. Those data and other supplemental data for this analysis are available on CBO's website (www.cbo.gov/publication/58848#data), as are a glossary of common budgetary and economic terms (www.cbo.gov/publication/42904), a description of how CBO prepares its baseline budget projections (www.cbo.gov/publication/53532), a description of how CBO prepares its economic forecast (www.cbo.gov/publication/53537), and previous editions of this report (https://tinyurl.com/4dt4hshv).

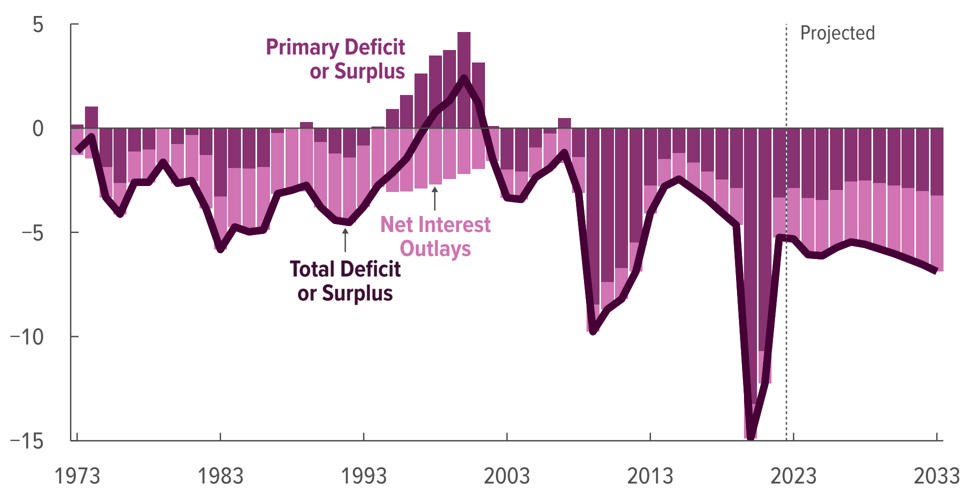
Visual Summary

In this report, the Congressional Budget Office describes its projections of the federal budget and the U.S. economy under current law for this year and the decade that follows. The deficit is projected to total $1.4 trillion in 2023; annual deficits average $2.0 trillion over the 2024–2033 period. CBO expects economic growth to stagnate and inflation to slow in 2023 in response to the sharp rise in interest rates during 2022. After that, in CBO's projections, output grows at a more robust pace as inflation continues to decline toward the Federal Reserve's long-run goal of 2 percent.

Deficits

In CBO's projections, the deficit amounts to 5.3 percent of gross domestic product (GDP) in 2023. (Deficits and spending have been adjusted to exclude the effects of shifts that occur in the timing of certain payments when October 1 falls on a weekend.) Deficits fluctuate over the next four years, averaging 5.8 percent of GDP. Starting in 2028, they grow steadily; the projected shortfall in 2033 is 6.9 percent of GDP—significantly larger than the 3.6 percent of GDP that deficits have averaged over the past 50 years.

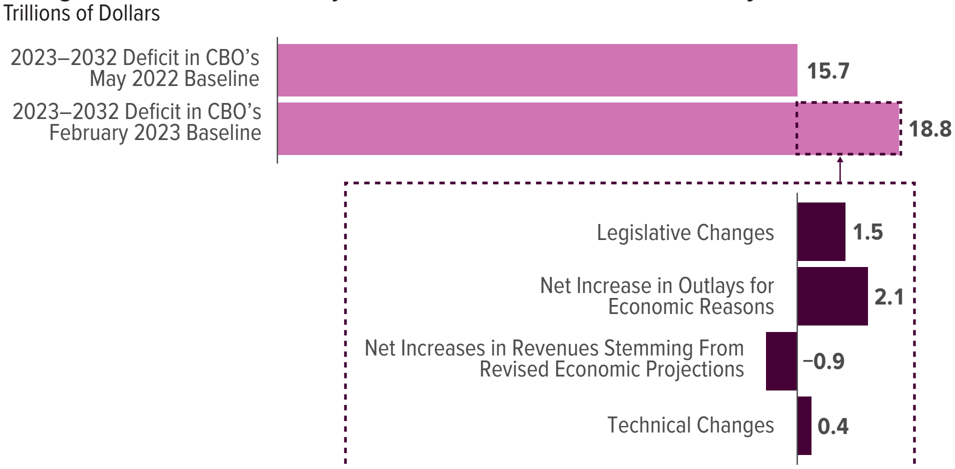
Total Deficits, Primary Deficits, and Net Interest Outlays
Percentage of Gross Domestic Product



See Figure 1-1 on page 8

In CBO's projections, net interest outlays increase by 1.2 percent of GDP from 2023 to 2033 and are a major contributor to the growth of total deficits. Primary deficits (that is, revenues minus noninterest outlays) increase by 0.4 percent of GDP over that period.

Changes in CBO's Baseline Projections of the 10-Year Deficit Since May 2022
Trillions of Dollars



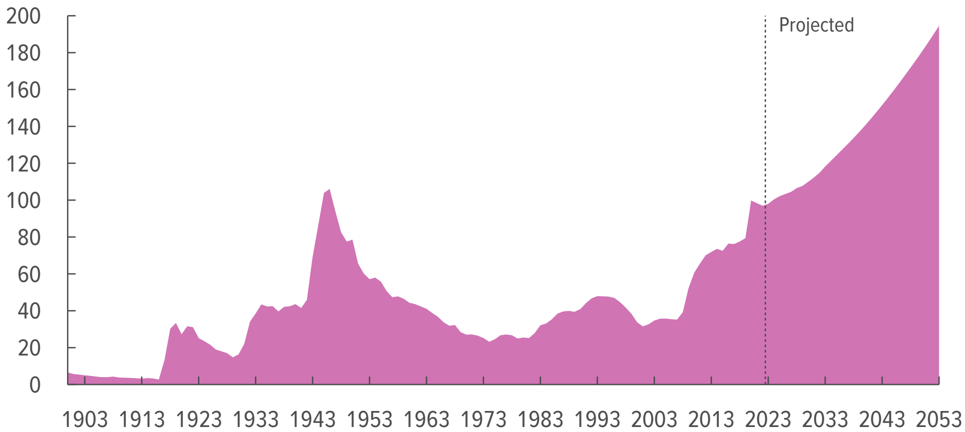
See Figure A-1 on page 68

The cumulative total deficit over the 2023–2032 period is $3.1 trillion larger in CBO's current baseline projections than it was in the agency's May 2022 projections, mainly because of newly enacted legislation and changes to the economic forecast that boost projected net interest outlays and spending on mandatory programs, such as Social Security.

Debt

Federal debt held by the public is projected to rise from 98 percent of GDP in 2023 to 118 percent in 2033—an average increase of 2 percentage points per year. Over that period, the growth of interest costs and mandatory spending outpaces the growth of revenues and the economy, driving up debt. Those factors persist beyond 2033, pushing federal debt higher still, to 195 percent of GDP in 2053.

Federal Debt Held by the Public, 1900 to 2053
Percentage of Gross Domestic Product



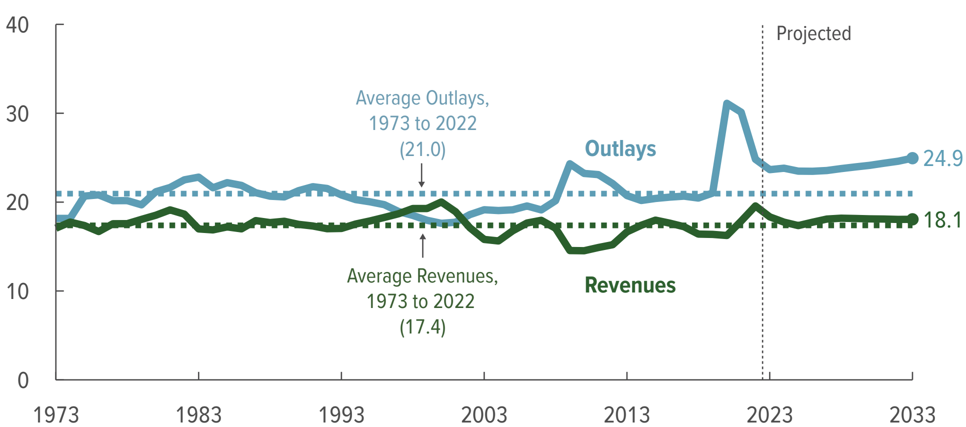
Debt is projected to rise in relation to GDP, mainly because of increasing interest costs and the growth of spending on major health care programs and Social Security.

See Figure 1-2 on page 11

Outlays and Revenues

In CBO's projections, federal outlays total $6.2 trillion, or 23.7 percent of GDP, in 2023. They remain below 24.0 percent through 2028 and grow each year thereafter, totaling 24.9 percent of GDP in 2033. Outlays have reached or exceeded that level only twice since 1946: in 2020 and 2021, years in which spending was increased in response to the coronavirus pandemic. In 2023, revenues total $4.8 trillion, or 18.3 percent of GDP—well above their long-run average. They then fall as a percentage of GDP over the next two years but rise again in 2026 and 2027 before stabilizing.

Total Outlays and Revenues
Percentage of Gross Domestic Product

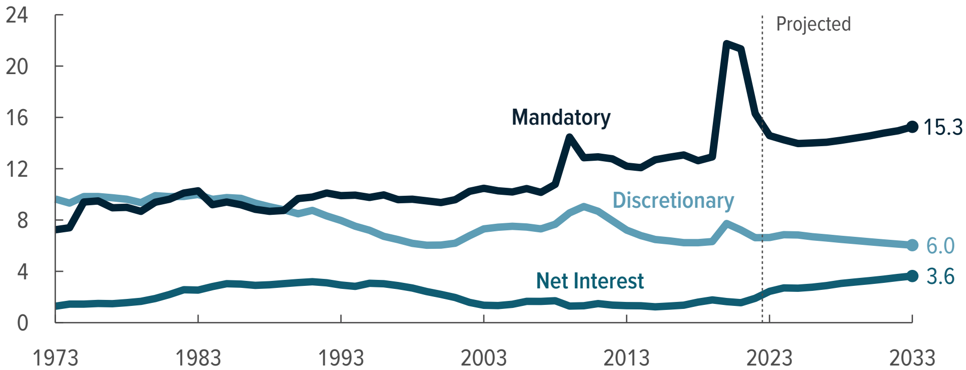


Measured as a percentage of GDP, outlays exceed their 50-year average each year of the projection period. Revenues fall to their 50-year average in 2025 but then exceed it in each subsequent year because of scheduled changes in tax law.

See Figure 1-3 on page 19

Outlays and Revenues (Continued)

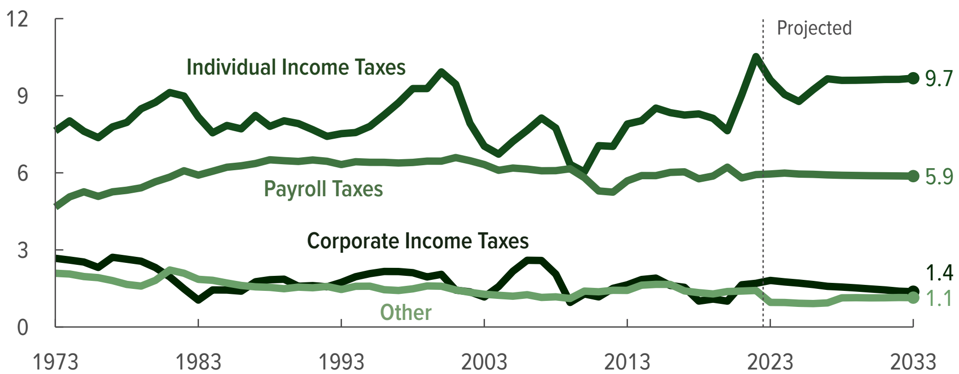
Outlays, by Category
Percentage of Gross Domestic Product



See Figure 1-4 on page 21

In CBO's projections, rising spending on Social Security and Medicare boosts mandatory outlays, but total discretionary spending falls in relation to GDP. As the cost of financing the nation's debt grows, net outlays for interest increase substantially and, beginning in 2030, exceed their previous peak.

Revenues, by Category
Percentage of Gross Domestic Product



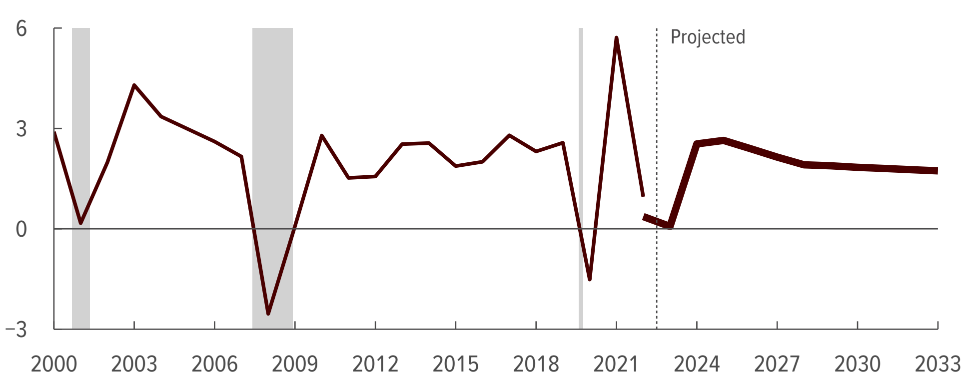
See Figure 1-5 on page 22

After reaching a historic high in 2022, receipts from individual income taxes are projected to fall in 2023 because collections from taxes on capital gains realizations and other sources, which have been strong in recent years, fall in CBO's projections. Projected receipts rise after 2025 because of the scheduled expiration of certain provisions of the 2017 tax act.

The Economy

To reduce high inflation, the Federal Reserve sharply raised the target range for the federal funds rate in 2022. In CBO's projections for 2023, economic activity stagnates, unemployment rises, and inflation slows. From 2024 to 2026, real GDP growth rises as tight financial conditions gradually ease, the unemployment rate slowly falls, and inflation continues to decline. (Shaded vertical bars indicate periods of recession.)

Growth of Real GDP
Percent



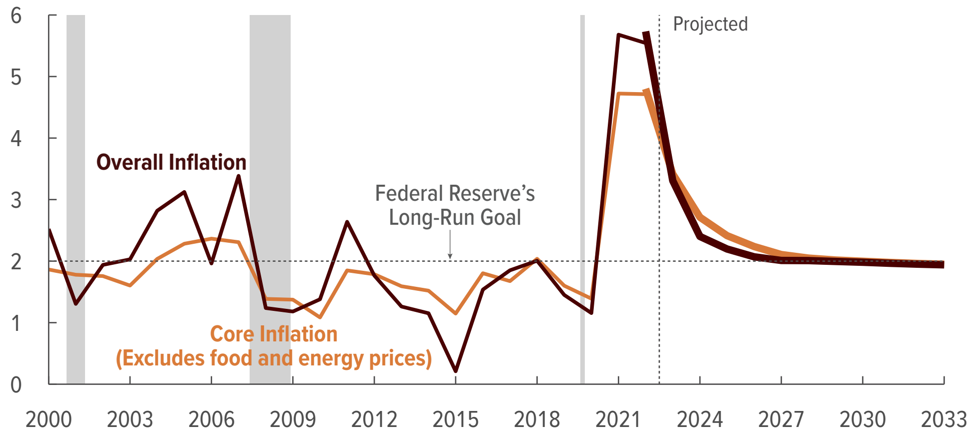
See Figure 2-1 on page 34

In CBO's projections, real GDP growth comes to a halt in 2023 in response to the sharp rise in interest rates during 2022. Then, as the Federal Reserve reduces the target range for the federal funds rate, real GDP growth rebounds, led by the interest-sensitive sectors of the economy, averaging 2.4 percent from 2024 to 2027 and 1.8 percent from 2028 to 2033.

The Economy (Continued)

Overall Inflation and Core Inflation

Percent

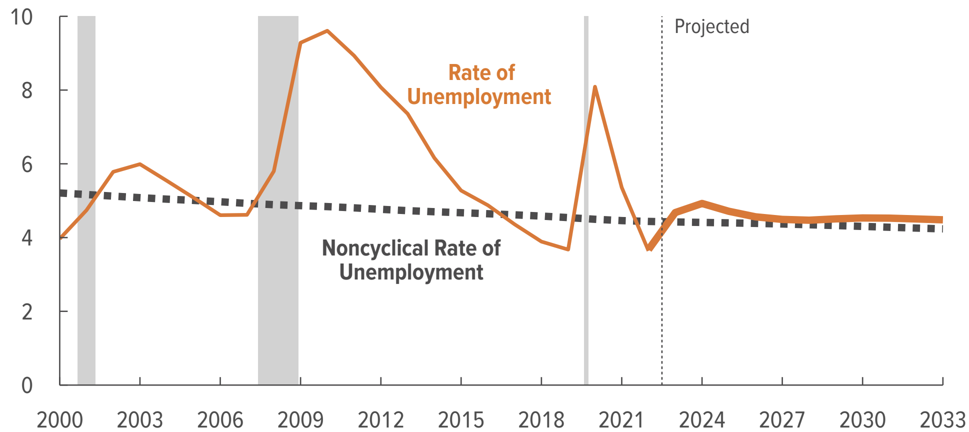


Inflation is expected to decline in 2023 as pressures ease from factors that, since mid-2020, have caused demand to grow more rapidly than supply. That decline continues until 2027, when the rate of inflation reaches the Federal Reserve's long-run goal. (Inflation is measured by the price index for personal consumption expenditures.)

See Figure 2-3 on page 47

Unemployment

Percent

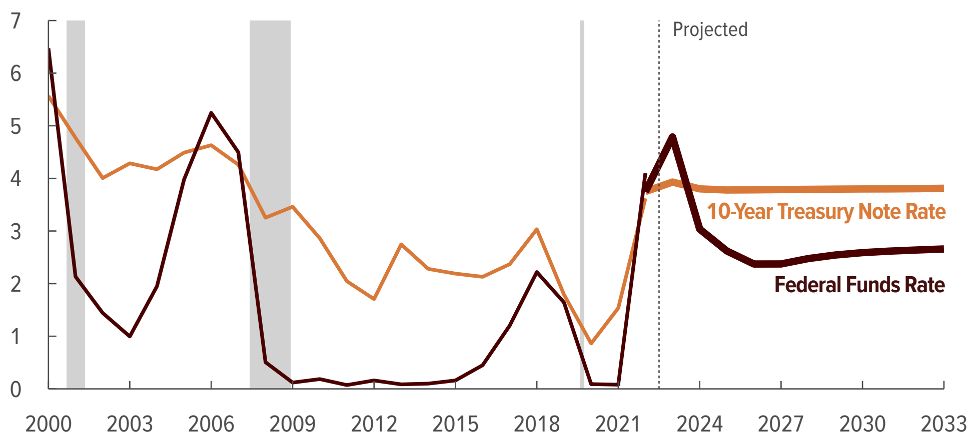


The unemployment rate rises through early 2024 in CBO's projections, reflecting the slowdown in economic growth. The rate falls thereafter as output returns to its historical relationship with potential output.

See Figure 2-2 on page 44

Interest Rates

Percent



In CBO's projections, the Federal Reserve further increases the target range for the federal funds rate in early 2023 to reduce inflationary pressures in the economy. That rate is projected to fall in 2024 as inflation slows and unemployment rises. The interest rate on 10-year Treasury notes, however, remains at 3.8 percent from 2024 to the end of the projection period.

See Figure 2-4 on page 48

Chapter 1: The Budget Outlook

Overview

In the Congressional Budget Office's baseline budget projections, the federal budget deficit is $1.4 trillion this year, and annual deficits over the 2024–2033 period average $2.0 trillion. Those projections, which were finalized on January 9, 2023, incorporate the effects of legislation enacted as of that date and generally reflect the assumption that no new legislation affecting outlays or revenues would be enacted thereafter. Measured relative to the size of the economy, the deficit equals 5.4 percent of gross domestic product (GDP) in 2023, and deficits average 6.1 percent of GDP from 2024 to 2033. As a result of those deficits, federal debt increases each year in CBO's projections, rising from 98 percent of GDP this year to 118 percent in 2033 (see Table 1-1).

The deficits in CBO's current projections are significantly larger than those in the agency's previous baseline projections for 2022 to 2032, which were published in May 2022. The budget shortfall for 2023 is now projected to be $426 billion more—and the cumulative deficit for the 2023–2032 period, $3.1 trillion more—than CBO projected last May. The increases stem from new legislation, changes to the agency's economic forecast, and other changes (see Appendix A).

If current laws generally remained unchanged, after 2033 deficits would continue to grow in relation to the size of the economy, keeping debt measured as a percentage of GDP on an upward trajectory. Those large budget deficits would arise because outlays—particularly those for interest on federal debt and for Medicare—would grow steadily and revenues would not keep pace.

CBO prepares its baseline budget projections in accordance with provisions set forth in the Balanced Budget and Emergency Deficit Control Act of 1985 (the Deficit Control Act, Public Law 99-177) and the Congressional Budget and Impoundment Control Act of 1974 (P.L. 93-344). Those laws require CBO to construct its baseline under the assumptions that current laws governing revenues and spending will generally stay the same and that discretionary funding provided in appropriation acts in future years will match current funding, with adjustments for inflation.

CBO's baseline budget projections are meant to provide a benchmark that policymakers can use to assess the potential effects of changes in policy; they are not intended to provide a forecast of future budgetary outcomes. Future legislative action could lead to markedly different outcomes—but even if federal laws remained unaltered for the next decade, actual budgetary outcomes would probably differ from CBO's baseline projections, not only because of unanticipated economic conditions, but also because of the many other factors that affect federal revenues and outlays.

Deficits

In CBO's projections, the federal budget deficit in 2023 is $34 billion more than the deficit recorded last year. That increase would be larger if not for a shift in the timing of certain payments. In 2022, October 1 (the first day of fiscal year 2023) fell on a weekend, so certain payments that would ordinarily have been made on that day were instead made in fiscal year 2022. October 1, 2023, will also fall on a weekend, pushing payments due on that day into fiscal year 2023 (from fiscal year 2024). If not for those shifts, this year's projected shortfall would be $83 billion larger than the one in 2022 (see Table 1-2).[1] (The deficit for 2022 and the projections of outlays and deficits cited throughout the rest of the chapter reflect adjustments to exclude the effects of timing shifts.)

Measured relative to the size of the economy, this year's deficit (adjusted to exclude the effects of timing shifts), at 5.3 percent of GDP, is comparable to last year's deficit but much smaller than the shortfalls recorded in 2020 and 2021, which included most of the fiscal response to the coronavirus pandemic. Deficits in CBO's baseline swell to 6.1 percent of GDP in 2024 and 2025 and then decline over the next two years—falling to 5.5 percent of GDP in 2027—primarily because a number of individual income tax provisions contained

1. October 1 will fall on a weekend again in 2028 and 2033, causing certain payments due on those days to be made at the end of September and thus to be recorded in the previous fiscal year. Those shifts will noticeably boost outlays and the deficit in fiscal years 2028 and 2033; the timing shifts will reduce federal outlays and deficits in fiscal year 2029.

Table 1-1.

CBO's Baseline Budget Projections, by Category

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 2024–2028	Total 2024–2033
	In Billions of Dollars													
Revenues														
Individual income taxes	2,632	2,523	2,467	2,511	2,764	3,018	3,121	3,246	3,377	3,515	3,650	3,803	13,881	31,472
Payroll taxes	1,484	1,562	1,633	1,703	1,778	1,849	1,920	1,993	2,068	2,147	2,226	2,307	8,884	19,625
Corporate income taxes	425	475	479	489	495	494	506	514	520	527	527	539	2,462	5,089
Other[a]	356	251	260	264	273	293	369	386	398	414	435	449	1,459	3,540
Total	**4,896**	**4,812**	**4,838**	**4,966**	**5,310**	**5,655**	**5,916**	**6,139**	**6,364**	**6,603**	**6,838**	**7,098**	**26,686**	**59,727**
On-budget	3,830	3,678	3,643	3,711	3,999	4,292	4,501	4,671	4,842	5,023	5,200	5,402	20,145	45,284
Off-budget[b]	1,066	1,133	1,196	1,255	1,311	1,363	1,415	1,468	1,522	1,580	1,637	1,695	6,540	14,443
Outlays														
Mandatory	4,135	3,840	3,812	3,995	4,193	4,395	4,731	4,756	5,115	5,391	5,665	6,140	21,125	48,192
Discretionary	1,662	1,741	1,864	1,955	2,005	2,063	2,119	2,159	2,215	2,266	2,319	2,380	10,007	21,347
Net interest	475	640	739	769	828	903	995	1,071	1,149	1,236	1,333	1,429	4,232	10,451
Total	**6,272**	**6,221**	**6,415**	**6,719**	**7,026**	**7,361**	**7,845**	**7,986**	**8,479**	**8,894**	**9,317**	**9,948**	**35,365**	**79,990**
On-budget	5,188	5,011	5,091	5,297	5,521	5,771	6,163	6,215	6,602	6,908	7,215	7,737	27,843	62,520
Off-budget[b]	1,084	1,210	1,324	1,421	1,504	1,590	1,682	1,771	1,877	1,986	2,102	2,211	7,521	17,470
Total Deficit	**-1,375**	**-1,410**	**-1,576**	**-1,752**	**-1,716**	**-1,706**	**-1,929**	**-1,847**	**-2,115**	**-2,291**	**-2,480**	**-2,851**	**-8,679**	**-20,263**
On-budget	-1,358	-1,333	-1,448	-1,586	-1,523	-1,479	-1,662	-1,544	-1,760	-1,885	-2,015	-2,335	-7,698	-17,236
Off-budget[b]	-18	-77	-129	-166	-193	-227	-266	-303	-355	-407	-465	-516	-981	-3,027
Primary Deficit[c]	-900	-770	-838	-984	-888	-804	-934	-776	-966	-1,055	-1,146	-1,422	-4,447	-9,812
Debt Held by the Public	24,257	25,716	27,370	29,214	30,927	32,645	34,642	36,406	38,604	40,945	43,482	46,445	n.a.	n.a.
Memorandum:														
Gross Domestic Product	25,016	26,238	27,266	28,610	29,932	31,251	32,525	33,811	35,133	36,488	37,874	39,288	149,585	332,179
	As a Percentage of Gross Domestic Product													
Revenues														
Individual income taxes	10.5	9.6	9.0	8.8	9.2	9.7	9.6	9.6	9.6	9.6	9.6	9.7	9.3	9.5
Payroll taxes	5.9	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Corporate income taxes	1.7	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.6	1.5
Other[a]	1.4	1.0	1.0	0.9	0.9	0.9	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1
Total	**19.6**	**18.3**	**17.7**	**17.4**	**17.7**	**18.1**	**18.2**	**18.2**	**18.1**	**18.1**	**18.1**	**18.1**	**17.8**	**18.0**
On-budget	15.3	14.0	13.4	13.0	13.4	13.7	13.8	13.8	13.8	13.8	13.7	13.8	13.5	13.6
Off-budget[b]	4.3	4.3	4.4	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.4	4.3
Outlays														
Mandatory	16.5	14.6	14.0	14.0	14.0	14.1	14.5	14.1	14.6	14.8	15.0	15.6	14.1	14.5
Discretionary	6.6	6.6	6.8	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.1	6.7	6.4
Net interest	1.9	2.4	2.7	2.7	2.8	2.9	3.1	3.2	3.3	3.4	3.5	3.6	2.8	3.1
Total	**25.1**	**23.7**	**23.5**	**23.5**	**23.5**	**23.6**	**24.1**	**23.6**	**24.1**	**24.4**	**24.6**	**25.3**	**23.6**	**24.1**
On-budget	20.7	19.1	18.7	18.5	18.4	18.5	18.9	18.4	18.8	18.9	19.0	19.7	18.6	18.8
Off-budget[b]	4.3	4.6	4.9	5.0	5.0	5.1	5.2	5.2	5.3	5.4	5.6	5.6	5.0	5.3
Total Deficit	**-5.5**	**-5.4**	**-5.8**	**-6.1**	**-5.7**	**-5.5**	**-5.9**	**-5.5**	**-6.0**	**-6.3**	**-6.5**	**-7.3**	**-5.8**	**-6.1**
On-budget	-5.4	-5.1	-5.3	-5.5	-5.1	-4.7	-5.1	-4.6	-5.0	-5.2	-5.3	-5.9	-5.1	-5.2
Off-budget[b]	-0.1	-0.3	-0.5	-0.6	-0.6	-0.7	-0.8	-0.9	-1.0	-1.1	-1.2	-1.3	-0.7	-0.9
Primary Deficit[c]	-3.6	-2.9	-3.1	-3.4	-3.0	-2.6	-2.9	-2.3	-2.7	-2.9	-3.0	-3.6	-3.0	-3.0
Debt Held by the Public	97.0	98.0	100.4	102.1	103.3	104.5	106.5	107.7	109.9	112.2	114.8	118.2	n.a.	n.a.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

n.a. = not applicable.

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

b. The revenues and outlays of the Social Security trust funds and the net cash flow of the Postal Service are classified as off-budget.

c. Primary deficits exclude net outlays for interest.

Table 1-2.

CBO's Baseline Projections of Outlays and Deficits, Adjusted to Exclude Effects of Timing Shifts

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
						In Billions of Dollars						
Payments That Are Shifted in CBO's Baseline[a]	-63	-15	79	0	0	0	-114	114	0	0	0	-149
Outlays, Adjusted for Timing Shifts												
Mandatory	4,076	3,825	3,885	3,995	4,193	4,395	4,623	4,864	5,115	5,391	5,665	5,997
Discretionary	1,657	1,741	1,869	1,955	2,005	2,063	2,113	2,165	2,215	2,266	2,319	2,373
Net interest	475	640	739	769	828	903	995	1,071	1,149	1,236	1,333	1,429
Total	**6,208**	**6,206**	**6,493**	**6,719**	**7,026**	**7,361**	**7,731**	**8,100**	**8,479**	**8,894**	**9,317**	**9,799**
Total Deficit, Adjusted for Timing Shifts	**-1,312**	**-1,394**	**-1,655**	**-1,752**	**-1,716**	**-1,706**	**-1,815**	**-1,961**	**-2,115**	**-2,291**	**-2,480**	**-2,702**
Primary Deficit, Adjusted for Timing Shifts[b]	-837	-755	-916	-984	-888	-804	-820	-890	-966	-1,055	-1,146	-1,273
						As a Percentage of Gross Domestic Product						
Outlays, Adjusted for Timing Shifts												
Mandatory	16.3	14.6	14.3	14.0	14.0	14.1	14.2	14.4	14.6	14.8	15.0	15.3
Discretionary	6.6	6.6	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0
Net interest	1.9	2.4	2.7	2.7	2.8	2.9	3.1	3.2	3.3	3.4	3.5	3.6
Total	**24.8**	**23.7**	**23.8**	**23.5**	**23.5**	**23.6**	**23.8**	**24.0**	**24.1**	**24.4**	**24.6**	**24.9**
Total Deficit, Adjusted for Timing Shifts	**-5.2**	**-5.3**	**-6.1**	**-6.1**	**-5.7**	**-5.5**	**-5.6**	**-5.8**	**-6.0**	**-6.3**	**-6.5**	**-6.9**
Primary Deficit, Adjusted for Timing Shifts[b]	-3.3	-2.9	-3.4	-3.4	-3.0	-2.6	-2.5	-2.6	-2.7	-2.9	-3.0	-3.2
Memorandum:												
Baseline Deficit, Unadjusted												
In billions of dollars	-1,375	-1,410	-1,576	-1,752	-1,716	-1,706	-1,929	-1,847	-2,115	-2,291	-2,480	-2,851
As a percentage of GDP	-5.5	-5.4	-5.8	-6.1	-5.7	-5.5	-5.9	-5.5	-6.0	-6.3	-6.5	-7.3

Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/58848#data.

GDP = gross domestic product.

a. 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. Those shifts primarily affect mandatory outlays; discretionary outlays are also affected, but to a much lesser degree. Net interest outlays are not affected.

b. Primary deficits exclude net outlays for interest.

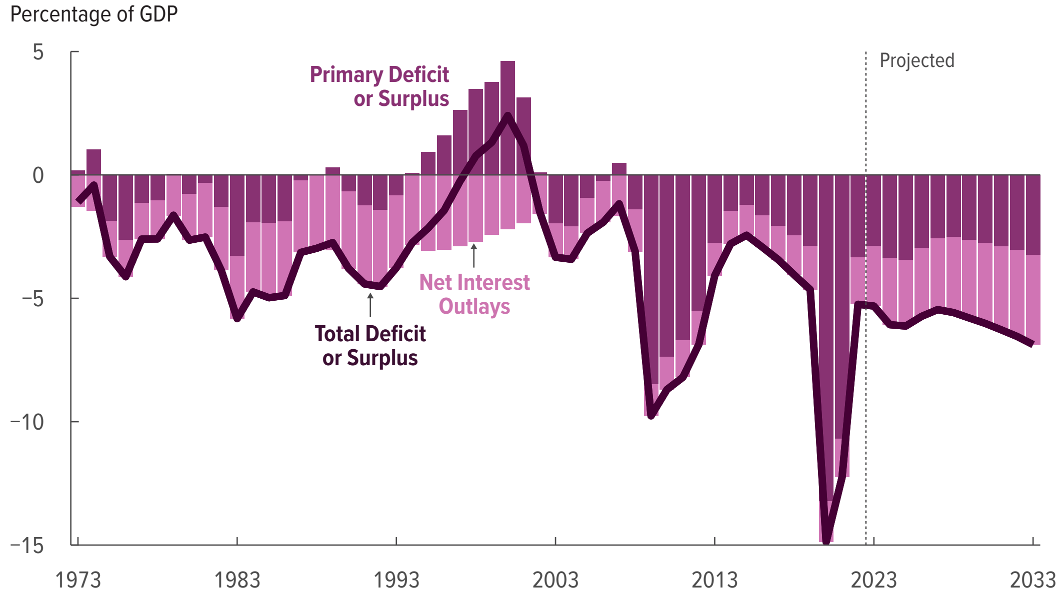
in P.L. 115-97 (referred to as the 2017 tax act in this report) are scheduled to expire. After 2027, deficits increase again, reaching 6.9 percent of GDP in 2033, the end of the projection period. Since 1946, the deficit has exceeded 6.9 percent of GDP in only five years: from 2009 to 2011 (following the 2007–2009 recession) and in 2020 and 2021.

The cumulative deficit for the 2024–2033 period is projected to total $20.2 trillion, or 6.1 percent of GDP. Since 1973, the annual deficit has averaged 3.6 percent of GDP. In CBO's projections, deficits equal or exceed 5.5 percent of GDP in every year from 2024 to 2033. Since at least 1930, deficits have not remained that large for more than five years in a row.

Primary deficits—that is, deficits excluding net outlays for interest—increase from 2.9 percent of GDP in 2023 to 3.4 percent in 2024 and 2025 in CBO's projections. They then decrease and hover around 2.5 percent from 2027 to 2029 before rising again, reaching 3.2 percent of GDP in 2033 (see Figure 1-1). From 2024 to 2033, primary deficits average 2.9 percent of GDP. In the 62 years from 1947 to 2008, such deficits exceeded 2.5 percent of GDP only twice. In the past 14 years, they have exceeded that amount nine times—in large part because of legislation that was enacted in response to the 2007–2009 recession and the pandemic-induced recession of early 2020.

Figure 1-1.

Total Deficits, Primary Deficits, and Net Interest Outlays



In CBO's projections, net interest outlays increase by 1.2 percent of GDP from 2023 to 2033 and are a major contributor to the growth of total deficits. Primary deficits increase by 0.4 percent of GDP over that period.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

Primary deficits exclude net outlays for interest.

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. All projections have been adjusted to exclude the effects of those timing shifts. Historical amounts have been adjusted as far back as the available data will allow.

GDP = gross domestic product.

Net outlays for interest increase over the projection period, rising from 2.4 percent of GDP this year to 3.6 percent in 2033—higher than they have been in any year since at least 1940 (the first year for which the Office of Management and Budget reports such data).

Historically, when unemployment has been low, deficits have been much smaller as a percentage of GDP than the deficits in CBO's current projections. From 2024 to 2033—a period in which the average unemployment rate is projected to remain at or below 5.0 percent in each year—deficits in CBO's baseline projections are never less than 5.5 percent of GDP. From 1973 to 2022, the unemployment rate was at or below 5.0 percent in 12 years. Deficits in those 12 years (adjusted to exclude the effects of timing shifts) averaged 1.5 percent of GDP. Excluding net interest outlays, the budget, on average, showed a primary *surplus* of 0.3 percent of GDP in those 12 years; in CBO's baseline, primary deficits average 2.9 percent of GDP from 2024 to 2033.

Debt

The deficits projected in CBO's baseline would boost federal debt. That debt can be measured in different ways. The most common measure is debt held by the public, which consists mostly of securities that the Treasury issues to raise cash to fund the federal government's activities and to pay off its maturing liabilities.[2] Other measures are sometimes used for various purposes, such as to provide a more comprehensive picture of the government's financial condition.

Debt Held by the Public

The net amount that the Treasury borrows each year by issuing securities is determined primarily by the annual budget deficit. However, several other factors also affect the government's need to borrow from the public. Those factors—collectively referred to as other means of financing—include changes in the government's cash balances and cash flows associated with federal credit programs, such as those related to student loans and loans to small

2. A small amount of debt held by the public is issued by other agencies, mainly the Tennessee Valley Authority.

businesses. (Those cash flows are not reflected in the budget deficit, which accounts only for the subsidy costs of credit programs—that is, the estimated net lifetime costs of the programs' loans and loan guarantees.)[3] As a result of that additional borrowing, the increase in debt held by the public in 2023 will exceed the deficit by about $50 billion, CBO projects. Over the 2024–2033 period, the increase in federal debt is projected to exceed the cumulative deficit by $466 billion, on net.

For most years, the bulk of that additional borrowing stems from the need to finance federal loan programs. The subsidy costs for those programs are included in the projected deficit for each year from 2024 to 2033. However, the cash disbursements needed to finance those programs each year—for example, in the case of direct loans, the funds lent to borrowers minus the repayments of principal and payments of interest and other fees—are greater than the net subsidy costs. The Treasury needs to borrow funds each year to make up that difference.

After all the government's borrowing needs are accounted for, debt held by the public rises from $24.3 trillion at the end of 2022 to $46.4 trillion at the end of 2033 in CBO's baseline projections (see Table 1-3). As a percentage of GDP, that debt is projected to stand at 118 percent at the end of 2033—about 21 percentage points higher than it was at the end of 2022 and about two and a half times its average over the past 50 years (see Figure 1-2).

Other Measures of Debt

Four other measures are sometimes used in discussions of federal debt.

- **Debt held by the public minus financial assets** excludes the value of the government's financial assets. That measure reflects the government's overall financial condition by accounting for the value of financial assets, such as student loans, that the government has acquired while incurring that debt. In CBO's baseline projections, that measure generally varies along with debt held by the public but is 5 percent to 8 percent smaller.

- **Debt held by the public minus financial assets and debt held by the Federal Reserve** excludes Treasury securities held by the Federal Reserve as well as the value of financial assets held by the federal government. In CBO's baseline projections, that measure increases from $16.6 trillion (or 66 percent of GDP) at the end of 2022 to $36.4 trillion (or 93 percent of GDP) at the end of 2033. (The Federal Reserve's holdings of Treasury securities, which totaled $5.7 trillion at the end of 2022, are projected to fall to $3.9 trillion at the end of 2025; thereafter, those holdings increase in CBO's projections, rising to $7.6 trillion in 2033.)

- **Gross debt** consists of debt held by the public and Treasury securities held by government accounts (for example, the Social Security trust funds). The debt held by government accounts does not directly affect the economy and has no net effect on the budget. Although debt held by the public increases by $20.7 trillion from the end of 2023 to the end of 2033 in CBO's baseline projections, debt held by government accounts falls by about $1.2 trillion, reflecting declines in the balances of many trust funds. As a result, gross federal debt is projected to rise by $19.6 trillion over that period and to total $52.0 trillion at the end of 2033. About 11 percent of that sum would be debt held by government accounts.

- **Debt subject to limit** is the amount of debt that is subject to the statutory limit on federal borrowing, which is often referred to as the debt ceiling. Such debt differs from gross federal debt mainly in that it excludes debt issued by the Federal Financing Bank and includes certain other adjustments that are excluded from gross debt.[4] Currently, the statutory limit on the issuance of new federal debt is set at $31.4 trillion. On January 19, 2023, debt reached that limit, and the Treasury announced a "debt issuance suspension period," during which, under current law, it can take well-established "extraordinary measures" to borrow additional funds without breaching the debt ceiling. CBO estimates that under its baseline budget projections, the Treasury would exhaust those measures and run out of cash sometime between July and September of this year.[5] The Deficit Control Act requires CBO to project spending,

3. For more details on other means of financing and on federal debt more broadly, see Congressional Budget Office, *Federal Debt: A Primer* (March 2020), www.cbo.gov/publication/56165.

4. The Federal Financing Bank, a government corporation under the general supervision of the Treasury, assists federal agencies in managing their borrowing and lending programs. It can issue up to $15 billion of its own debt securities; that amount does not count against the debt limit.

5. For more information, see Congressional Budget Office, *Federal Debt and the Statutory Limit, February 2023* (February 2023), www.cbo.gov/publication/58906.

Table 1-3.

CBO's Baseline Projections of Federal Debt

Billions of Dollars

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Debt Held by the Public at the Beginning of the Year	22,284	24,257	25,716	27,370	29,214	30,927	32,645	34,642	36,406	38,604	40,945	43,482
Changes in Debt Held by the Public												
Deficit	1,375	1,410	1,576	1,752	1,716	1,706	1,929	1,847	2,115	2,291	2,480	2,851
Other means of financing[a]	597	50	78	92	-3	12	67	-83	83	49	58	112
Total	**1,973**	**1,459**	**1,654**	**1,844**	**1,713**	**1,719**	**1,996**	**1,764**	**2,198**	**2,340**	**2,538**	**2,963**
Debt Held by the Public at the End of the Year												
In billions of dollars	**24,257**	**25,716**	**27,370**	**29,214**	**30,927**	**32,645**	**34,642**	**36,406**	**38,604**	**40,945**	**43,482**	**46,445**
As a percentage of GDP	**97.0**	**98.0**	**100.4**	**102.1**	**103.3**	**104.5**	**106.5**	**107.7**	**109.9**	**112.2**	**114.8**	**118.2**
Memorandum:												
Federal Financial Assets[b]	1,959	2,008	2,086	2,178	2,175	2,187	2,254	2,172	2,255	2,304	2,362	2,474
Debt Minus Financial Assets												
In billions of dollars	22,298	23,708	25,284	27,036	28,752	30,458	32,387	34,234	36,349	38,641	41,120	43,971
As a percentage of GDP	89.1	90.4	92.7	94.5	96.1	97.5	99.6	101.3	103.5	105.9	108.6	111.9
Federal Reserve's Holdings of Debt Held by the Public	5,672	5,070	4,369	3,905	4,222	4,726	5,225	5,708	6,178	6,638	7,116	7,573
Debt Minus Financial Assets and the Federal Reserve's Holdings												
In billions of dollars	16,626	18,637	20,916	23,131	24,530	25,732	27,163	28,527	30,171	32,003	34,005	36,398
As a percentage of GDP	66.5	71.0	76.7	80.8	82.0	82.3	83.5	84.4	85.9	87.7	89.8	92.6
Gross Federal Debt[c]	30,838	32,432	34,197	36,063	37,787	39,351	41,134	42,755	44,700	46,719	48,958	51,994
Debt Subject to Limit[d]	30,869	32,464	34,230	36,097	37,821	39,385	41,168	42,789	44,734	46,753	48,993	52,029
Average Interest Rate on Debt Held by the Public (Percent)	2.1	2.7	2.9	2.8	2.8	2.9	3.0	3.1	3.1	3.2	3.2	3.2

Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/58848#data.

GDP = gross domestic product.

a. Factors not included in budget totals that affect the government's need to borrow from the public. Those factors include changes in the government's cash balances and cash flows associated with federal credit programs, such as those related to student loans. (Only the subsidy costs of those programs are reflected in the budget deficit.)

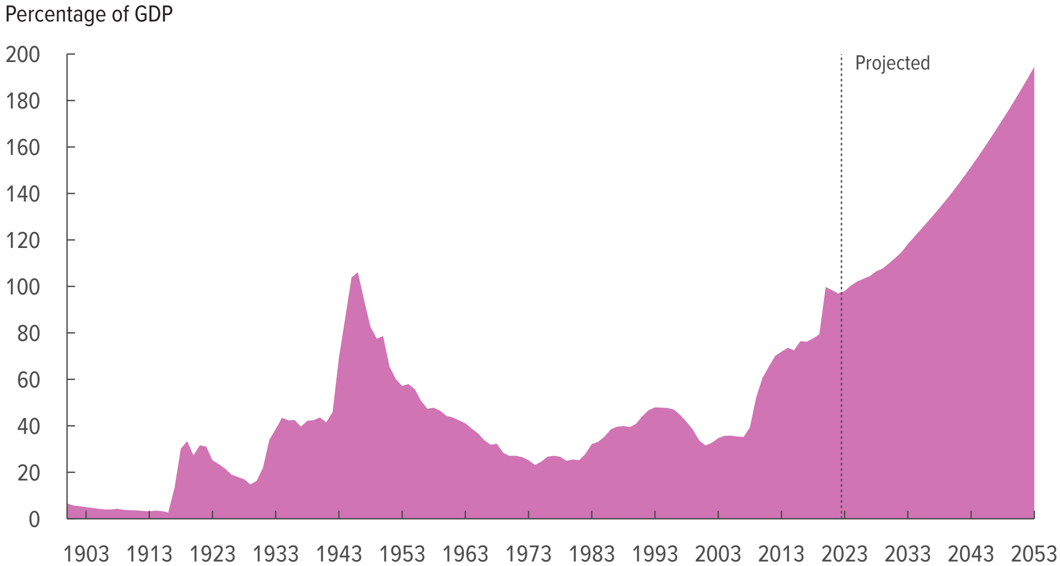
b. The value of outstanding student loans and other credit transactions, cash balances, and various financial instruments.

c. Federal debt held by the public plus Treasury securities held by federal trust funds and other government accounts.

d. The amount of federal debt that is subject to the overall limit set in law. That measure of debt excludes debt issued by the Federal Financing Bank and reflects certain other adjustments that are excluded from gross federal debt. The debt limit is currently set at $31.4 trillion. On January 19, 2023, debt reached that limit, and the Treasury announced a "debt issuance suspension period," during which, under current law, it can take well-established "extraordinary measures" to borrow additional funds without breaching the debt ceiling. In CBO's baseline projections, the Treasury will exhaust those measures and run out of cash sometime between July and September of this year. The Deficit Control Act requires CBO to project spending, revenues, and deficits independently of the debt limit. For more details, see Congressional Budget Office, *Federal Debt and the Statutory Limit, February 2023* (February 2023), www.cbo.gov/publication/58906.

Figure 1-2.

Federal Debt Held by the Public, 1900 to 2053



Federal debt held by the public is projected to increase in each year of the projection period and to reach 118 percent of GDP in 2033—higher than it has ever been. In the two decades that follow, growing deficits are projected to push federal debt higher still, to 195 percent of GDP in 2053.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

GDP = gross domestic product.

revenues, and deficits independently of the debt limit. Thus, in CBO's baseline projections, debt subject to limit continues rising over the next decade and reaches $52.0 trillion in 2033.

Outlays

Outlays in CBO's baseline projections fall from 24.8 percent of GDP in 2022 to 23.7 percent in 2023 and then rise in most years thereafter, reaching 24.9 percent in 2033. Since 1973, outlays have averaged 21.0 percent of GDP.

Outlays in 2023

In CBO's projections, federal outlays in 2023 total $6.2 trillion—slightly less than the amount recorded in 2022. That small decrease in total outlays is the net result of a decrease in mandatory outlays and increases in net outlays for interest and in spending for discretionary programs.

Mandatory Spending. Mandatory, or direct, spending includes outlays for most federal benefit programs and for certain other payments to people, businesses, nonprofit institutions, and state and local governments. Such outlays are generally governed by statutory criteria and are not normally constrained by the annual appropriation process.[6] Certain types of payments that federal agencies receive from the public and from other government agencies (such as premiums paid by Medicare beneficiaries and payments made by federal agencies to employees' retirement plans) are classified as offsetting receipts and are accounted for in the budget as reductions in mandatory spending.

The Deficit Control Act requires CBO to construct baseline projections for most existing mandatory spending under the assumption that current laws continue unchanged. Therefore, CBO's baseline projections of mandatory spending reflect the estimated effects of changes in the economy, growth in the number of beneficiaries of certain mandatory programs, and other factors related to the costs of those programs. The projections also incorporate a set of across-the-board reductions in budgetary resources (known as sequestration) that are required under current law for some mandatory programs.

6. Each year, some mandatory programs are modified by provisions in annual appropriation acts. Such changes may increase or decrease spending for the affected programs for one or more years. In addition, some mandatory programs, such as Medicaid, the Supplemental Nutrition Assistance Program, and benefits for Coast Guard retirees and annuitants, are considered mandatory but require benefits to be paid from amounts provided in appropriation acts.

In 2023, CBO estimates, total mandatory outlays (net of offsetting receipts) will amount to $3.8 trillion under current law, $251 billion (or 6 percent) less than they were in 2022 (see Table 1-4). As a share of GDP, those outlays are projected to amount to 14.6 percent—nearly 2 percentage points less than such outlays equaled last year but still well above the 10.9 percent of GDP they averaged each year from 1973 to 2022. For some programs, outlays are projected to decrease, in part because of waning pandemic-related spending; for others, outlays are projected to exceed the amounts recorded in 2022.

Outlays for the following programs decrease the most in 2023 in CBO's projections:

- **Higher Education.** CBO estimates that outlays for higher education will fall from $490 billion in 2022 to $38 billion in 2023. Outlays were unusually high in 2022, largely as a result of the student loan forgiveness announced by the Administration in August 2022 and recorded in the budget in September 2022. The Administration recorded the present-value costs of that plan, which it estimated to be $379 billion, as an increase in outlays.[7] In addition, modifications made by the Department of Education to the terms of outstanding student loans—including an extended pause in loan repayments and interest accrual, as well as changes that allow borrowers who meet certain criteria to have their loans forgiven sooner—increased outlays by $71 billion in 2022. CBO's current projections reflect the $19 billion in modification costs in fiscal year 2023 that the department has recorded through January 9, 2023.[8] CBO does not have a basis for determining what other modification costs, if any, might be incurred in 2023 beyond those that have already been recorded by the Administration. Also, in 2022, the Administration revised upward its estimate of the subsidy costs of student loans disbursed in previous years by $23 billion.[9] Thus far, no such revision has been recorded in 2023, and CBO has no basis for determining what revision, if any, the Administration might make this year.

- **Refundable Tax Credits.** Outlays for refundable tax credits total $107 billion in 2023 in CBO's projections, $145 billion less than the amount recorded in 2022. Outlays for the child tax credit decrease by $106 billion this year, primarily because the temporary expansion of the child tax credit for calendar year 2021 expired. In addition, outlays for the U.S. Coronavirus Refundable Credits and for the recovery rebates for individuals that were provided in response to the pandemic are projected to fall by $14 billion and $11 billion, respectively.[10]

- **Coronavirus Relief Fund.** In 2022, the federal government provided $106 billion in direct assistance to state, local, tribal, and territorial governments in response to the pandemic. Outlays for such assistance will fall to $6 billion this year, CBO estimates.

7. Under the Federal Credit Reform Act of 1990 (FCRA), the budget records as a cost the discounted present value of any expected reductions of cash inflows to the Treasury from loan programs. 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) at a specific time. The present value depends on the rate of interest (the discount rate) that is used to translate future cash flows into current dollars. For the purposes of calculating the 2022 budget deficit, CBO used the estimated costs of loan forgiveness as recorded by the Administration rather than its own estimate. The Administration's plan is currently being reviewed by the Supreme Court. If the plan was to be invalidated or revised in response to the Court's ruling, the budgetary effects of any such action (as estimated by the Administration) would be recorded in the year the change was made as an updated estimate of the subsidy costs of those loans.

8. Those projections do not include the estimated budgetary effects of new regulations proposed for student loans repaid through income-driven plans that were announced by the Department of Education on January 10, 2023.

9. Under FCRA, the subsidy costs for student loans are calculated by subtracting the present value of expected income from federal student loans issued in previous years from the present value of the government's projected costs. The original subsidy calculation for a set of loans or loan guarantees may be increased or decreased in subsequent years by a credit subsidy reestimate made by the Office of Management and Budget that reflects an updated assessment of the cash flows associated with the outstanding loans or loan guarantees. For more information about the costs of credit programs, see Congressional Budget Office, *Estimates of the Cost of Federal Credit Programs in 2023* (June 2022), www.cbo.gov/publication/58031.

10. The U.S. Coronavirus Refundable Credits are a group of tax credits that employers could use to cover sick leave and family leave, retain employees, and continue to provide health insurance for certain workers during the pandemic. The Treasury has classified all the recovery rebates paid in advance of tax return filings as outlays rather than as reductions in revenues.

Meanwhile, outlays for many programs are projected to *increase* in 2023. The largest increases are for the following programs:

- **Social Security.** Outlays for Social Security are estimated to increase by $123 billion (or 10 percent) in 2023, to $1.3 trillion. That increase stems primarily from the 8.7 percent cost-of-living adjustment (COLA) received by Social Security beneficiaries in January 2023, the largest since 1981.
- **Medicare.** Outlays for Medicare (net of offsetting receipts) rise by $110 billion (or 16 percent) in 2023, to $820 billion, in CBO's projections. That increase results from a decrease in offsetting receipts and an increase in outlays. Medicare offsetting receipts are projected to decrease in 2023 because recoupments from the COVID-19 Accelerated and Advance Payment Program are expected to be lower than they were last year. Beginning in April 2020, the government provided about $100 billion in assistance to Medicare providers under that program. That sum was to be recouped later through reductions in claim payments. Because most of the outstanding amounts were recouped in 2021 and 2022, CBO expects such receipts to fall from $62 billion in 2022 to $3 billion in 2023. Additionally, Medicare outlays are projected to rise in 2023 because of increases in enrollment (which is projected to rise by 2 percent), payment rates, and spending related to beneficiaries' use of care.
- **Spectrum Auction Receipts.** Under current law, the Federal Communications Commission (FCC) occasionally auctions licenses for commercial use of the electromagnetic spectrum. Because the auctions' receipts result from businesslike or market-oriented transactions between private parties and the federal government, they are recorded as offsetting receipts, or reductions in mandatory outlays, rather than as revenues generated through exercise of the federal government's sovereign power. The FCC conducted several auctions in 2021 and 2022, which boosted net receipts in 2022 to $104 billion. CBO estimates that such receipts will fall to $0.2 billion in 2023.
- **Pension Benefit Guaranty Corporation.** The Pension Benefit Guaranty Corporation's (PBGC's) net outlays are projected to rise by $69 billion in 2023, to $71 billion. That increase is almost entirely the result of spending from PBGC's special financial assistance program, which will make onetime payments to financially troubled multiemployer pension plans that qualify for assistance.

Taken together, outlays for all other mandatory programs are estimated to rise, on net, by $40 billion (or 3 percent) in 2023. The largest of those changes are for the following programs:

- **Veterans' Programs.** Mandatory outlays for veterans' benefits increase in CBO's projections by $22 billion (or 15 percent) in 2023, to $173 billion. That increase is primarily the result of the 8.7 percent COLA for veterans' compensation and pensions. In addition, enactment of the Honoring Our PACT Act (P.L. 117-168) increased mandatory spending for a variety of benefits for veterans exposed to toxic substances.
- **Federal Housing Administration's Credit Programs.** In 2022, the Department of Housing and Urban Development recorded a $22 billion reduction in the estimated subsidy costs of credit programs administered by the Federal Housing Administration, thus lowering outlays for the year. CBO has not included any such revisions in its current projections for 2023 because it has no basis for determining what revisions, if any, the Administration will make this year.
- **Supplemental Nutrition Assistance Program.** Outlays for the Supplemental Nutrition Assistance Program (SNAP) are projected to fall by $21 billion (or 14 percent) in 2023, to $127 billion. That decrease largely stems from the Consolidated Appropriations Act (CAA), 2023 (P.L. 117-328), enacted on December 29, 2022. That law lowered the amount of additional benefits provided through the Pandemic Electronic Benefit Transfer program. That program, introduced in 2020 in response to the pandemic, provides food benefits during the summer months to families with schoolchildren. In addition, the CAA ended, in February 2023, the emergency allotments that were provided to SNAP participants during the pandemic.

Changes in mandatory spending for a variety of other programs and activities—including Medicaid, subsidies for health insurance, and federal retirement programs—account for the remainder of the increase.

Table 1-4.

CBO's Baseline Projections of Mandatory Outlays, Adjusted to Exclude Effects of Timing Shifts

Billions of Dollars

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 2024–2028	Total 2024–2033
Social Security														
Old-Age and Survivors Insurance	1,070	1,184	1,289	1,379	1,457	1,536	1,624	1,715	1,812	1,913	2,017	2,122	7,286	16,864
Disability Insurance	143	152	160	168	178	187	192	199	207	215	223	232	885	1,962
Subtotal	1,213	1,336	1,450	1,547	1,635	1,723	1,817	1,914	2,019	2,128	2,240	2,355	8,171	18,826
Major Health Care Programs														
Medicare[a,b]	937	998	1,081	1,133	1,222	1,311	1,405	1,503	1,607	1,730	1,841	2,001	6,152	14,834
Medicaid	592	589	539	535	572	611	649	689	732	775	826	879	2,907	6,807
Premium tax credits and related spending[c]	86	81	78	82	67	77	81	86	90	96	104	112	383	870
Children's Health Insurance Program	17	18	17	18	18	19	20	20	21	22	20	15	92	190
Subtotal	1,632	1,687	1,715	1,768	1,879	2,018	2,154	2,298	2,450	2,622	2,791	3,007	9,534	22,701
Income Security Programs														
Supplemental Nutrition Assistance Program	149	127	125	123	119	120	119	118	118	119	122	123	605	1,205
Earned income, child, and other tax credits[d]	252	107	95	98	99	84	85	84	84	84	84	84	460	881
Supplemental Security Income[a]	57	60	63	64	65	67	69	71	73	75	77	79	329	704
Unemployment compensation	34	37	50	48	48	48	46	48	50	52	54	55	240	500
Child nutrition	39	34	35	37	39	41	43	45	47	50	52	54	197	445
Family support and foster care[e]	47	48	41	35	35	35	36	36	36	36	37	37	181	364
Subtotal	576	413	408	406	405	396	398	403	409	416	426	433	2,012	4,098
Federal Civilian and Military Retirement														
Civilian[f]	116	122	129	134	138	142	146	149	153	157	163	167	690	1,479
Military[a]	66	74	79	83	85	87	90	92	95	97	100	102	424	910
Subtotal	182	196	208	217	224	230	236	241	248	254	263	269	1,114	2,389
Veterans' Programs														
Income security[a,g]	129	147	159	169	180	191	201	211	220	229	238	248	901	2,045
Toxic exposures fund[h]	0	5	34	40	49	56	63	71	79	87	94	101	243	675
Other[a,i]	21	21	16	15	15	15	15	16	16	17	19	19	77	164
Subtotal	150	173	209	225	245	262	280	297	315	333	351	368	1,220	2,884
Other Programs														
Agriculture	17	25	19	16	17	20	21	21	19	18	18	18	92	186
Higher education	490	38	17	17	18	18	18	18	19	19	19	19	88	181
MERHCF	11	12	12	13	14	14	15	16	17	17	18	19	68	155
Education Stabilization Fund	45	53	34	20	5	0	0	0	0	0	0	0	59	59
Fannie Mae and Freddie Mac[j]	0	0	9	5	3	2	2	2	4	5	7	13	20	52
Public Health and Social Services Emergency Fund	30	19	9	4	2	1	*	*	*	*	*	*	16	16
Coronavirus Relief Fund	106	6	6	0	0	0	0	0	0	0	0	0	6	6
Pension Benefit Guaranty Corporation	2	71	1	-4	*	-5	-6	-6	-6	-6	-6	-6	-14	-44
Deposit insurance	-12	-11	-10	-9	-8	-8	-9	-9	-10	-10	-10	-10	-43	-92
Other	138	153	147	137	141	142	140	129	125	119	94	93	707	1,268
Subtotal	828	366	242	199	192	184	182	171	168	163	140	145	999	1,786
Mandatory Outlays, Excluding Offsetting Receipts	**4,581**	**4,170**	**4,232**	**4,361**	**4,579**	**4,812**	**5,065**	**5,325**	**5,608**	**5,915**	**6,210**	**6,577**	**23,050**	**52,684**

Continued

Table 1-4. Continued

CBO's Baseline Projections of Mandatory Outlays, Adjusted to Exclude Effects of Timing Shifts

Billions of Dollars

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 2024–2028	Total 2024–2033
Offsetting Receipts														
Medicare	-227	-178	-187	-200	-216	-234	-254	-274	-296	-321	-349	-378	-1,090	-2,708
Federal share of federal employees' retirement														
Civil service retirement and other	-52	-54	-56	-59	-62	-64	-67	-69	-71	-74	-76	-79	-309	-678
Military retirement	-26	-28	-24	-25	-26	-27	-27	-28	-29	-30	-30	-31	-129	-278
Social Security	-21	-22	-23	-24	-24	-25	-26	-27	-28	-29	-30	-31	-122	-266
Subtotal	-99	-104	-103	-108	-112	-116	-120	-124	-128	-132	-136	-140	-561	-1,222
Receipts related to natural resources	-24	-17	-17	-17	-16	-16	-16	-17	-18	-18	-19	-19	-83	-174
MERHCF	-10	-10	-11	-12	-12	-13	-13	-14	-15	-15	-16	-17	-61	-138
Fannie Mae and Freddie Mac[j]	-6	-6	0	0	0	0	0	0	0	0	0	0	0	0
Other	-139	-29	-28	-30	-30	-38	-39	-31	-37	-37	-25	-25	-165	-320
Total	-505	-345	-346	-367	-387	-417	-442	-460	-493	-524	-545	-579	-1,959	-4,561
Mandatory Outlays, Including Offsetting Receipts	**4,076**	**3,825**	**3,885**	**3,995**	**4,193**	**4,395**	**4,623**	**4,864**	**5,115**	**5,391**	**5,665**	**5,997**	**21,091**	**48,123**
Effects That Timing Shifts Have on Mandatory Outlays in CBO's Baseline Projections														
Medicare	38	12	-50	0	0	0	78	-78	0	0	0	108	n.a.	n.a.
Supplemental Security Income	4	1	-5	0	0	0	5	-5	0	0	0	6	n.a.	n.a.
Military retirement	5	*	-5	0	0	0	6	-6	0	0	0	7	n.a.	n.a.
Veterans' income security	11	3	-13	0	0	0	17	-17	0	0	0	21	n.a.	n.a.
Veterans' other	1	*	-1	0	0	0	1	-1	0	0	0	1	n.a.	n.a.
Total	59	15	-74	0	0	0	108	-108	0	0	0	142	n.a.	n.a.
Mandatory Outlays in CBO's Baseline Projections	**4,135**	**3,840**	**3,812**	**3,995**	**4,193**	**4,395**	**4,731**	**4,756**	**5,115**	**5,391**	**5,665**	**6,140**	**21,125**	**48,192**
Memorandum:														
Outlays, Net of Offsetting Receipts														
Medicare	710	820	894	933	1,006	1,077	1,151	1,229	1,312	1,409	1,492	1,623	5,062	12,126
Major health care programs	1,404	1,508	1,528	1,568	1,664	1,784	1,900	2,024	2,154	2,302	2,441	2,629	8,444	19,994

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

Spending for benefit programs shown in this table generally excludes administrative costs, which are discretionary.

MERHCF = Department of Defense Medicare-Eligible Retiree Health Care Fund; n.a. = not applicable; * = between -$500 million and $500 million.

a. 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. These outlays have been adjusted to remove the effects of those shifts.

b. Gross spending, excluding the effects of Medicare premiums and other offsetting receipts. (Net Medicare spending is shown in the memorandum section.)

c. Spending to subsidize health insurance purchased through the marketplaces established under the Affordable Care Act and provided through the Basic Health Program and spending to stabilize premiums for health insurance purchased by individuals and small employers.

d. Includes outlays for the American Opportunity Tax Credit and other credits.

e. Includes Temporary Assistance for Needy Families, Child Support Enforcement, Child Care Entitlement to States, and other programs that benefit children.

f. Includes benefits for retirement programs in the civil service, foreign service, and Coast Guard; benefits for smaller retirement programs; and annuitants' health care benefits.

g. Includes veterans' compensation, pensions, and life insurance programs.

h. Provides funding for health care, claims processing, and certain other expenses incidental to providing care to veterans exposed to toxic substances.

i. Primarily the GI Bill and similar education benefits.

j. Cash payments from Fannie Mae and Freddie Mac to the Treasury are recorded as offsetting receipts in 2022 and 2023. Beginning in 2024, CBO's estimates reflect the net lifetime costs—that is, the subsidy costs adjusted for market risk—of the guarantees that those entities will issue and of the loans that they will hold. CBO counts those costs as federal outlays in the year of issuance.

Discretionary Spending. Discretionary spending encompasses an array of federal activities that are funded through or controlled by appropriations. That category includes most defense spending; spending for many nondefense activities, such as elementary and secondary education, housing assistance, international affairs, and the administration of justice; and outlays for highway programs.[11] In any year, some discretionary outlays arise from budget authority provided in the same year, and some arise from appropriations made in previous years.[12]

In CBO's baseline projections, discretionary budget authority for 2023 totals $1.8 trillion, $38 billion (or 2 percent) more than the amount provided in 2022 (see Table 1-5).[13] (When the obligation limitations that govern discretionary spending for certain transportation programs are accounted for, funding is $40 billion more this year than it was last year.)[14]

The 2 percent increase in budget authority in 2023 is the net result of larger changes in different types of funding for this year:

- Funding provided in division J of the Infrastructure Investment and Jobs Act (IIJA, P.L. 117-58) and division B of the Bipartisan Safer Communities Act (BSCA, P.L. 117-159) boosted budget authority in 2022 by $165 billion. Those laws also provided advance appropriations over the 2023–2026 period. The advance appropriations for 2023, which are designated as an emergency requirement, total $70 billion, which is $95 billion less than the 2022 amounts.
- Funding for 2023 (other than that provided by the IIJA and the BSCA) designated as an emergency requirement is $103 billion; such funding was $98 billion last year. Most of that other emergency funding is for assistance following natural disasters and to respond to the Russian invasion of Ukraine.
- Nonemergency discretionary funding for 2023 totals $1.7 trillion, $129 billion (or 9 percent) more than the $1.5 trillion provided in 2022. That funding was primarily provided by the 2023 CAA.[15]

CBO anticipates that if no further appropriations are provided this year, discretionary outlays will total $1.7 trillion in 2023—$84 billion (or 5 percent) more than they were last year. The agency expects outlays to rise by more than the increase in budget authority this year, primarily because of spending from budget authority provided in previous years.

In CBO's projections, discretionary funding for defense totals $891 billion in 2023, a $75 billion—or 9 percent—increase from the sum provided in 2022. Emergency-designated defense funding, which totaled $34 billion in 2022, dips slightly to $33 billion in 2023. Outlays for defense are estimated to be $800 billion in 2023. That amount is $54 billion, or 7 percent, more than such outlays in 2022.

Overall, funding for nondefense discretionary programs decreases by $37 billion—or 4 percent—from 2022 to 2023 in CBO's projections. Funding from advance appropriations provided in division J of the IIJA and in the BSCA decreases by $95 billion, and emergency funding from other sources increases by $5 billion. All other funding for nondefense programs increases by $53 billion, or 7 percent, to $793 billion. Under current law, CBO estimates, nondefense discretionary outlays in 2023 will total $941 billion, an increase of $30 billion (or 3 percent) from outlays recorded last year.

Net Interest Outlays. In the budget, net outlays for interest consist of the government's interest payments on federal debt, offset by interest income that the government receives. Net interest outlays are dominated by the interest paid to holders of the debt that the Treasury

11. Funding for highway programs is provided in authorizing legislation and is considered mandatory.

12. Budget authority, or funding, is the authority provided by federal law to incur financial obligations that will result in immediate or future outlays of federal government funds.

13. Included in the enacted appropriation legislation were changes in mandatory programs (often referred to as CHIMPs) that, on net, were counted as reductions to discretionary budget authority. Those reductions amounted to $28 billion in CBO's cost estimates for legislation in 2023. Such reductions do not, however, affect discretionary budget authority in CBO's baseline projections; rather, CHIMPs are reflected as changes in mandatory budget authority and (to a lesser extent) outlays.

14. An obligation limitation is a restriction—typically included in an appropriation act—on the amount, purpose, or period of availability of budget authority. The limitation often affects budget authority that has been provided in an authorization act. Although the budget authority for many transportation programs is mandatory, the outlays from the obligation limitations for those programs are considered discretionary.

15. Before that law's enactment on December 29, 2022, funding for agencies in 2023 was provided by three continuing resolutions.

Table 1-5.

CBO's Baseline Projections of Discretionary Spending, Adjusted to Exclude Effects of Timing Shifts

Billions of Dollars

	Actual, 2022[a]	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 2024–2028	Total 2024–2033
Budget Authority														
Defense														
Other discretionary	782	858	885	908	931	954	977	1,000	1,024	1,049	1,074	1,100	4,653	9,901
IIJA and BSCA[b]	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Emergency	34	33	37	38	39	40	40	41	42	43	44	45	193	408
Subtotal	816	891	922	945	969	993	1,017	1,041	1,067	1,092	1,118	1,145	4,847	10,310
Nondefense														
Other discretionary	740	793	844	864	883	907	927	950	973	997	1,021	1,046	4,425	9,413
IIJA and BSCA[b]	165	70	70	70	69	70	71	73	74	76	78	79	350	730
Emergency	64	70	71	73	74	76	77	79	81	82	84	86	371	783
Subtotal	969	932	985	1,007	1,026	1,053	1,076	1,102	1,128	1,155	1,182	1,211	5,147	10,926
Total Budget Authority	**1,785**	**1,824**	**1,907**	**1,952**	**1,995**	**2,046**	**2,094**	**2,143**	**2,195**	**2,247**	**2,300**	**2,356**	**9,993**	**21,236**
Outlays														
Defense														
Other discretionary[c]	746	796	838	871	898	921	944	967	990	1,014	1,039	1,064	4,472	9,545
IIJA and BSCA[b]	0	*	*	*	*	*	*	*	*	*	*	*	*	*
Emergency[c]	n.a.	4	10	15	20	26	32	36	38	39	40	41	103	298
Subtotal	746	800	848	886	918	947	976	1,003	1,028	1,053	1,079	1,105	4,575	9,844
Nondefense														
Other discretionary	908	886	929	951	953	974	993	1,016	1,039	1,063	1,088	1,113	4,800	10,120
IIJA and BSCA[b]	3	21	42	59	69	72	72	71	71	71	73	74	315	675
Emergency	n.a.	34	50	59	65	69	72	74	76	78	80	82	316	707
Subtotal	910	941	1,022	1,070	1,087	1,116	1,137	1,162	1,187	1,213	1,240	1,269	5,431	11,501
Total Outlays	**1,657**	**1,741**	**1,869**	**1,955**	**2,005**	**2,063**	**2,113**	**2,165**	**2,215**	**2,266**	**2,319**	**2,373**	**10,006**	**21,345**
Memorandum:														
Effect That Timing Shifts Have on Discretionary Outlays in CBO's Baseline	5	*	-5	0	0	0	6	-6	0	0	0	7	n.a.	n.a.
CBO's Baseline Projection of Discretionary Outlays	1,662	1,741	1,864	1,955	2,005	2,063	2,119	2,159	2,215	2,266	2,319	2,380	10,007	21,347
Outlays From IIJA and BSCA Appropriations as Specified	3	21	42	59	68	68	57	42	27	17	11	8	294	399

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

BSCA = Bipartisan Safer Communities Act; IIJA = Infrastructure Investment and Jobs Act; n.a. = not applicable; * = between zero and $500 million.

a. The Department of the Treasury does not distinguish between outlays stemming from emergency funding (other than that provided by the IIJA and BSCA) and outlays stemming from nonemergency funding. Consequently, the budget does not record any actual amounts attributed specifically to emergency funding.

b. Division J of the IIJA provides a total of $266 billion in discretionary funding from 2023 to 2026, and the BSCA provides nearly $3 billion in funding over that period. After consulting with the Budget Committees, CBO applied the rules that govern how it constructs baseline projections to that funding. As a result, the amount of funding related to the IIJA and the BSCA in CBO's baseline exceeds the amounts specified in those laws.

c. 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 have been adjusted to remove the effects of those timing shifts.

issues to the public. The Treasury also pays interest on debt issued to trust funds and other government accounts, but such payments are intragovernmental transactions that have no effect on the budget deficit.

Net outlays for interest, which rose by 35 percent last year, are projected to increase by 35 percent again this year, from $475 billion in 2022 to $640 billion. Relative to the size of the economy, those outlays will rise from 1.9 percent of GDP in 2022 to 2.4 percent in 2023, nearly one percentage point higher than their level in 2021. The projected increase in 2023 occurs primarily because the average interest rate that the Treasury pays on its debt has risen sharply this year and is expected to rise further as maturing securities are refinanced at rates that are higher than those that prevailed when they were initially issued.[16] For example, the interest rate on 10-year Treasury notes averaged 1.3 percent in 2021 and 2.4 percent in 2022; that rate averages 3.8 percent in 2023 in CBO's current economic forecast. Debt held by the public (in nominal terms) is on track to increase by 6 percent from 2022 to 2023.

Outlays From 2024 to 2033

In CBO's baseline projections, federal outlays (adjusted to exclude the effects of timing shifts) rise from $6.5 trillion in 2024 to $9.8 trillion in 2033, for an average annual increase of nearly 5 percent.[17] Measured in relation to the size of the economy, federal outlays dip from 24 percent of GDP in 2024 to 23 percent in 2025 and 2026 and then generally increase thereafter, equaling 25 percent of GDP in 2032 and 2033 (see Figure 1-3).

Mandatory Spending. In CBO's projections, outlays for mandatory programs (net of offsetting receipts) total 14 percent of GDP each year from 2024 to 2029, rise to 15 percent in 2030, and remain at that level through 2033. That pattern occurs in part because spending related to the pandemic continues to fall over the next few years while two underlying factors—the aging of the population and growth in federal health care costs—put upward pressure on mandatory outlays. The aging of the population causes the number of beneficiaries of Social Security and Medicare to grow faster than the overall population, and federal health care costs per beneficiary continue to rise faster than GDP per person. As a result of those two trends, outlays for Social Security and Medicare increase in relation to GDP from 2023 to 2033. The effects of those trends on federal spending will persist beyond the 10-year projection period.

Social Security and the Major Health Care Programs. Measured as a percentage of GDP, outlays for Social Security and the major health care programs, net of offsetting receipts, are projected to rise in most years over the 10-year projection period, from 10.9 percent in 2024 to 12.7 percent in 2033.[18] (Spending for the major health care programs consists of outlays for Medicare, Medicaid, and the Children's Health Insurance Program, as well as subsidies for health insurance purchased through the marketplaces established under the Affordable Care Act and related spending.)

CBO's current baseline includes the following projections of outlays for specific programs:

- Outlays for Social Security increase to 5.3 percent of GDP in 2024 and continue rising in most years thereafter, reaching 6.0 percent of GDP in 2033.
- Outlays for Medicare equal 3.3 percent of GDP in 2024 and climb to 4.1 percent of GDP in 2033.
- Federal outlays for Medicaid, which equal 2.0 percent of GDP in 2024 in CBO's baseline projections, dip slightly, amounting to 1.9 percent of GDP in 2025

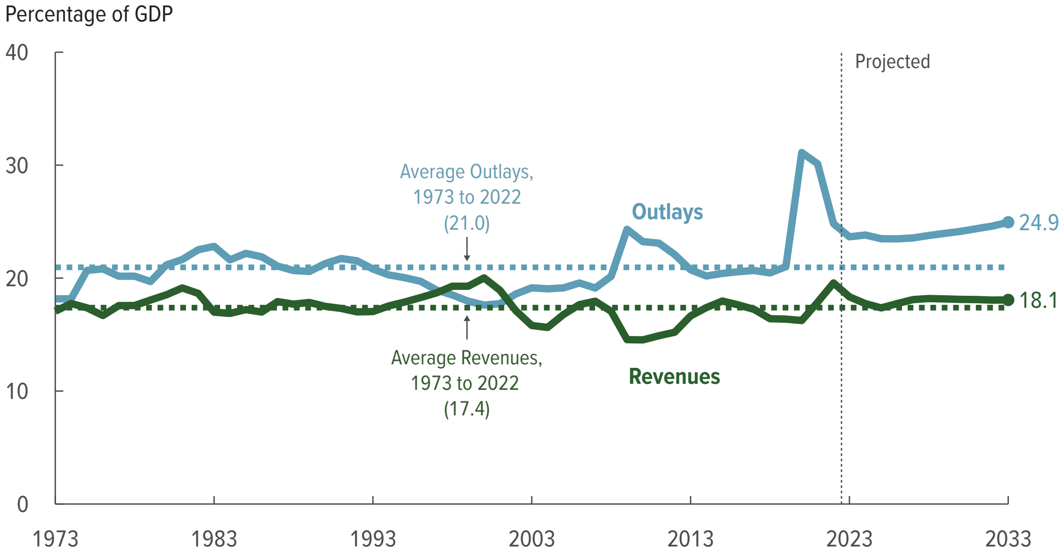
16. The average interest rate on debt reflects the interest rates on Treasury securities of different maturities, the maturity structure of securities issued, and the costs of inflation-linked payments made on some of those securities.

17. CBO's projections follow provisions in section 257 of the Deficit Control Act, which requires CBO to project spending for certain programs, including Social Security and Medicare, 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. For example, CBO estimates that the Highway Trust Fund will be exhausted in 2028, the Old-Age and Survivors Insurance trust fund will be exhausted in 2032, and the Hospital Insurance trust fund will be exhausted in 2033. Nevertheless, CBO's baseline projections reflect the assumption that full payments from those funds will continue to be made. In addition, the Deficit Control Act requires CBO to project spending for certain mandatory programs beyond their scheduled expiration. Other rules that govern the construction of CBO's baseline projections have been developed by the agency in consultation with the House and Senate Budget Committees. For further details, see Congressional Budget Office, *How CBO Prepares Baseline Budget Projections* (February 2018), www.cbo.gov/publication/53532.

18. Offsetting receipts for Medicare include mostly payments of premiums, recoveries of overpayments made to providers, and amounts paid by states from savings on Medicaid's prescription drug costs.

Figure 1-3.

Total Outlays and Revenues



Measured as a percentage of GDP, projected outlays remain about the same for the next several years, as growth in outlays for interest payments and mandatory spending is offset in part by waning pandemic-related spending. Outlays and revenues equal or exceed their 50-year averages in each year of the 2024–2033 period.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

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. All projections presented here have been adjusted to exclude the effects of those timing shifts. Historical amounts have been adjusted as far back as the available data will allow.

GDP = gross domestic product.

and 2026 as pandemic-related spending wanes. Those outlays climb to 2.2 percent in 2033.

- Outlays for subsidies for health insurance purchased through the marketplaces and related spending average 0.3 percent of GDP per year through 2033.

Other Mandatory Programs. Other mandatory spending—that is, all mandatory spending aside from that for Social Security and the major health care programs—is projected to drop by 0.4 percent of GDP in 2024, to 3.3 percent, in part because pandemic-related spending continues to dissipate. (Other mandatory spending peaked at 10.6 percent of GDP in 2021.) Such spending includes outlays for income support programs (such as unemployment compensation and SNAP), military and civilian retirement programs, most veterans' benefits, and major agriculture programs.

In CBO's baseline projections, other mandatory spending measured as a share of GDP continues to decline after 2024 but at a slower pace, falling to 2.6 percent at the end of the projection period. The projected decline occurs in part because benefit amounts for many of those programs are adjusted for inflation each year, and in CBO's economic forecast, the growth of nominal GDP outpaces inflation. Growth in veterans' benefits, which averages 8 percent per year (in nominal terms) after 2023, partially offsets the decline in other mandatory outlays.

Discretionary Spending. In accordance with section 257 of the Deficit Control Act, discretionary funding in future years is assumed to equal the amount provided so far for 2023—including funding designated as an emergency requirement—with adjustments for inflation.[19] As a result, in nominal terms, discretionary outlays are projected to increase over the next 10 years, rising from $1.9 trillion in 2024 to $2.4 trillion in 2033. Outlays from funding designated as an emergency requirement (including funding provided by the IIJA and the BSCA

19. The Deficit Control Act specifies which measures of inflation CBO should use to construct its projections: The employment cost index for wages and salaries of workers in private industry is used to adjust discretionary funding related to federal personnel, and the gross domestic product price index is used to adjust other discretionary funding. For accounts with enacted advance appropriations, CBO applied provisions of law that require it to project future discretionary funding for those years for which funding has not been provided, starting with existing appropriations and adjusting them for inflation.

and amounts stemming from the assumption that such funding would continue to be provided in each year) account for 8 percent of discretionary outlays in CBO's baseline.

In CBO's projections, total discretionary *budget authority* rises by an average of 2.6 percent per year after 2023. Total discretionary *outlays* rise faster than budget authority over the first few years of the projection period, primarily because of spending stemming from budget authority provided in previous years. After 2027, outlays rise at about the same rate as budget authority, increasing by an average of 2.4 percent per year through 2033. Measured as a share of GDP, discretionary outlays decrease steadily, from 6.9 percent in 2024 to 6.0 percent in 2033, at which point they would equal their lowest previously reported level (see Figure 1-4). By comparison, discretionary outlays averaged 8.0 percent of GDP over the past 50 years.

In CBO's projections, defense outlays fall to 2.8 percent of GDP in 2033—which would be their smallest share since 1962 (the earliest year for which such data have been reported). Outlays for nondefense discretionary programs would amount to 3.2 percent of GDP in 2033. Nondefense discretionary outlays have been less than that only three times—in 1999, 2018, and 2019—when they equaled 3.1 percent of GDP.

Net Interest Outlays. Net outlays for interest nearly double over the period in CBO's projections, rising from $739 billion in 2024 to $1.4 trillion in 2033. Measured relative to the size of the economy, those outlays rise from 2.7 percent of GDP in 2024 to 3.6 percent in 2033. At that level, they would be 1.6 percentage points higher than their 50-year average.

The *amount* of the federal government's net interest costs is determined by the outstanding debt and the average interest rate on that debt. *Growth* in net interest costs is mainly affected by changes in the average interest rate on federal debt and by the primary deficit, which requires the government to borrow more and thus increases debt held by the public.[20] Borrowing to pay for greater interest costs pushes up the net cost of interest further—in large part because of the way that increases in the average interest rate and the primary deficit affect each other.

- Average interest rates on federal debt rise in CBO's projections as debt matures and is refinanced. In 2024, the average interest rate on debt held by the public is projected to be 2.9 percent, 0.2 percentage points higher than it was in 2023 and 0.7 percentage points higher than it was in 2022; that rate generally rises thereafter, albeit more slowly, reaching 3.2 percent in 2033. Changes in the average interest rate stem from interest rates on Treasury securities, the rate of inflation applicable to Treasury inflation-protected securities, and the maturity structure of outstanding securities. (For a discussion of the factors responsible for changes in interest rates and inflation, see Chapter 2.)
- Primary deficits average 2.9 percent of GDP from 2024 to 2033, adding to debt held by the public each year. (The factors responsible for primary deficits are discussed earlier in this chapter.)

On average, in CBO's projections, increases in the average interest rate on federal debt account for about three-quarters of the increase in net interest costs from 2024 to 2033.[21]

Revenues

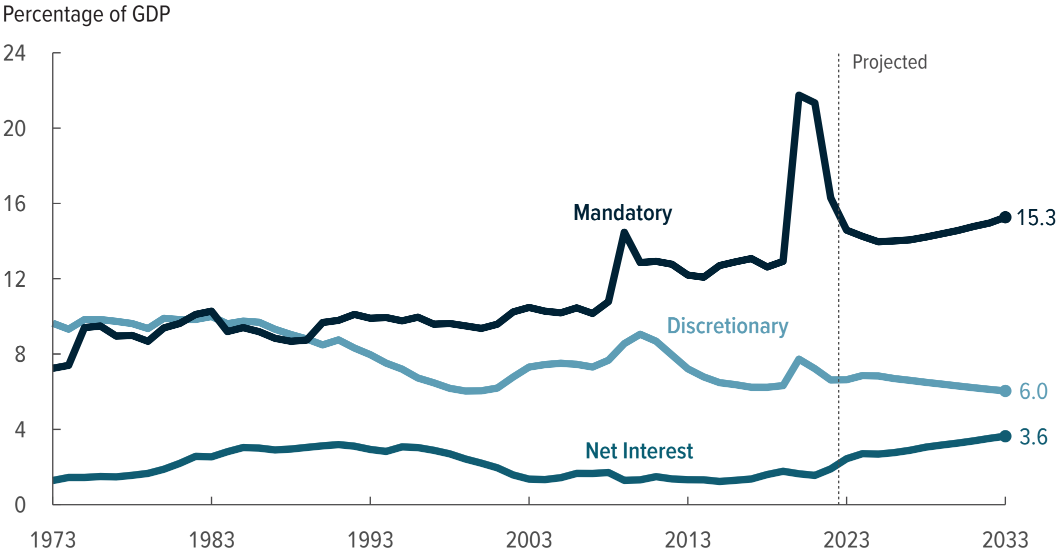
Federal revenues in 2022 totaled $4.9 trillion. Under current law, revenues will fall by 2 percent in 2023, to $4.8 trillion, CBO estimates. As a percentage of GDP, revenues are projected to fall from 19.6 percent of GDP in 2022 to 18.3 percent this year, still above the 17.4 percent of GDP they averaged over the past 50 years. In CBO's projections, revenues drop to 17.4 percent of GDP in 2025 and then, over the next two years, climb to 18.1 percent of GDP, where they

20. For more details on the government's net interest costs, see Congressional Budget Office, *Federal Net Interest Costs: A Primer* (December 2020), www.cbo.gov/publication/56780. The costs are also affected by debt issuance not accounted for by primary deficits, such as that issued for some of the financing of federal credit programs.

21. To assess the share of the increase in net interest costs attributable to changes in the average interest rate, CBO started by examining a benchmark scenario in which after 2022, the average interest rate did not change and there were no primary deficits adding to the amount of debt. CBO estimated the increase, relative to that benchmark, in net interest costs from the change in the average interest rate in CBO's projections (by using a scenario with those rates and no primary deficits) and from primary deficits in CBO's projections (by using a scenario with those deficits and no change in the average interest rate). The agency used the relative size of those estimates to calculate the share of the total increase in net interest costs attributable to the increase in the average interest rate by allocating the interaction between the average interest rate and the primary deficit proportionally.

Figure 1-4.

Outlays, by Category



In CBO's projections, rising spending on Social Security and Medicare boosts mandatory outlays, but total discretionary spending falls in relation to GDP. As the cost of financing the nation's debt grows, net outlays for interest increase substantially and, beginning in 2030, exceed their previous peak.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

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. All projections presented here have been adjusted to exclude the effects of those timing shifts. Historical amounts have been adjusted as far back as the available data will allow.

GDP = gross domestic product.

remain at the end of the projection period (see Figure 1-3 on page 19). Those overall changes are driven by the following changes in specific sources of revenues in CBO's projections:

- **Individual income tax receipts** decline in relation to GDP through 2025 in CBO's projections, partly because the agency anticipates that collections from taxes on capital gains realizations and other sources, which have been strong in recent years, will fall. Receipts grow from 2025 to 2027 because scheduled changes in tax provisions, including an increase in most tax rates, are projected to drive up receipts in relation to taxable personal income. Real bracket creep (explained below) also contributes to rising receipts over time.

- **Corporate income tax receipts** decrease steadily in relation to GDP from 2023 to 2033. That decline reflects the net effects of scheduled changes in tax rules.

- **Federal Reserve remittances** remain near zero from 2023 to 2027 because higher short-term interest rates have increased the Federal Reserve System's interest expenses to such an extent that they exceed its income. CBO anticipates that remittances will be significant again in 2028 and rise slowly as a share of the economy thereafter.

- **Excise tax receipts** rise in 2023 and 2024 after recent legislative changes take effect. Thereafter, excise taxes gradually decline in relation to GDP along with the tax bases on which many excise taxes are levied.

Individual Income Taxes

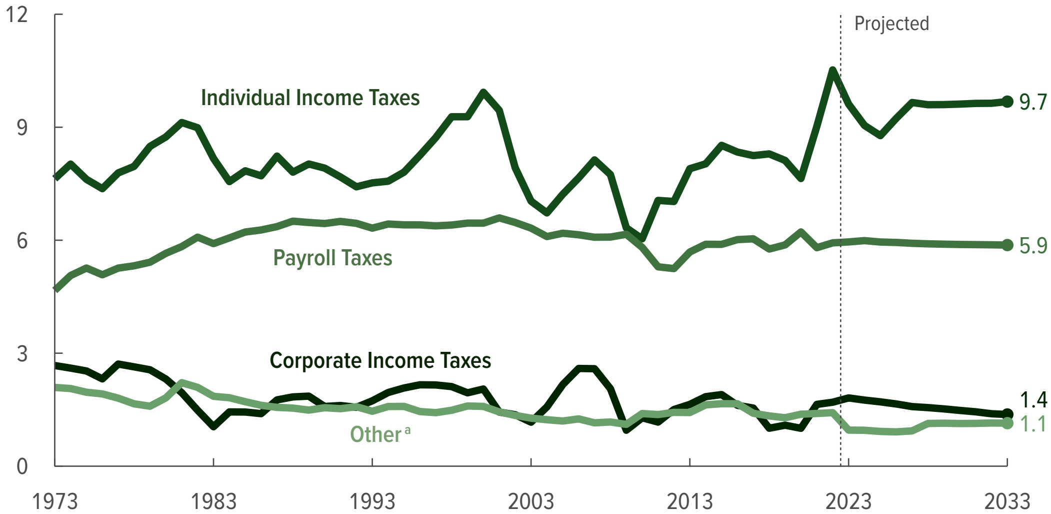
In 2022, receipts from individual income taxes totaled $2.6 trillion, or 10.5 percent of GDP—the highest those receipts have been in relation to the size of the economy since the 16th Amendment authorizing the federal government to collect income taxes was ratified in 1913. Under current law, receipts from individual income taxes are projected to fall this year to $2.5 trillion, or 9.6 percent of GDP—still well above the 8.0 percent of GDP they averaged over the past five decades (see Figure 1-5).

Over the next two years, receipts in CBO's projections decline further in relation to the size of the economy, reaching 8.8 percent of GDP in 2025 (see Table 1-6).

Figure 1-5.

Revenues, by Category

Percentage of Gross Domestic Product



After reaching a historic high in 2022, receipts from individual income taxes are projected to fall in 2023 because collections from taxes on capital gains realizations and other sources, which have been strong in recent years, fall in CBO's projections. Receipts are projected to rise again after 2025 because of the scheduled expiration of certain provisions of the 2017 tax act.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

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

That decline partly reflects CBO's expectation that the recent strength in tax collections will not continue. In addition, payments of certain taxes deferred during the first two years of the pandemic and paid in 2022 and 2023 will no longer be made. After 2025, individual income tax receipts are projected to rise in relation to GDP because of scheduled changes in tax law and real bracket creep.

Following the initial decline and subsequent increase, receipts in CBO's baseline projections total 9.7 percent of GDP in 2033, 0.1 percentage point higher than they are in 2023. The offsetting factors that contribute to that small net increase are described in more detail below.

Scheduled Tax Changes After 2025. At the end of calendar year 2025, nearly all the changes to the individual income tax made by the 2017 tax act are scheduled to expire under current law. Together, those scheduled changes are the most significant factor pushing up tax revenues relative to income over the next 10 years in CBO's projections. After the scheduled changes take effect, taxpayers will face 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 (the amount taxpayers owe) to rise beginning in calendar year 2026, boosting receipts in fiscal year 2027 and beyond. In CBO's projections, the scheduled changes to those tax provisions boost annual individual income tax receipts measured as a share of GDP by 0.8 percentage points from 2025 to 2033.

Real Bracket Creep and Related Effects. The income thresholds for the various tax rate brackets in the individual income tax are indexed to increase with inflation (as measured by the chained consumer price index published by the Bureau of Labor Statistics).[22] When income grows faster than prices—as CBO projects it will over the 2023–2033 period—more income is pushed into higher tax brackets, a process known as real bracket creep. In addition, the Internal Revenue Service adjusts the income thresholds before the start of the tax year, which means that the adjustments are based on inflation in the previous year. Because of that lag, a larger share of income may be taxed at higher rates during periods of high inflation. 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

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

Table 1-6.

CBO's Baseline Projections of Revenues

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 2024–2028	Total 2024–2033
							In Billions of Dollars							
Individual Income Taxes	2,632	2,523	2,467	2,511	2,764	3,018	3,121	3,246	3,377	3,515	3,650	3,803	13,881	31,472
Payroll Taxes	1,484	1,562	1,633	1,703	1,778	1,849	1,920	1,993	2,068	2,147	2,226	2,307	8,884	19,625
Corporate Income Taxes	425	475	479	489	495	494	506	514	520	527	527	539	2,462	5,089
Other														
Excise taxes	88	91	101	100	101	102	103	103	104	105	106	107	506	1,033
Federal Reserve remittances	107	1	4	6	7	10	78	88	98	109	122	130	105	652
Customs duties	100	99	97	98	101	103	104	105	106	107	109	110	503	1,040
Estate and gift taxes	33	27	25	24	26	39	42	44	47	50	53	57	156	406
Miscellaneous fees and fines	29	35	34	35	37	40	42	45	43	43	44	45	188	409
Subtotal	356	251	260	264	273	293	369	386	398	414	435	449	1,459	3,540
Total	**4,896**	**4,812**	**4,838**	**4,966**	**5,310**	**5,655**	**5,916**	**6,139**	**6,364**	**6,603**	**6,838**	**7,098**	**26,686**	**59,727**
On-budget	3,830	3,678	3,643	3,711	3,999	4,292	4,501	4,671	4,842	5,023	5,200	5,402	20,145	45,284
Off-budget[a]	1,066	1,133	1,196	1,255	1,311	1,363	1,415	1,468	1,522	1,580	1,637	1,695	6,540	14,443
Memorandum:														
Gross Domestic Product	25,009	26,238	27,266	28,610	29,932	31,251	32,525	33,811	35,133	36,488	37,874	39,288	149,585	332,179
							As a Percentage of Gross Domestic Product							
Individual Income Taxes	10.5	9.6	9.0	8.8	9.2	9.7	9.6	9.6	9.6	9.6	9.6	9.7	9.3	9.5
Payroll Taxes	5.9	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Corporate Income Taxes	1.7	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.6	1.5
Other														
Excise taxes	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Federal Reserve remittances	0.4	*	*	*	*	*	0.2	0.3	0.3	0.3	0.3	0.3	0.1	0.2
Customs duties	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Estate and gift taxes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Miscellaneous fees and fines	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Subtotal	1.4	1.0	1.0	0.9	0.9	0.9	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1
Total	**19.6**	**18.3**	**17.7**	**17.4**	**17.7**	**18.1**	**18.2**	**18.2**	**18.1**	**18.1**	**18.1**	**18.1**	**17.8**	**18.0**
On-budget	15.3	14.0	13.4	13.0	13.4	13.7	13.8	13.8	13.8	13.8	13.7	13.8	13.5	13.6
Off-budget[a]	4.3	4.3	4.4	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.4	4.3

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

* = between zero and 0.05 percent of gross domestic product.

a. Receipts from Social Security payroll taxes.

parameters, such as the amount of the child tax credit, are fixed in nominal dollars and not adjusted for inflation.

The individual income tax system is thus not indexed for real growth (that is, growth beyond the rate of inflation). Instead, it is partially indexed for inflation, and the indexing occurs with a lag. Together, those features of the system cause projected annual revenues measured as a percentage of GDP to rise by 0.5 percentage points from 2024 to 2033.

Other Factors. Over the next decade, several other factors decrease individual income tax receipts measured as a share of GDP by 1.2 percentage points in CBO's projections. The largest factor is a projected decline in capital gains realizations relative to the size of the economy. CBO estimates that such realizations totaled 8.7 percent of GDP in calendar year 2021 and 6.7 percent of GDP in 2022—significantly greater than the 3.7 percent of GDP they averaged over the past 40 years. In CBO's baseline projections, capital gains realizations decline over the next decade to a level that, after differences in applicable tax rates are accounted for, is consistent with their historical average. That anticipated decline reduces receipts from individual income taxes measured as a share of GDP by a total of about 0.6 percentage points from 2024 to 2033.

Second, a pandemic-related tax provision allowed employers to defer payment of some of their payroll taxes in 2020 and 2021; they paid half of the deferred amounts in 2022 and the other half in 2023.[23] That provision boosted tax receipts in 2022 and 2023 but will have no effect in future years, causing receipts measured as a share of GDP to drop by 0.2 percentage points after 2023.

Third, receipts from individual income taxes in the past few years have been larger than expected given currently available data on economic activity and the past relationship between tax revenues and the state of the economy. Depending on what factors explain those larger-than-expected receipts, their effects might be expected to persist permanently, end abruptly, or even reverse. In CBO's baseline projections, the unexplained strength of individual income tax receipts gradually dissipates over the next few years, reducing receipts as a share of GDP by a total of 0.3 percentage points from 2024 to 2033.

Payroll Taxes

Receipts from payroll taxes, which fund social insurance programs—primarily Social Security and Medicare—totaled $1.5 trillion in 2022, or 5.9 percent of GDP. In CBO's projections, payroll taxes rise to 6.0 percent of GDP in 2023, return to 5.9 percent of GDP in 2026, and remain at that level through the end of the projection period. That initial increase occurs because, in CBO's forecast, workers' earnings, which constitute most of the payroll tax base, rise slightly as a share of GDP in 2023 and 2024 and then decline.

Corporate Income Taxes

In 2022, receipts from corporate income taxes totaled $425 billion, or 1.7 percent of GDP. CBO expects corporate tax receipts to rise to 1.8 percent of GDP in 2023, largely because of scheduled changes to and new provisions of the tax code. In CBO's projections, corporate income tax receipts increase over the next decade, though not as quickly as GDP rises. Measured in relation to the size of the economy, receipts thus fall over the period, totaling 1.4 percent of GDP in 2033. That pattern reflects the varying effects over time of provisions of the 2017 tax act and the 2022 reconciliation act (P.L. 117-169), among other factors.

Provisions of the 2017 Tax Act. Several provisions of the 2017 tax act affect corporate income tax receipts over the next decade and are estimated to reduce such receipts as a share of GDP by 0.2 percentage points, on net, from 2023 to 2033.

Since 2018, firms have been making scheduled payments for a onetime tax on certain foreign profits. That tax applied to foreign profits for which U.S. taxes had been deferred under prior law. Taxes on those earnings, which are based on the value of those profits as of late 2017 (and which are unrelated to future business activity), can be paid over eight years in installments that vary in size. The payments thus boost receipts in CBO's baseline projections to varying degrees from 2023 to 2026 but not in later years, thereby contributing to lower receipts relative to GDP from 2027 to 2033.

In 2022, firms were required to begin capitalizing and amortizing certain expenditures for research and experimentation over a five-year period as they are incurred; previously, they could immediately deduct such expenses. That change will boost receipts in 2023 and for the next several years as firms take fewer deductions up front, but it will not significantly affect receipts in later years. Additionally, provisions allowing firms to immediately deduct 100 percent of their investments in equipment from their taxable income are scheduled to phase out from 2023 to 2026. By reducing the deduction that can be taken on new investments in the first year such an investment is made, that change will add to receipts to varying degrees during the phase-down period but will not significantly affect receipts by 2033.

Finally, changes to rules related to the taxation of foreign profits are scheduled to occur in 2026. Those changes will increase revenues in subsequent years, but those increases will be more than offset by the reductions stemming from the previously described changes.

Provisions of the 2022 Reconciliation Act. The 2022 reconciliation act introduced tax changes that are

23. Although that provision affected payroll taxes, it did not change the amounts credited to the Social Security and Railroad Retirement trust funds, and its effects were recorded in the budget as reductions in individual income tax collections.

Table 1-7.

CBO's Baseline Projections of Smaller Sources of Revenues

Billions of Dollars

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total 2024–2028	Total 2024–2033
Excise Taxes														
Highway	42	42	42	42	42	42	42	42	42	42	42	42	210	421
Health care	3	2	4	3	3	3	3	3	3	3	3	3	15	30
Aviation	16	17	19	20	21	22	22	23	24	25	26	26	104	227
Tobacco	11	11	11	10	10	10	9	9	8	8	8	7	49	90
Alcohol	11	11	11	10	10	10	11	11	11	11	11	12	52	108
Other excise taxes	5	8	15	15	15	15	15	16	16	16	17	17	76	157
Subtotal	88	91	101	100	101	102	103	103	104	105	106	107	506	1,033
Federal Reserve Remittances	107	1	4	6	7	10	78	88	98	109	122	130	105	652
Customs Duties	100	99	97	98	101	103	104	105	106	107	109	110	503	1,040
Estate and Gift Taxes	33	27	25	24	26	39	42	44	47	50	53	57	156	406
Miscellaneous Fees and Fines														
Universal Service Fund fees	9	10	10	10	10	10	10	10	10	10	10	10	49	99
Other fees and fines	20	25	24	25	27	30	32	35	33	33	34	35	139	310
Subtotal	29	35	34	35	37	40	42	45	43	43	44	45	188	409
Total	**356**	**251**	**260**	**264**	**273**	**293**	**369**	**386**	**398**	**414**	**435**	**449**	**1,459**	**3,540**

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

estimated to reduce corporate income tax receipts, on net, by 0.1 percent of GDP between 2023 and 2033. Most significantly, the law created a new minimum tax on certain corporations as well as credits that can be used to reduce liability in excess of that minimum in subsequent years. The new tax, which goes into effect in 2023, will boost receipts in 2023, but the increase attributable to that tax is smaller in subsequent years in CBO's projections because firms will offset the minimum tax by using credits for tax liability in prior years that exceeded the minimum. The law also temporarily expanded existing tax credits and created new tax credits for clean energy. In CBO's projections, many of those changes reduce receipts by more in future years than they do in 2023.

Receipts From Other Sources

Receipts from all revenue sources other than individual income taxes, payroll taxes, and corporate income taxes totaled $356 billion, or 1.4 percent of GDP, in 2022 (see Table 1-7). Those receipts are projected to decline to 1.0 percent of GDP in 2023 and to range between 0.9 percent and 1.1 percent of GDP during the next decade.

Estate and Gift Taxes. Revenues from estate and gift taxes totaled $33 billion, or 0.1 percent of GDP, in 2022. Following the expiration at the end of calendar year 2025 of a provision of the 2017 tax act that doubled the amount of the estate and gift tax exemption, revenues from estate and gift taxes rise by 49 percent from 2026 to 2027 in CBO's projections but remain close to 0.1 percent of GDP.

Excise Taxes. Excise taxes are levied on the production or purchase of particular types of goods and services, including motor fuels, tobacco, alcohol, and aviation services. In 2022, collections of excise taxes totaled $88 billion, or 0.4 percent of GDP. Those receipts decline to 0.3 percent of GDP in 2033 in CBO's projections. An excise tax on the repurchase of corporate stock, which was enacted as part of the 2022 reconciliation act, will be collected starting in 2023, causing excise taxes to rise slightly in relation to GDP in 2024. In addition, excise taxes on certain chemicals and petroleum products, which were enacted in the IIJA and the 2022 reconciliation act, boost receipts beginning in 2023. After 2025, excise taxes decline in relation to GDP, primarily because many excise taxes are imposed as a fixed dollar amount per unit sold, and the number of units is projected to grow slowly or decline.

Customs Duties. Collections of customs duties, which are assessed on certain imports, totaled $100 billion, or 0.4 percent of GDP, in 2022. Those receipts are projected to decline as a share of GDP throughout the next decade, totaling 0.3 percent of GDP in 2033. Two factors explain that decline. First, the value of goods imported relative to the size of the economy, which was unusually high in 2021 and 2022, is projected to decline. Second, CBO anticipates that some imports from countries subject to the tariffs imposed beginning in 2018 (in particular, the section 301 tariffs that apply to certain imported goods from China) will be diverted to other countries. Those tariffs have increased customs duties by roughly 0.2 percent of GDP since 2018. CBO's baseline projections reflect the assumption that tariffs, along with any subsequent exemptions provided by the Administration, continue throughout the projection period at the rates in effect as of December 6, 2022, when the economic forecast was completed.

Remittances From the Federal Reserve. Remittances from the Federal Reserve rose to $107 billion, or 0.4 percent of GDP, in 2022 because of the central bank's actions in response to the pandemic, including its expanding its asset holdings. Remittances have declined sharply in recent months and are projected to total less than 0.1 percent of GDP in 2023. Higher short-term interest rates have increased the Federal Reserve System's interest expenses to such an extent that they exceed its income, resulting in a sharp drop in remittances. When a Federal Reserve bank's expenses exceed its income, it records the difference as a deferred asset (or negative liability) and suspends remittances to the Treasury.

Although CBO estimates that the system as a whole will be in a net loss position through 2024, the agency's baseline projections show small amounts of remittances for the next few years to account for the possibility that some individual Federal Reserve banks might record profits and remit them to the Treasury. As falling inflation allows the Federal Reserve to lower interest rates, the system returns to net profitability in 2025 in CBO's projections. Those profits gradually reduce the deferred asset through 2027; thereafter, remittances return to between 0.2 percent and 0.3 percent of GDP—equal to their average value relative to the size of the economy over the 25-year period preceding the 2008 financial crisis. CBO's estimates of remittances are subject to considerable uncertainty, particularly regarding the path of short-term interest rates in the projection period.

Miscellaneous Fees and Fines. Receipts from other fees and fines totaled $29 billion, or 0.1 percent of GDP, in 2022. Those receipts are projected to remain at 0.1 percent of GDP every year through 2033.

Tax Expenditures

Many exclusions, deductions, credits, and preferential rates in the federal tax system cause revenues to be lower than they would be otherwise for any underlying set of tax rates. Such provisions resemble federal spending and contribute to the budget deficit; thus, they are known as tax expenditures.[24]

Like federal spending, tax expenditures provide financial assistance for specific activities, entities, or groups of people. However, the budgetary treatment of tax expenditures differs from that of spending programs. Although tax expenditures increase the deficit by reducing the government's revenue collections, the amount of forgone revenues attributable to specific tax expenditures (or to tax expenditures in general) is not typically recorded separately in the budget, unlike outlays for each spending program.[25] The Congressional Budget Act of 1974 requires that the federal budget list tax expenditures. The Administration regularly publishes estimates of tax expenditures prepared by the Treasury's Office of Tax Analysis, and the Congress publishes estimates prepared by the staff of the Joint Committee on Taxation (JCT).[26]

24. Sec. 3(3) of the Congressional Budget and Impoundment Control Act of 1974, codified at 2 U.S.C. § 622(3) (2023), defines tax expenditures as "those revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability."

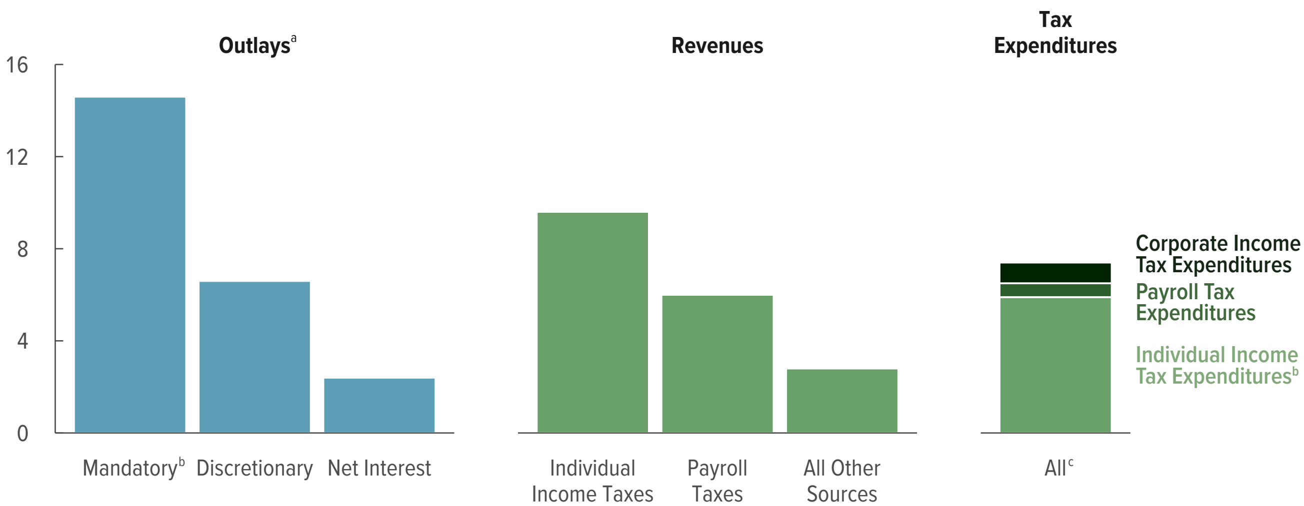
25. The exception is the portion of refundable tax credits that exceeds a taxpayer's tax liability; that amount is recorded in the budget as mandatory spending.

26. For this analysis, CBO adopted JCT's definition of tax expenditures as deviations from a "normal" income tax structure. For the individual income tax, that structure includes existing regular tax rates, the standard deduction, personal exemptions, and deductions of business expenses. For the corporate income tax, that structure includes the statutory tax rate, generally defines income on an accrual basis, and allows for costs to be recovered according to a specified depreciation system that is less favorable than under current law. For more information, see Congressional Budget Office, *How Specifications of the Reference Tax System Affect CBO's Estimates of Tax Expenditures* (December 2021), www.cbo.gov/publication/57543; and Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2022–2026*, JCX-22-22 (December 2022), www.jct.gov/publications/2022/jcx-22-22/. The Treasury's definition of tax expenditures is broadly similar to JCT's. See Office of Management and Budget, *Budget of the U.S. Government, Fiscal Year 2023: Analytical Perspectives* (March 2022), pp. 153–201, www.govinfo.gov/app/details/BUDGET-2023-PER/.

Figure 1-6.

Estimated Outlays, Revenues, and Tax Expenditures in 2023

Percentage of GDP



Tax expenditures are provisions of the tax system (such as tax credits and deductions) that cause revenues to be lower than they would be otherwise. Like federal spending programs, tax expenditures contribute to the budget deficit. In 2023, the total revenues forgone because of tax expenditures are projected to equal 7.4 percent of GDP.

Data source: Congressional Budget Office, using estimates of tax expenditures prepared by the staff of the Joint Committee on Taxation. See www.cbo.gov/publication/58848#data.

GDP = gross domestic product.

a. 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. The estimates of outlays presented here have been adjusted to exclude the effects of those timing shifts.

b. The outlay portions of refundable tax credits, which are estimated to total 0.6 percent of GDP in 2023, are included in tax expenditures as well as in mandatory outlays.

c. This total is the sum of the estimates for each separate tax expenditure and does not account for interactions among them. However, CBO estimates that in 2023, the total for all tax expenditures will roughly equal the sum of the estimates for each separate tax expenditure. Because estimates of tax expenditures are based on people's behavior with current provisions of the tax code in place, they do not reflect the amount of revenues that would be collected if provisions were eliminated and taxpayers adjusted their activities accordingly.

Tax expenditures have a large effect on the federal budget. In fiscal year 2023, the value of the more than 200 tax expenditures in the individual and corporate income tax systems (including their effects on payroll taxes) is estimated to be $1.9 trillion, or 7.4 percent of GDP.[27] That amount, which was calculated by CBO on the basis of estimates prepared by JCT, equals about 40 percent of all federal revenues in 2023 and exceeds projected outlays for all discretionary programs combined (see Figure 1-6).

Simply adding up the estimates for specific tax expenditures does not account for the interactions that may occur among those tax provisions. For instance, the total tax expenditure for all itemized deductions would be smaller than the sum of the separate tax expenditures for each deduction. The reason is that all taxpayers would claim the standard deduction if there were no itemized deductions; but if only one or a few itemized deductions were removed, many taxpayers would still choose to itemize. The progressive structure of the tax brackets

27. Unlike JCT, CBO includes estimates of the largest payroll tax expenditures. As defined by CBO, a normal payroll tax structure includes the existing payroll tax rates as applied to a broad definition of compensation, which consists of cash wages and fringe benefits. Tax expenditures that reduce the tax base for payroll taxes also decrease spending for Social Security by reducing the earnings base on which Social Security benefits are calculated.

Box 1-1.

Details About CBO's Long-Term Budget Projections

The Congressional Budget Office's long-term projections follow the agency's 10-year baseline budget projections and then extend the concepts underlying them for an additional 20 years.[1] Those projections depend on the agency's projections of economic and demographic developments, which are uncertain. But even if conditions were more favorable than those underlying the extended baseline projections, if current laws generally remained unchanged, federal debt as a percentage of gross domestic product (GDP) would almost certainly be much higher in 30 years than it is today.

Deficits and Debt

In CBO's projections, federal deficits rise from 6.9 percent of GDP in 2033 to 11.2 percent of GDP in 2053. That projected growth in total deficits is largely driven by increases in interest costs and spending on Medicare. Primary deficits—that is, deficits excluding net outlays for interest—grow by far less than total deficits, increasing from 3.2 percent of GDP in 2033 to 3.9 percent in 2053.

As a result of mounting deficits, federal debt held by the public rises from 118 percent of GDP in 2033 to 195 percent of GDP in 2053. Debt that is high and rising as a percentage of GDP tends to slow economic growth, push up interest payments to foreign holders of U.S. debt, heighten the risk of a fiscal crisis, and make the U.S. fiscal position more vulnerable to an increase in interest rates. Concern about those consequences puts pressure on future decisions about tax and spending policies.

Spending

Total outlays increase from 24.9 percent of GDP in 2033 to 30.2 percent in 2053 in CBO's projections. Rising interest costs and growth in spending on the major health care programs, particularly Medicare, and on Social Security are significant drivers of that increase. Noninterest outlays—that is, all spending other than net outlays for interest—are projected to increase from 21.3 percent of GDP to 23.0 percent over the period. Mandatory spending increases from 15.3 percent of GDP in 2033 to 17.2 percent of GDP in 2053. Discretionary spending as a percentage of GDP is projected to decline from 2033 to 2037 and is assumed to remain constant thereafter.

Driven by rising interest rates and growing deficits, net interest costs more than double from 2033 to 2053 in CBO's projections, increasing from 3.6 percent of GDP to 7.3 percent. The average interest rate on federal debt is projected to rise from 3.3 percent to 4.0 percent over the 20-year period.[2] On average, in CBO's projections, increases in the average interest rate account for about three-fifths of the rise in net interest costs over that period.

Revenues

Revenues increase from 18.1 percent of GDP in 2033 to 19.1 percent in 2053 in CBO's projections. Individual income taxes rise in relation to GDP over that period as real income growth (that is, growth adjusted to remove the effects of inflation) pushes an increasing share of income into higher tax brackets—a phenomenon known as real bracket creep. Revenues from other sources, on net, change little from 2033 to 2053.

Changes to CBO's Long-Term Projections Since July 2022

As a percentage of GDP, federal debt is now projected to be higher than it was projected to be in July 2022, when CBO last updated its long-term budget projections. That difference stems from an increase in CBO's projections of spending—in particular, net interest outlays—as a percentage of GDP over the 2033–2043 period and a reduction in projected revenues throughout the 2033–2052 period. (Nominal GDP is now projected to be higher than it was previously projected to be, so a given dollar amount of spending, revenues, deficits, or debt equals a smaller percentage of GDP in the current projections than it would have equaled in last year's projections. In other words, an increase in CBO's projections of spending as a percentage of GDP means that projected nominal spending has risen by a greater percentage than projected nominal GDP has since last July.)

Changes to CBO's Projections of Deficits and Debt. Total federal deficits through 2044 are now projected to be larger than they were previously projected to be; thereafter, projected

1. For years after 2033, CBO has updated its long-term population, economic, and revenue projections; in lieu of a full update, the agency has used a simplified approach to project spending in those years. CBO expects to publish fully updated long-term projections later in 2023.

2. The average interest rate on debt reflects the interest rates on Treasury securities of different maturities, the maturity structure of the securities issued, and the costs of inflation-linked payments made on some of those securities.

Continued

Box 1-1. Continued

Details About CBO's Long-Term Budget Projections

deficits are now slightly smaller than they were in July 2022. Primary deficits are now projected to be larger than previously projected throughout the 2033–2052 period. As a result of changes to deficits, federal debt as a percentage of GDP is now projected to be 8 percentage points higher, on average, from 2033 to 2043 and 6 percentage points higher, on average, from 2044 to 2052.

Changes to CBO's Projections of Spending. Measured as a percentage of GDP, noninterest outlays over the 2033–2052 period are roughly the same, on average, in CBO's current projections as they were in the agency's July 2022 projections. CBO increased its projections of net interest costs over the 2033–2043 period, boosting total projected outlays as a percentage of GDP. After 2043, total outlays are projected to be lower than CBO previously projected, largely because the agency has lowered its projections of interest rates and net interest costs since last year.

Changes to CBO's Projections of Revenues. CBO's current projections of revenues measured as a percentage of GDP are about 0.1 percentage point lower than its July 2022 projections throughout the 2033–2052 period. The agency revised downward its projections of individual income taxes because it now projects that distributions from retirement plans in those years will be smaller than it projected in July.

ensures that the opposite would be the case with income exclusions. In other words, the tax expenditure for all exclusions considered together would be greater than the sum of the separate tax expenditures for each exclusion. In 2023, those and other factors are expected to be approximately offsetting, so the total amount of tax expenditures is projected to roughly equal the sum of the individual tax expenditures.

Estimates of tax expenditures measure the difference between households' and businesses' tax liability under current law and the tax liability they would have incurred if the provisions generating those tax expenditures were repealed and taxpayers' behavior was unchanged. Such estimates do not represent the amount of revenues that would be raised if those provisions were eliminated, because the changes in incentives that would result from eliminating those provisions would lead households and businesses to modify their behavior in ways that would lessen the effect on revenues.

The Long-Term Outlook for the Budget

Beyond the coming decade, the fiscal outlook for the United States is challenging. In CBO's projections, budget deficits grow in relation to GDP as growth in outlays (largely driven by rising interest costs and increased spending on Medicare) outpaces growth in revenues. Those rising deficits boost federal debt dramatically over the next three decades (see Table 1-8). In 2053, debt is projected to reach 195 percent of GDP—far higher than it has ever been—and to be on track to rise even further (see Figure 1-2 on page 11). Measured as a percentage of GDP, federal debt is higher in CBO's current projections than it was in the agency's most recent long-term projections, which were published in July 2022. Deficits in most years of the 2033–2052 period are also now projected to be larger than the agency projected last July. (See Box 1-1 for details about CBO's long-term budget projections.)

Uncertainty of Budget Projections

CBO's baseline budget projections are intended to show what would happen to federal spending, revenues, deficits, and debt if current laws governing spending and taxes generally remained the same. Changes to laws—particularly those affecting fiscal policies—could lead to budgetary outcomes that diverged considerably from those in the baseline. For example, CBO's estimate of the cumulative deficit for the 2023–2027 period has increased by nearly $0.6 trillion since May 2022 to account for laws that have been enacted since those projections were published.

Even if federal laws remained unchanged for the next decade, actual budgetary outcomes would differ from CBO's baseline projections because of unanticipated changes in economic conditions and in other factors that affect federal spending and revenues. For example, CBO's projections of outlays and revenues—and therefore its projections of deficits and debt—depend in part on the agency's economic projections, which include forecasts for such variables as interest rates, inflation, and growth in productivity. Actual outcomes for those variables are likely to differ in various ways from CBO's projections.

Table 1-8.

Key Projections in CBO's Baseline, Adjusted to Exclude Effects of Timing Shifts, Through 2053

Percentage of Gross Domestic Product

			Projected Annual Average			
	2023	2024	2025–2028	2029–2033	2034–2043	2044–2053
Revenues						
Individual income taxes	9.6	9.0	9.3	9.6	9.9	10.4
Payroll taxes	6.0	6.0	5.9	5.9	5.8	5.8
Corporate income taxes	1.8	1.8	1.6	1.4	1.4	1.4
Other[a]	1.0	1.0	1.0	1.1	1.2	1.2
Total Revenues	**18.3**	**17.7**	**17.9**	**18.1**	**18.3**	**18.8**
Outlays						
Mandatory						
Social Security	5.1	5.3	5.5	5.8	6.2	6.4
Major health care programs[b,c]	5.7	5.6	5.7	6.3	7.4	8.2
Other[b]	3.7	3.3	2.9	2.6	2.5	2.3
Subtotal	14.6	14.3	14.1	14.8	16.1	16.9
Discretionary[b]	6.6	6.9	6.7	6.2	5.9	5.8
Net interest	2.4	2.7	2.9	3.4	4.4	6.2
Total Outlays	**23.7**	**23.8**	**23.6**	**24.4**	**26.3**	**29.0**
Deficit	**-5.3**	**-6.1**	**-5.7**	**-6.3**	**-8.0**	**-10.2**
Debt Held by the Public at the End of the Period	**98**	**100**	**107**	**118**	**152**	**195**
Memorandum:						
Social Security						
Revenues[d]	4.5	4.6	4.6	4.6	4.6	4.5
Outlays[e]	5.1	5.3	5.5	5.8	6.2	6.4
Contribution to the Deficit[f]	-0.6	-0.7	-0.9	-1.2	-1.6	-1.9
Medicare						
Revenues[d]	1.5	1.5	1.5	1.6	1.6	1.6
Outlays[b,e]	3.8	4.0	4.1	4.8	5.8	6.6
Offsetting receipts	-0.7	-0.7	-0.7	-0.9	-1.1	-1.3
Contribution to the Deficit[f]	-1.7	-1.8	-1.9	-2.3	-3.1	-3.7
Gross Domestic Product at the End of the Period (Trillions of dollars)	26.2	27.3	32.5	39.3	56.1	79.5

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

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

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

b. 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. These outlays have been adjusted to remove the effects of those shifts.

c. Consists of outlays for Medicare (net of premiums and other offsetting receipts), Medicaid, and the Children's Health Insurance Program, as well as subsidies for health insurance purchased through the marketplaces established under the Affordable Care Act and related spending.

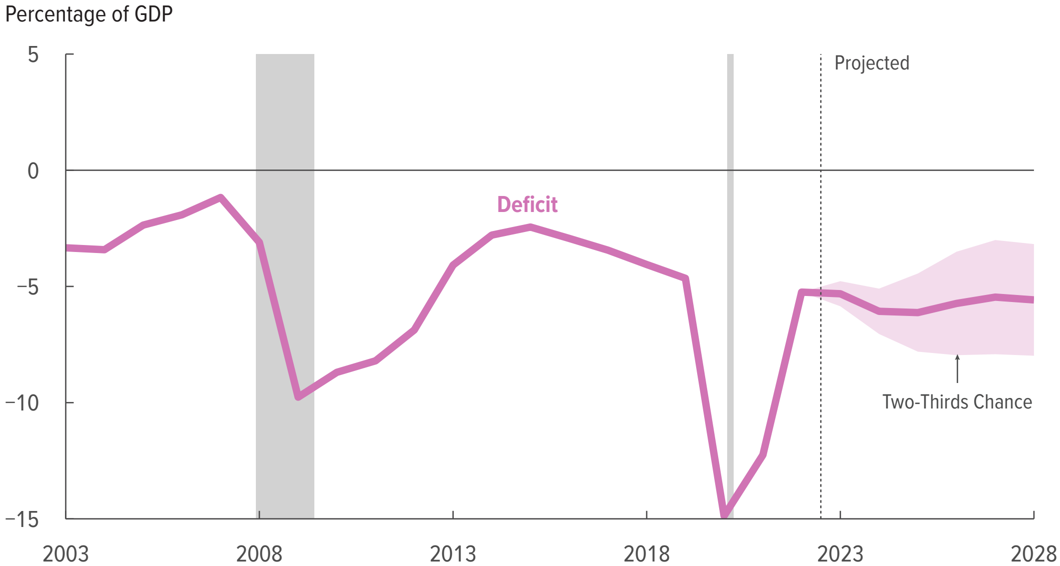
d. Includes payroll taxes other than those paid by the federal government on behalf of its employees; those payments are intragovernmental transactions. Also includes income taxes paid on Social Security benefits, which are credited to the trust funds.

e. Does not include outlays related to the administration of the program, which are discretionary. For Social Security, outlays do not include intragovernmental offsetting receipts stemming from the employer's share of payroll taxes paid to the Social Security trust funds by federal agencies on behalf of their employees.

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

Figure 1-7.

Uncertainty of CBO's Baseline Projections of the Budget Deficit



In CBO's baseline projections, the deficit in 2028 is 5.6 percent of GDP. The agency estimates that there is a roughly two-thirds chance that the deficit that year would be between 3.2 percent of GDP and 8.0 percent of GDP.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

The shaded area around CBO's baseline deficit projection is based on the errors in CBO's one-, two-, three-, four-, five-, and six-year projections of the deficit for fiscal years 1984 through 2022. Actual outcomes will be affected by legislation enacted in future years. The effects of future legislation are not reflected in this figure.

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. All projections presented here have been adjusted to exclude the effects of those timing shifts. Historical amounts have been adjusted as far back as the available data will allow.

GDP = gross domestic product.

A comparison of CBO's past projections with actual outcomes gives some indication of the magnitude of the uncertainty of the agency's budget projections.[28] On the basis of an analysis of its past projections, CBO estimates that there is an approximately two-thirds chance that, under current law, the deficit in 2024 would be between 5.1 percent and 7.0 percent of GDP (see Figure 1-7). (The baseline projection of the deficit that year is 6.1 percent of GDP.) The range in 2028 would be wider: CBO estimates that, under current law, there is a roughly two-thirds chance that the deficit that year would be between 3.2 percent and 8.0 percent of GDP. (The baseline projection for that year is 5.6 percent of GDP.)

28. See Congressional Budget Office, *An Evaluation of CBO's Past Deficit and Debt Projections* (September 2019), www.cbo.gov/publication/55234.

Chapter 2: The Economic Outlook

Overview

This chapter provides details about the Congressional Budget Office's February 2023 economic projections, which the agency used as the basis for updating its budget projections. Inflation continued at a high rate in 2022, reflecting supply disruptions, the effects of the Russian invasion of Ukraine on food and energy prices, a tight labor market, and the effects of fiscal policy. In response, the Federal Reserve sharply raised interest rates. Output showed modest growth during 2022. In 2023, economic activity is projected to stagnate, with rising unemployment and falling inflation.

The Economic Outlook for 2023 to 2027

CBO's projections reflect economic developments as of December 6, 2022; the agency's initial assessments of full-year discretionary funding for the federal government for fiscal year 2023 (which were 4 percent lower in total than CBO's current estimates); and the assumption that current laws governing federal taxes and spending generally remain in place. In those projections, elevated inflation initially persists as shelter (housing) costs and wages continue to rise and as supply disruptions gradually decline:

- **Inflation,** which was slightly lower in 2022 than in 2021 but higher than in any other year since 1981, continues to exceed the Federal Reserve's long-run goal of 2 percent through 2023 and 2024 before nearing that rate by 2026. As measured by the price index for personal consumption expenditures (PCE), inflation is 3.3 percent in 2023, reflecting the lagged effects of higher home prices on rents as well as tight labor markets.[1] In 2024, inflation falls to 2.4 percent as labor markets soften and increases in rents slow. After 2024, inflation approaches the Federal Reserve's goal of 2 percent, reaching 2.2 percent in 2025 and 2.1 percent in 2026.
- **Interest rates** on Treasury securities rise further in early 2023 and then gradually recede beginning in late 2023. To reduce inflationary pressures, the Federal Reserve raises the federal funds rate (the rate that financial institutions charge each other for overnight loans of their monetary reserves) again in early 2023. That rate reaches 5.1 percent by the end of the first quarter of 2023 and remains there through the end of the third quarter of 2023; it averages 4.8 percent during the fourth quarter of 2023. As inflation slows and unemployment rises, the federal funds rate continues to fall, reaching 3.0 percent by the end of 2024. The interest rate on 10-year Treasury notes remains at 3.8 percent after 2023.
- **Output growth** comes to a halt in early 2023 in response to the sharp rise in interest rates during 2022. Real gross domestic product (that is, GDP adjusted to remove the effects of inflation) grows by just 0.1 percent in 2023, restrained by declining home building and inventory investment (see Figure 2-1). As financial conditions gradually ease after 2023, the annual growth rate of real GDP averages 2.4 percent from 2024 to 2027.
- **Conditions in the labor market** deteriorate in 2023. Payroll employment stagnates, and the unemployment rate rises from 3.6 percent in the fourth quarter of 2022 to 5.1 percent at the end of 2023. The unemployment rate then gradually declines to 4.5 percent by the end of 2027 (see Table 2-1). The size of the labor force, which finally regained its prepandemic level in the second half of 2022, continues to rise, although at a modest pace.

The Economic Outlook for 2028 to 2033

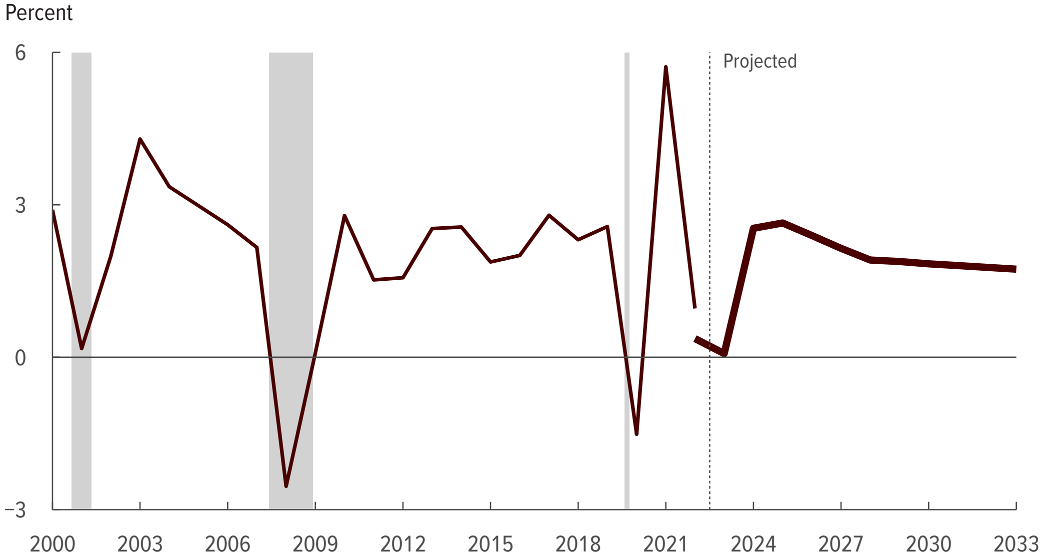
In CBO's forecast, economic output expands slightly less rapidly from 2028 to 2033 than it does over the 2024–2027 period. Real GDP grows by 1.8 percent per year, on average, the same as the growth rate of real potential GDP (that is, the maximum sustainable output of the economy). The level of real GDP is slightly below the level of real potential GDP from 2028 to 2033, in line with their historical relationship, on average.

In CBO's projections for the 2028–2033 period, the growth rate of potential output is similar to the average

1. Unless this report indicates otherwise, annual growth rates are measured from the fourth quarter of one year to the fourth quarter of the next.

Figure 2-1.

Growth of Real GDP



In CBO's projections, output growth comes to a halt in 2023 in response to the sharp rise in interest rates during 2022. Then, as falling inflation allows the Federal Reserve to reduce the target range for the federal funds rate, the growth of real GDP rebounds, led by the interest-sensitive sectors of the economy.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

Real values are nominal values that have been adjusted to remove the effects of inflation.

Growth of real GDP is measured from the fourth quarter of one calendar year to the fourth quarter of the next.

Values for 2000 to 2022 (the thin line) reflect data available from the Bureau of Economic Analysis in early February 2023. The data contain values for the fourth quarter of 2022, which were not available when CBO developed its current projections for 2022 to 2033 (the thick line).

GDP = gross domestic product.

growth rate of potential output since the business cycle peak in late 2007; however, the growth rate of the potential labor force is slower, and the growth rate of potential labor force productivity is more rapid. Nevertheless, potential output grows much more slowly than it has over the past 30 years, partly because of slower productivity growth but mainly because of an ongoing, long-term slowdown in the growth of the labor force.

Uncertainty About the Economic Outlook

CBO develops its projections so that they fall in the middle of the likely range of outcomes under current law. But those projections are highly uncertain, and many factors could lead to different outcomes. The upward pressure on wages and prices from conditions in the labor market could be greater or less than the agency expects. Economic output and conditions in the labor market could also vary from those in CBO's forecast. In the short run, higher interest rates could have larger- or smaller-than-expected effects on overall demand for goods and services and demand for labor. In the long run, the pace of potential output in the aftermath of the coronavirus pandemic could be faster or slower than expected. Other key sources of uncertainty are future monetary policy and the path of interest rates. Uncertainty about that path contributes to the uncertainty of the agency's estimates of the effect of larger deficits and debt on the economy. Geopolitical events, including Russia's ongoing invasion of Ukraine, add to the uncertainty of the economic outlook, notably the outlook for inflation.

Comparison With CBO's Previous Projections

Real GDP grew more slowly in each quarter of 2022 than the agency expected.[2] An upward revision to GDP in 2021 mitigated some of the effect of slower growth in 2022 on the level of GDP at the end of 2022.

Compared with its May 2022 projections, CBO's current projections show weaker economic growth in 2023 (0.1 percent versus 2.2 percent) and stronger growth in 2024 (2.5 percent versus 1.5 percent) and the

2. See Congressional Budget Office, *The Budget and Economic Outlook: 2022 to 2032* (May 2022), www.cbo.gov/publication/57950.

Table 2-1.

CBO's Economic Projections for Calendar Years 2023 to 2033

Percent

	Actual, 2022	2023	2024	2025	Annual Average 2026–2027	Annual Average 2028–2033
			Change From Fourth Quarter to Fourth Quarter			
Gross Domestic Product						
Real[a]	1.0	0.1	2.5	2.6	2.3	1.8
Nominal	7.3	3.1	4.9	4.8	4.3	3.8
Inflation						
PCE price index	5.5	3.3	2.4	2.2	2.0	2.0
Core PCE price index[b]	4.7	3.4	2.7	2.4	2.2	2.0
Consumer price index[c]	7.1	4.0	2.4	2.1	2.1	2.3
Core consumer price index[b]	6.0	4.2	2.8	2.3	2.2	2.3
GDP price index	6.3	3.0	2.3	2.1	2.0	2.0
Employment Cost Index[d]	5.1	4.5	3.8	3.5	3.3	3.2
			Fourth-Quarter Level			
Unemployment Rate	3.6	5.1	4.8	4.6	4.1[e]	4.5[f]
			Change From Year to Year			
Gross Domestic Product						
Real[a]	2.1	0.3	1.8	2.7	2.4	1.8
Nominal	9.2	4.0	4.4	4.9	4.4	3.9
Inflation						
PCE price index	6.2	3.8	2.7	2.2	2.1	2.0
Core PCE price index[b]	5.0	3.9	2.9	2.5	2.2	2.0
Consumer price index[c]	8.0	4.8	3.0	2.2	2.1	2.3
Core consumer price index[b]	6.1	4.9	3.3	2.5	2.2	2.3
GDP price index	7.0	3.7	2.5	2.1	2.0	2.0
Employment Cost Index[d]	5.3	4.9	4.0	3.6	3.4	3.2
			Annual Average			
Unemployment Rate	3.6	4.7	4.9	4.7	4.5	4.5
Payroll Employment (Monthly change, in thousands)[g]	427	9	66	97	80	67
Interest Rates						
3-month Treasury bills	2.0	4.5	3.2	2.5	2.2	2.3
10-year Treasury notes	3.0	3.9	3.8	3.8	3.8	3.8
Tax Bases (Percentage of GDP)						
Wages and salaries	43.8	44.3	44.5	44.5	44.3	44.0
Domestic corporate profits[h]	9.7[i]	7.9	7.5	7.9	8.2	8.0
Current Account Balance (Percentage of GDP)[j]	-4.0[i]	-4.1	-3.7	-3.3	-3.2	-3.2

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Bureau of Labor Statistics; Federal Reserve. See www.cbo.gov/publication/58848#data.

For economic projections for each year from 2023 to 2033, see Appendix B.

Actual values for 2022 reflect data available from the Bureau of Economic Analysis and the Bureau of Labor Statistics in early February 2023. The data contain values for the fourth quarter of 2022, which were not available when CBO developed its current projections.

GDP = gross domestic product; PCE = personal consumption expenditures.

a. Real values are nominal values that have been adjusted to remove the effects of inflation.

b. Excludes prices for food and energy.

c. The consumer price index for all urban consumers.

d. The employment cost index for wages and salaries of workers in private industry.

e. Value for the fourth quarter of 2027.

f. Value for the fourth quarter of 2033.

g. The average monthly change is calculated by dividing by 12 the change in nonfarm payrolls from the fourth quarter of one calendar year to the fourth quarter of the next.

h. Adjusted to remove the effect of tax rules on depreciation allowances and to exclude the effect of changes in prices on the value of inventories.

i. Estimated value for 2022.

j. Represents net exports of goods and services, net capital income, and net transfer payments between the United States and the rest of the world.

following three years. As a result, the level of real GDP is 3.7 percent lower than in the previous forecast for the end of 2023 but only 0.2 percent lower for the end of 2027.

The weaker economic growth in 2023 is largely the result of slower growth of exports, private investment, and consumption. Those components of GDP then drive the more rapid growth of real GDP through 2027. Real GDP growth is 0.1 percentage point per year faster from 2028 to 2032 than it was in the agency's forecast last spring because of greater net immigration and faster growth of output per worker.

CBO currently projects higher inflation in 2023 and 2024 than it did last May. Inflation in 2022 reached the highest rates seen in the past four decades by some measures; it was higher than CBO forecast last spring mainly because of higher-than-expected food and energy prices resulting from the war in Ukraine and higher inflation in shelter costs following a surge in house prices. As a result, projections of nominal GDP and national income have increased through most of the forecast period, even though real GDP is lower than the agency projected last May. Expected growth of labor compensation has also increased.

CBO now expects short-term interest rates to be higher in 2023 and 2024 than it did in its previous forecast. That upward revision reflects the upward revision to inflation as well as higher-than-expected short-term interest rates during 2022. After 2024, short-term rates are similar to those forecast last spring. CBO expects higher long-term interest rates over the first five years of the projection period.

Recent Economic Developments

Inflation remained high in 2022 as the war in Ukraine added to upward price pressures in an economy already experiencing high inflation from buoyant demand, tight labor markets, and supply constraints. In response, the Federal Reserve sharply raised interest rates. Real GDP showed little net growth during the year because a downturn in housing construction and a cooling of inventory accumulation offset higher consumer spending. In addition, the recovery of labor force participation was slow. Even so, employment grew at a strong pace, the unemployment rate hovered near 60-year lows throughout much of the year, and job vacancies remained high.

Inflation and Interest Rates

In 2022, the PCE price index grew by 5.5 percent, and the consumer price index for all urban consumers (CPI-U) grew by 7.1 percent—notably faster than their averages of 1.5 percent and 1.7 percent, respectively, over the decade that preceded the pandemic. Inflation in the CPI-U during 2022 was the highest it has been since the early 1980s. Growth in the PCE price index peaked at 7.0 percent in June 2022 (as measured from 12 months earlier), and growth in the CPI-U peaked at 9.0 percent, also in June 2022. The high rates of inflation reflected widespread price increases among goods and services. The PCE price index for goods rose by 6.0 percent in 2022; the index for services rose by 5.3 percent.

Energy and food prices increased rapidly in the first half of 2022, boosted by the effects of Russia's invasion of Ukraine. Energy prices grew by 12.9 percent in 2022, although quarterly measures fell in the second half of the year. Food prices, which are particularly sensitive to fluctuations in transportation costs and to disruptions in trade of key inputs such as fertilizer, grew by 11.3 percent in 2022.

Other price increases, in addition to those for food and energy, were broad-based. For example, in the PCE price index, the price of shelter services rose by 7.4 percent in 2022.[3] That increase followed a rapid appreciation of home values in 2021, which put upward pressure on rents.

Other prices that had contributed disproportionately to high inflation in 2021 began to cool in 2022. For instance, the index for new and used motor vehicles grew by 3.8 percent in 2022, a historically high inflation rate for the index but well below its 2021 growth rate of 16.8 percent.

In 2022, the Federal Reserve tightened monetary policy in response to high inflation. The Federal Reserve raised the target range for the federal funds rate at each meeting of the Federal Open Market Committee since last March; in December 2022, the federal funds rate was 4.1 percent, the highest rate since December 2007. The interest rate on 10-year Treasury notes increased

3. Shelter costs or shelter services, as defined by the Bureau of Labor Statistics, measure the flow of housing services that housing units provide to their occupants. Shelter costs are a component of inflation as measured by the PCE price index and the CPI-U, whereas house prices are not included in those measures.

from 1.5 percent in December 2021 to 3.6 percent in December 2022.

Output and the Labor Market

Real GDP grew by 1.0 percent in 2022, following growth of 5.7 percent in 2021. A downturn in residential investment and a slower pace of inventory accumulation restrained growth in 2022.

Despite the slow growth of output, conditions in the labor market remained tight throughout much of 2022, as labor supply remained subdued. Nonfarm payroll employment, which increased by an average of more than 400,000 jobs per month in 2022, ended the year at roughly 2.2 million jobs (or 1.4 percent) above its prepandemic peak in February 2020. The unemployment rate declined from 3.9 percent at the end of 2021 to 3.5 percent at the end of 2022—equal to the prepandemic low in February 2020.

Even so, CBO estimates that the labor force in 2022 had, on average, 1.1 million fewer people than it would have if labor force participation rates had remained at their prepandemic levels. It had roughly 1.5 million fewer people than the agency's estimate of the potential labor force.[4]

The demand for workers, as indicated by the number of job openings, increased at a faster pace, on average, than did the number of available workers in 2022. The shortfall of available workers relative to the demand for them contributed to strong growth of compensation.

Fiscal and Monetary Policies

CBO's economic projections reflect the laws enacted and the policy measures taken through December 6, 2022, as well as the agency's initial assessment at that time of discretionary funding for all of fiscal year 2023.[5] Those projections reflect the effects on the overall economy of changes in federal fiscal policies—that is, policies governing taxes and spending—including the Honoring our PACT Act of 2022 (Public Law 117-168), the CHIPS Act of 2022 (division A of the CHIPS and Science Act of 2022, P.L. 117-167), and the 2022 reconciliation act (P.L. 117-169). In addition, the agency's projections reflect the effects of some executive actions, including some affecting student loans.[6]

CBO's projections also reflect the expectation that the Federal Reserve will take actions to continue tightening monetary policy this year. Those actions include further raising the target range for the federal funds rate and reducing the Federal Reserve's holdings of Treasury securities and other assets; that reduction is expected to put upward pressure on longer-term interest rates.

Fiscal Policy

CBO estimates that legislation enacted since the agency prepared its May 2022 budget projections will increase the federal deficit, excluding the costs of servicing the debt, by $17 billion in fiscal year 2023, or 0.1 percent of GDP, and by $135 billion in fiscal year 2024, or 0.5 percent of GDP, mostly by increasing federal spending.[7] In CBO's assessment, those legislative changes will increase the overall demand for goods and services in the short term, boosting real GDP by 0.1 percent in calendar years 2023 and 2024. Fiscal policy changes since May 2022

4. The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are available for work and are either seeking work or expecting to be recalled from a temporary layoff. The labor force participation rate is the labor force expressed as a percentage of the civilian noninstitutionalized population age 16 or older. The potential labor force is CBO's estimate of the size of the labor force that would occur if economic output and other key variables were at their maximum sustainable amounts.

5. The Consolidated Appropriations Act, 2023 (Public Law 117-328), was enacted after CBO had already completed its economic forecast. The forecast incorporates the agency's initial assessments of full-year discretionary funding for the federal government for fiscal year 2023, which were 4 percent lower in total than CBO's current estimates.

6. In CBO's projections, the pause on student loan repayment, interest accrual, and involuntary collections is in effect until August 2023, and cancellation of some student loan debt takes effect later in 2023. (Debt cancellation is currently on hold as a result of court decisions.) For more information on the agency's estimates of the costs of the Administration's actions as announced, see Congressional Budget Office, *Costs of Suspending Student Loan Payments and Canceling Debt* (September 2022), www.cbo.gov/publication/58494. Future updates to baseline projections will incorporate the effects of additional court decisions and any further administrative actions regarding student loans made after January 9, 2023. The Administration's plan for debt cancellation is currently being reviewed by the Supreme Court. If the plan is invalidated or revised in response to the Court's ruling, CBO's future projections will change accordingly. In addition, the current projections do not include any effects of proposed rules affecting income-based repayment plans.

7. Legislation enacted since CBO prepared its May 2022 budget projections will increase the federal deficit, excluding the costs of servicing the debt, by $1.3 trillion from 2023 to 2032, CBO estimates; most of that increase will occur after 2024 and has little effect on CBO's economic projections because potential effects are assumed to be anticipated and offset through tighter monetary policy by the Federal Reserve than would have occurred otherwise. See Appendix A in this report.

are also projected to add to inflationary pressures, pushing the PCE price index slightly higher than it would have been otherwise in 2023 and 2024 (see Box 2-1).

Changes in fiscal policies also affect the economy in the longer term. In CBO's projections, high and rising levels of federal borrowing reduce private investment activity in later years. In addition, the expiration of the temporary provisions of the 2017 tax act (P.L. 115-97)—including the expiration of most of the provisions affecting individual income taxes at the end of 2025 and the phaseout of bonus depreciation by the end of 2026—is projected to slow economic growth.

Monetary Policy

CBO anticipates that the Federal Reserve will continue to tighten monetary policy in 2023, resulting in an increase in the federal funds rate to 5.1 percent in early 2023. The agency expects the Federal Reserve to leave the target range for the federal funds rate unchanged for several months, at a high enough level and for a long enough time that the Federal Reserve expects inflation to be on a path back to its 2 percent long-run goal. Thereafter, in CBO's projections, the Federal Reserve begins to reduce the target range for the federal funds rate in late 2023 and continues lowering the target range through 2024.

Additionally, CBO projects that the Federal Reserve will continue reducing the size of its balance sheet until 2026. After that point, the Federal Reserve is expected to purchase enough Treasury securities to keep reserves constant as a share of GDP.

CBO projects that the Federal Reserve's policy tightening will slow the growth of overall demand in 2023 and 2024 and thus reduce inflationary pressures by increasing real interest rates. The agency estimates that higher real interest rates will reduce the growth of household spending by making it more costly to finance purchases (especially large purchases, such as houses and motor vehicles). In addition, those higher rates will reduce the growth of business investment by making it more costly to borrow money to expand productive capacity, and they will reduce the growth of residential investment by raising mortgage rates. In CBO's projections, interest rates in the United States rise faster than the rates of its major trading partners, increasing the value of the dollar, reducing the competitiveness of U.S. exports in global markets, and reducing the costs of imports (which, in turn, places downward pressure on inflation).

CBO estimates that interest rates on long-term bonds will depend in part on the expected path of future short-term interest rates. Raising the target range for the federal funds rate will therefore result in higher interest rates for securities with longer maturities. In addition, the agency estimates that reducing the size of the Federal Reserve's balance sheet will also contribute to higher interest rates for longer-maturity bonds.

The Economic Outlook for 2023 to 2027

In CBO's projections, real GDP shrinks during the first half of 2023 and is barely positive for the year as a whole as residential investment, exports, and inventory investment decline. Growth resumes after the first half of 2023 as falling inflation eventually allows the Federal Reserve to reduce interest rates, causing interest-sensitive sectors to rebound. Payroll employment is projected to decline during the middle two quarters of 2023 before returning to positive growth by the end of the year.

Inflation is expected to decline over the next few years as the projected slowdown in economic growth, lessening of supply constraints, and increased slack in the labor market put downward pressure on prices and wages. In CBO's forecast, inflation reaches the Federal Reserve's long-run goal of 2 percent by 2027. Wage growth is expected to follow a similar path, declining from 4.5 percent in 2023 to 3.3 percent in 2027.

The agency expects short-term interest rates to continue to rise during the first half of 2023. In CBO's forecast, long-term interest rates, which also increased during 2022, show little further movement in 2023. Short-term interest rates fall beginning in late 2023, and long-term rates decline only slightly in subsequent years.

Gross Domestic Product

In CBO's projections, which reflect the assumption that current laws governing federal taxes and spending generally remain unchanged, real GDP grows by just 0.1 percent in 2023. The slowdown is caused by declining exports and residential investment and a decrease in inventory investment, all influenced by higher interest

Box 2-1.

Economic Effects of Recent Changes in Fiscal Policy

In the Congressional Budget Office's assessment, changes in federal fiscal policies since spring 2022 will increase both the level of real gross domestic product (that is, GDP adjusted to remove the effects of inflation) and the rate of inflation over the next few years as a result of the effect of greater government spending on demand. In particular, three major pieces of legislation enacted recently—the Honoring our PACT Act of 2022 (Public Law 117-168), the CHIPS Act of 2022 (division A of the CHIPS and Science Act of 2022, P.L. 117-167), and the 2022 reconciliation act (P.L. 117-169)—will boost the level of real GDP by about 0.1 percent in 2023 and 2024.[1] In addition, the Administration's executive actions on student loans, primarily from the pause on repayment, will raise real GDP by about 0.1 percent in 2023.

CBO estimates the short-term effects of changes in fiscal policies by focusing on how those changes affect the overall demand for goods and services. The effects on overall demand result from changes in purchases of goods and services by federal agencies and by the people and organizations that receive federal payments or pay federal taxes, which in turn depend on the characteristics of the households, businesses, and governments affected by the policy changes. For example, a same-sized increase in transfer payments or decrease in taxes is likely to boost purchases by lower-income households more than purchases by higher-income households because lower-income households typically consume more of their additional disposable income than do higher-income households. CBO's estimates also incorporate the effects on inflation of increased demand.

Recent Legislation

Three recently enacted major pieces of legislation will affect the economy. The Honoring our PACT Act expands health care and benefits for veterans exposed to burn pits and toxic substances. The CHIPS Act provides funding for semiconductor manufacturing, research, and development. Some of the roughly 150 provisions of the 2022 reconciliation act increase health insurance subsidies and provide energy-related subsidies. Those increases in government purchases and financial support to households and businesses will add to overall demand. In addition, the 2022 reconciliation act will raise tax revenues through a new alternative minimum tax on corporations and increased funding for tax-enforcement activities, thereby reducing overall demand. CBO estimates that the positive effects on overall demand resulting from increases in government spending will be larger than the negative effects from increases in revenues. On net, the increase in overall demand will boost real GDP by an average of 0.1 percent over the next two years, CBO estimates.

Greater demand will also put upward pressure on the prices of goods and services, causing inflation to be higher than it would be otherwise. In CBO's assessment, the effect on inflation will dissipate in later years because the Federal Reserve will raise the target range of the federal funds rate to offset the effects of increased spending on overall demand and prevent inflation in those years from rising above its long-run goal of 2 percent. (The federal funds rate is the rate that financial institutions charge each other for overnight loans of their monetary reserves.) CBO estimates that the level of the GDP price index will be slightly higher than it would be otherwise.

Executive Actions on Student Loans

The Administration has taken executive actions that affect student loans, including extensions of the pause on repayment—begun on March 13, 2020, under the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136) and extended several times thereafter—as well as cancellation of up to $20,000 of debt and a new income-driven repayment plan. In CBO's projections, the pause on repayment is in effect until August 2023, and debt cancellation takes effect later in 2023. (The Administration's plan for debt cancellation is currently being reviewed by the Supreme Court.) The agency's forecast does not include any effects of a proposed rule issued after CBO's projections were completed that would change income-driven repayment plans.

The actions taken will reduce borrowers' repayment of student debt compared with what they would otherwise have paid, thereby boosting their spending on goods and services. CBO used data on borrowers' characteristics to estimate the number of borrowers affected by the executive actions and the resulting changes in loan repayment and overall demand. In CBO's assessment, the level of real GDP will be 0.1 percent higher in 2023, primarily as a result of the repayment pause. The effect on real GDP will be smaller in later years. The executive actions will have a modest effect in increasing inflation.

1. The three pieces of legislation described here represent recent changes in fiscal policy, whereas the Consolidated Appropriations Act, 2023 (P.L. 117-328), mostly provides continued funding for fiscal year 2023.

rates (see Table 2-2). As falling inflation allows the Federal Reserve to reduce interest rates, the growth of real GDP accelerates in subsequent years, led by the interest-sensitive sectors of the economy. The agency expects real GDP to grow at an average annual rate of 2.4 percent from the beginning of 2024 through 2027.

Consumer Spending. In CBO's projections, growth in real consumer spending moderates at the beginning of the projection period, as rising interest rates and unemployment cause consumers to pull back. Real consumer spending increases by 1.1 percent in 2023 and by 1.5 percent in 2024. It then rises at an average annual rate of 1.9 percent from the beginning of 2025 through 2027.

CBO expects the shift from spending on goods to spending on services to continue in the near future. In 2023 and 2024, real spending on goods declines from an elevated level and real spending on services increases, as people gradually return to their prepandemic patterns of consumption. Over the 2025–2027 period, real spending on goods and real spending on services roughly follow their prepandemic trends.

In CBO's projections, elevated levels of accumulated savings continue to contribute to consumer spending. Personal saving rose to high levels during the pandemic, partly because financial support provided by the government to households more than offset declines in employment income, but also because households cut back on expenditures. The stock of excess savings peaked at the end of 2021 and is being spent down by consumers. Although the aggregate stock of excess savings is large, evidence as of mid-2022 suggests that the majority is held by top earners, who tend to consume less of any additional savings.[8] Consumers' declining confidence as unemployment rises may also slow the spend-down of savings. CBO anticipates that by the end of 2025, about half of the stock of peak excess savings will remain.

Business Investment. CBO expects real business fixed investment—the purchase of new equipment, nonresidential structures, and intellectual property products, such as software—to increase by just 0.3 percent from the fourth quarter of 2022 to the fourth quarter of 2023, restrained by slowing demand for businesses' output and by rising costs of debt and equity. Real investment would have been projected to decline in 2023 without the easing of the semiconductor shortage, which is expected to increase businesses' ability to purchase new light vehicles. CBO anticipates that real investment in equipment and real investment in nonresidential structures, which are more affected by cyclical conditions and rising costs of debt and equity, will both decline in 2023. Investment in intellectual property products will grow, but at a much slower pace than in recent years.

Businesses' accumulation of real inventories (finished goods, work in process, and materials and supplies) slowed during the second half of 2022. A rapid rate of investment during the first half of the year pushed the ratio of inventories to sales, excluding light vehicles, back up to normal levels, allowing the pace to slow to a more typical rate during the second half of the year. Slowing demand for goods will cause inventory investment to slow further in 2023. CBO anticipates that real inventory investment will be close to zero in the final quarter of 2023, subtracting from the growth rate of GDP. If auto dealers were not expected to rebuild their depleted stocks as the semiconductor shortage eases, the projection for real inventory investment would turn negative.

Business investment will rebound strongly after 2023, in CBO's estimation. The Federal Reserve will ease financial conditions as inflation is observed to have slowed, and businesses will find it more profitable to invest as the costs of debt and equity decline. In addition, stronger demand for businesses' output will encourage them to expand capacity and to add to their inventories. In CBO's projections, real business fixed investment grows at an average annual rate of 4.2 percent from 2024 through 2027.

Residential Investment. Real residential investment decreased by 19.2 percent during 2022, primarily because of a sharp rise in mortgage rates. The rate on 30-year fixed-rate mortgages jumped from 3.1 percent in the fourth quarter of 2021 to 6.7 percent a year later. That increase slowed both the construction of new homes and the brokers' commissions associated with home purchases. CBO expects that continued high mortgage rates and the prospect of falling home prices will cause real residential investment to decline by another 13.6 percent in 2023. Thereafter, falling mortgage rates and the pent-up demand from strong

8. See Aditya Aladangady and others, "Excess Savings During the COVID-19 Pandemic," *FEDS Notes* (Board of Governors of the Federal Reserve System, October 21, 2022), https://tinyurl.com/2e99hm27.

Table 2-2.

Projected Growth of Real GDP and Its Components

	Actual, 2022	2023	2024	2025	Annual Average 2026–2027	Annual Average 2028–2033
	Change From Fourth Quarter to Fourth Quarter (Percent)					
Real GDP	1.0	0.1	2.5	2.6	2.3	1.8
Components of Real GDP						
Consumer spending	1.9	1.1	1.5	1.7	2.0	2.0
Business fixed investment[a]	3.7	0.3	3.3	4.9	4.4	2.9
Residential fixed investment[b]	-19.2	-13.6	5.7	11.5	7.8	-0.2
Purchases by federal, state, and local governments[c]	0.8	1.4	0.9	0.8	0.7	0.4
Federal	0.2	1.9	0.9	0.6	0.5	0.1
State and local	1.3	1.1	1.0	1.0	0.8	0.6
Exports	5.3	-5.1	7.6	4.6	2.5	2.0
Imports	1.7	-3.0	2.4	2.7	2.5	1.7
Memorandum:						
Inventory Investment (Billions of 2012 dollars)[d]	-68	-67	42	24	-1	1
	Contributions to the Growth of Real GDP (Percentage points)					
Components of Real GDP						
Consumer spending	1.3	0.8	1.1	1.2	1.3	1.4
Business fixed investment[a]	0.5	*	0.4	0.6	0.6	0.4
Residential fixed investment[b]	-1.0	-0.5	0.2	0.4	0.3	*
Purchases by federal, state, and local governments[c]	0.1	0.3	0.2	0.1	0.1	0.1
Federal	*	0.1	0.1	*	*	*
State and local	0.1	0.1	0.1	0.1	0.1	0.1
Exports	0.6	-0.6	0.8	0.5	0.3	0.2
Imports	-0.3	0.5	-0.3	-0.4	-0.4	-0.2
Inventory investment[d]	-0.3	-0.3	0.2	0.1	*	*

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

Real values are nominal values that have been adjusted to remove the effects of inflation or, in the case of components of GDP, the effects of changes in prices.

Data are annual. Changes are measured from the fourth quarter of one calendar year to the fourth quarter of the next.

Actual values for 2022 reflect data available from the Bureau of Economic Analysis in early February 2023. The data contain values for the fourth quarter of 2022, which were not available when CBO developed its current projections.

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

a. Purchases of equipment, nonresidential structures, and intellectual property products.

b. Construction of single-family and multifamily structures, manufactured homes, and dormitories; spending on home improvements; and brokers' commissions and other ownership transfer costs.

c. Based on the national income and product accounts.

d. Inventory investment is the change in private inventories (in billions of 2012 dollars) from one quarter to the next at an annual rate. Growth in inventory investment is measured as the change in inventory investment from the fourth quarter of one year to the fourth quarter of the next.

household formation in 2020 and 2021 is expected to trigger a rebound in residential activity. Real residential investment is projected to grow at an average annual rate of 8.2 percent over the 2024–2027 period.

A combination of rising demand for homes and a limited inventory of existing homes for sale caused house prices (as measured by the Federal Housing Finance Agency's price index for home purchases) to increase by 11.2 percent in 2020, by 17.8 percent in 2021, and at an annual rate of 17.4 percent in the first half of 2022. Home prices began to fall in the second half of 2022 as higher mortgage rates choked off demand. CBO expects prices to fall by 3.8 percent in 2023, by 3.0 percent in 2024, and by 0.7 percent in 2025 before they begin to rise again in subsequent years.

Government Purchases. Real government purchases of goods and services—such as public educational services, highways, and military equipment—increased by 0.8 percent in 2022. Federal purchases grew more slowly than purchases by state and local governments. CBO projects that, if current laws governing federal taxes and spending generally remain in place, real purchases by federal, state, and local governments will increase by 1.4 percent in 2023 as recent strength in state and local tax receipts and federal aid support greater spending by state and local governments and as increases in discretionary spending stemming from the Consolidated Appropriations Act, 2023, boost federal purchases.

In CBO's projections, real government purchases grow by an average of 0.8 percent per year from 2024 to 2027. In particular, real purchases by state and local governments increase by an average of 0.9 percent per year during that period, supported by federal assistance, including federal education grants provided by the American Rescue Plan Act of 2021 (P.L. 117-2) and transportation grants provided by the Infrastructure Investment and Jobs Act (P.L. 117-58). Although those grant programs originated in 2021, their spending is expected to continue throughout the 2024–2027 period.[9] Real federal government purchases are projected to grow by an average of 0.6 percent per year over that same period.

Exports and Imports. CBO projects that the U.S. trade deficit will rise in 2023 before shrinking in 2024 and 2025 and then stabilizing as a share of GDP in later years. In 2023, the projected larger trade deficit is driven by a decline in exports. As a result, CBO projects that the trade deficit will rise from 3.2 percent of GDP at the end of 2022 to 3.9 percent of GDP by the end of 2023. That increase in the trade deficit will reverse, CBO anticipates, as exports rise by 9.1 percent (at an annualized rate) in 2024 and by 6.0 percent in 2025 but imports rise by only 3.7 percent and 4.0 percent, respectively, in those years.

CBO expects growth in exports to outpace growth in imports in 2024 and 2025 for two reasons: The foreign exchange value of the dollar is expected to weaken, and the recovery in services trade (a sector for which the United States runs a trade surplus) is expected to continue. As a result, the trade deficit is projected to shrink from 3.7 percent of GDP at the beginning of 2024 to 3.1 percent of GDP by the end of 2025 (it was 2.7 percent of GDP in 2019) as the growth of exports continues to increase. Beyond 2025, the trade deficit is expected to remain roughly stable as export growth moderates and imports continue to grow with domestic demand.

Value of the Dollar. CBO's projections of export and import flows are connected to its projection of the foreign exchange value of the dollar. The agency projects that, after increasing by 12.1 percent between the middle of 2021 and the end of 2022, the exchange value of the dollar will stabilize in the first quarter of 2023 before declining over the rest of the period.[10] In CBO's view, the dollar appreciated because interest rates in the United States rose by more than those of most of its trading partners, which increased demand for the dollar and dollar-denominated assets in international markets. After the first quarter of 2023, CBO's projection of a declining dollar reflects the agency's expectation that interest rates of major U.S. trading partners will rise more than interest rates in the United States, which will cause the value of the dollar to depreciate against the currencies of those trading partners. CBO projects that the foreign exchange value of the dollar will decline by 7.0 percent between the first quarter of 2023 and the end of 2026.

Exports. Real exports are expected to contract in 2023, decreasing by 5.1 percent. One factor contributing to that decline in exports is the expected deterioration in economic conditions abroad, which will reduce international demand for U.S. goods and services. CBO projects that the real economic output of major U.S. trading partners will rise by 1.4 percent in 2023, after having increased by 2.1 percent in 2022.[11] As the global effects of the pandemic continue to wane, exports of services

9. CBO used its preliminary estimates for those acts to project discretionary funding for fiscal years 2024 and beyond, in accordance with procedures specified in law. For more information on those procedures, see Chapter 1.

10. CBO's measure of the exchange value of the dollar is an export-weighted average of exchange rates between the dollar and the currencies of leading U.S. trading partners.

11. The projected decline in the growth of major U.S. trading partners in 2023 is driven mostly by slower growth in the United Kingdom, China, and the economies of the euro area. In the United Kingdom and the euro area, high energy prices over the winter months are expected to weigh on consumption and industrial production, and rising interest rates are expected to reduce investment. In China, CBO projects slow economic growth in 2023 as the government's looser COVID-19 restrictions lead to economic disruptions (resulting from wider spread of the virus), and investment growth is expected to remain weak. CBO expects those headwinds to subside in 2024 and beyond as growth returns to its long-run trend rate for major U.S. trading partners.

(mostly travel and transportation services) are expected to gradually return to their prepandemic levels. As that occurs, and as the pace of foreign economic growth returns to its prepandemic trend, the growth of exports is projected to rise in 2024 before slowing in later years.

Imports. Imports were unusually strong early in 2022 as firms rebuilt inventories and recovered from problems in supply chains. CBO projects that weak domestic growth in consumption and a contraction in domestic investment in 2023 will restrain growth of real imports, which are expected to decline by 3.0 percent. As growth in consumption and investment returns to a more robust pace from 2024 to 2027, CBO projects that the growth rate of real imports will rise, averaging 2.5 percent over those years.

The Labor Market

Labor market conditions are expected to deteriorate as the slowdown in growth in early 2023 reduces the demand for workers. In CBO's projections for 2023, employment growth wanes, the unemployment rate rises, and the growth of wages and salaries slows (see Figure 2-2). The labor force participation rate declines through 2024. The downward pressure on the labor force participation rate stemming from slower growth and the aging of the population more than offsets the continued return of workers who had dropped out of the labor force during the pandemic. Thereafter, through 2027, the projections reflect the labor market's gradual return to its long-run average relationship to potential performance; employment growth rises, the unemployment rate gradually declines, and wage growth moderates.

Employment. The growth of nonfarm payroll employment is projected to slacken in 2023 as the slowdown in real output growth dampens the demand for workers. CBO expects employment growth to increase in 2024 as economic growth rebounds but to remain moderate through 2027. In CBO's projections, employment growth is positive from the end of 2023 through the end of 2027, with an average increase of 78,000 jobs per month.

Unemployment. The unemployment rate and the number of unemployed people are projected to rise through the end of 2023, reflecting the slowdown in economic growth. In CBO's projections, the overall unemployment rate increases from 3.6 percent in the fourth quarter of 2022 to 5.1 percent by the end of 2023, averaging 4.7 percent for all of 2023. The number of unemployed people rises from 6.8 million in the first quarter of 2023 to 8.5 million in early 2024. Beginning in the second quarter of 2024, CBO projects, the unemployment rate gradually declines, reaching 4.5 percent by the end of 2027.

Labor Force Participation. In CBO's projections, the labor force participation rate remains roughly unchanged at 62.2 percent in 2023. Slowing demand for labor, which is expected to put downward pressure on the labor force participation rate, roughly offsets the reentry of some workers who dropped out of the labor force during the pandemic because of health concerns, difficulties arising from child care and other in-home care responsibilities, and early retirements. The labor force participation rate declines after 2023 as the effects of the aging of the population (which dampens the overall labor force participation rate) become more prominent in relation to the short-term effects of the expanding economy. CBO expects the labor force participation rate to decline from 62.2 percent in 2023 to 61.8 percent in 2027. In CBO's projections, people who dropped out of the labor force during the pandemic continue to return to the workforce over the next several years; in 2026, the labor force reaches the size that it would be if participation rates by demographic group had remained at their prepandemic averages (see Box 2-2).

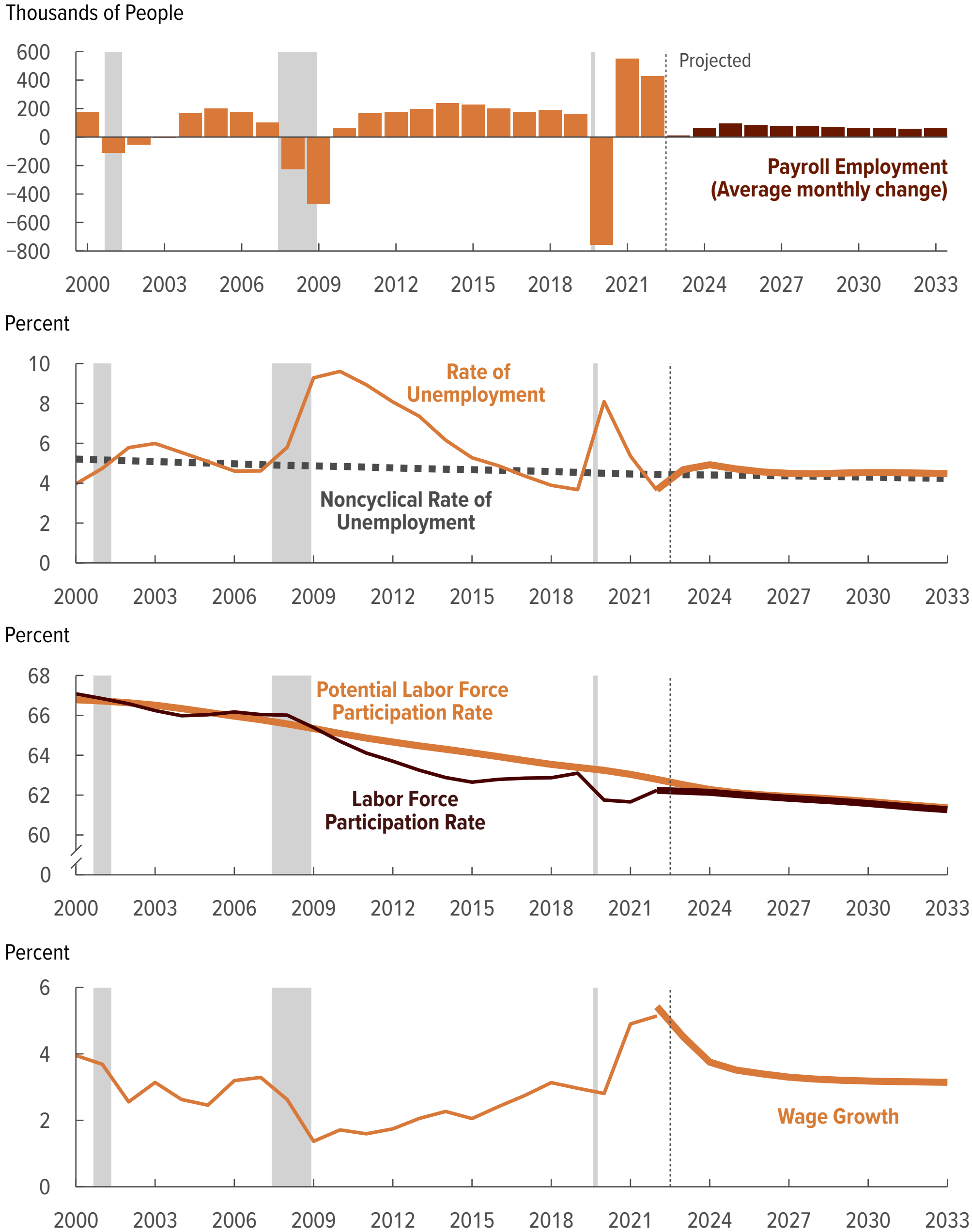
Hourly Wages and Salaries. In CBO's projections, slowing demand for labor and falling inflation put downward pressure on the growth of nominal wages. As a result, the agency expects the growth of the employment cost index for wages and salaries of workers in private industry—a measure of the hourly price of labor, excluding fringe benefits—to decline from 5.1 percent in 2022 to 3.8 percent in 2024. Wage growth is projected to continue to gradually decline after 2024 but remain above 2.7 percent—its annual average from 2015 to 2019—through 2027. CBO expects wage growth to decline from 3.5 percent in 2025 to 3.3 percent in 2027.

Inflation and Interest Rates

In CBO's projections, inflation gradually slows in 2023 as factors that caused demand to grow more rapidly than supply following the pandemic ease. The rate of inflation will continue to substantially exceed the Federal Reserve's long-run goal of 2 percent in 2023, CBO projects, and will then decline toward that goal, reaching it in 2027. The agency expects short-term interest rates to continue to increase in early 2023. Throughout 2023,

Figure 2-2.

Employment, Unemployment, Labor Force Participation, and Wage Growth



In CBO's projections, the growth of payroll employment declines in 2023 as the slowdown in real output growth dampens the demand for workers.

The unemployment rate rises through early 2024, reflecting the slowdown in economic growth. The rate falls thereafter as output returns to its historical relationship with potential output.

The labor force participation rate declines after 2023 as the negative effects of the aging of the population offset the short-term effects of the expanding economy.

Over the next two years, slowing demand for labor and falling inflation put downward pressure on the growth of wages. Nominal wage growth continues to gradually decline after 2024 but through 2027 remains above its annual average for the 2015–2019 period.

Data sources: Congressional Budget Office; Bureau of Labor Statistics. See www.cbo.gov/publication/58848#data.

Payroll employment is the number of employed workers, excluding proprietors, private household employees, unpaid volunteers, farm employees, and unincorporated self-employed workers. The average monthly change in payroll employment is calculated by dividing by 12 the change in nonfarm payrolls from the fourth quarter of one calendar year to the fourth quarter of the next. The unemployment rate is the number of people not working who are available for work and are either seeking work or expecting to be recalled from a temporary layoff, expressed as a percentage of the labor force. The noncyclical rate of unemployment is the rate that results from all sources except fluctuations in aggregate demand, including normal turnover of jobs and mismatches between the skills of available workers and the skills necessary to fill vacant positions. The labor force participation rate is the share of the civilian noninstitutionalized population age 16 or older that has jobs or that is available for work and is either seeking work or expecting to be recalled from a temporary layoff. The potential labor force participation rate is CBO's estimate of the rate that would occur if economic output and other key variables were at their maximum sustainable amounts. Wages are measured using the employment cost index for wages and salaries of workers in private industry. Annual wage growth is measured from the fourth quarter of one calendar year to the fourth quarter of the next. For the unemployment rate and labor force participation rate, data are annual averages.

Values for 2000 to 2022 (the orange bars in first panel and the thin line in the bottom three panels) reflect data available from the Bureau of Labor Statistics in early February 2023. The data contain values for the fourth quarter of 2022, which were not available when CBO developed its current projections for 2022 to 2033 (the brown bars in the first panel and the thick line in the bottom three panels).

Box 2-2.

Missing Labor Force Participants

The labor force declined by more than 6 million workers from the end of 2019 to May 2020 as schools and businesses closed in the wake of the coronavirus pandemic. Many people dropped out of the labor force or retired early because of health concerns, income from government support during the pandemic, or child care and other in-home care responsibilities. Increased mortality and reduced immigration also contributed to the decline. Since that time, the labor force has rebounded significantly, but it remains below the size that would be expected if people had participated in the labor force at the same rate as before the pandemic. Specifically, the Congressional Budget Office projected what the size of the labor force would have been if the labor force participation rates of 516 demographic groups defined by age, sex, race, and education equaled their averages over the period from 2015 to 2019. The agency estimates that the labor force in 2022 had 1.1 million fewer people than would otherwise have been expected (see the figure).

After increasing in 2023, the number of missing labor force participants—the difference between the expected and projected numbers—is projected to gradually decline over the next several years as labor force participation rates of certain groups increase. CBO projects that the number of missing participants will reach zero by 2026. Increased labor force participation by people with at least some college who are age 55 or older is the largest factor reducing the number of missing participants (see the table). CBO also projects that men, who make up a larger share of the labor force, will return in greater numbers than women over the next several years.

Change in the Number of Missing Labor Force Participants, 2022 to 2026

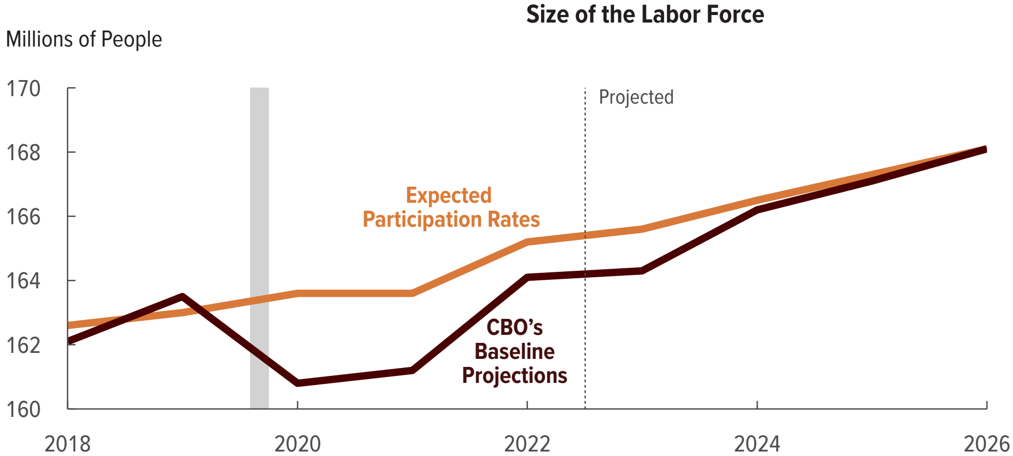
Millions of People

	Age				
	16–24	25–54	55–64	Over 64	16 or Older
Level of Education					
Less than high school	0.3	-0.1	-0.1	-0.1	0
High school	0.2	0	-0.1	-0.3	-0.2
Some college	0	-0.1	-0.1	-0.2	-0.4
Bachelor's degree	0	0.1	-0.1	-0.2	-0.3
Graduate school	0	-0.1	-0.1	-0.2	-0.3
All	0.4	-0.2	-0.4	-0.9	-1.1
Sex					
Men	0.3	-0.4	-0.3	-0.3	-0.7
Women	0.1	0.2	-0.2	-0.6	-0.4
All	0.4	-0.2	-0.4	-0.9	-1.1

Data source: Congressional Budget Office, using Current Population Survey data from IPUMS-CPS. See www.cbo.gov/publication/58848#data.

CBO estimated the total number of missing labor force participants for 516 demographic groups defined by age, sex, race, and education and then added the number of missing participants—the difference between the expected numbers (based on historical participation rates) and the projected numbers—from each group to arrive at the total.

Size of the Labor Force



In CBO's current projections, the number of missing labor force participants—the difference between the expected and projected numbers—increases in 2023 and then gradually declines over the next several years as participation by older people with more education increases.

Data source: Congressional Budget Office, using Current Population Survey data from IPUMS-CPS. See www.cbo.gov/publication/58848#data.

The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are available for work and are either seeking work or expecting to be recalled from a temporary layoff.

CBO estimated the total number of missing labor force participants for 516 demographic groups defined by age, sex, race, and education and then added the number of missing participants—the difference between the expected numbers (based on historical participation rates) and the projected numbers—from each group to arrive at the total.

The underlying analysis and historical values reflect data available from the Census Bureau in September 2022.

long-term interest rates, which also rose during 2022, are expected to remain near the values seen at the end of 2022. CBO expects that short-term interest rates will decline beginning in late 2023 but remain high well into 2024 and that long-term interest rates will fall slightly.

Inflation. CBO expects that the recent disruptions to the supply of goods and services—as well as many of the effects of pandemic-related legislation on the demand for goods and services—will continue to fade. In CBO's projections, inflation declines in 2023 but remains elevated (see Figure 2-3, top panel). The growth rate of the PCE price index—the Federal Reserve's preferred measure of inflation—reached 5.5 percent last year. CBO projects that PCE inflation (that is, inflation in the PCE price index) will be 3.3 percent in 2023 and 2.4 percent in 2024. The core PCE price index, which excludes food and energy prices, rose by 4.7 percent in both 2021 and 2022. The agency projects that the core PCE price index will grow by 3.4 percent in 2023 and by 2.7 percent in 2024.

CBO projects a decline in inflation throughout 2023 and 2024 for three main reasons. First, the agency expects that problems with supply chains will continue to abate, which will continue to slow the growth of prices for goods. Second, in CBO's projections, the slowing economy in 2023 and the higher unemployment rate put downward pressure on prices through two mechanisms: slowed demand and reduced upward pressure on prices because of slowing wage growth. Third, CBO projects that higher interest rates will put downward pressure on certain price categories, such the price of shelter services, in 2023. High rent inflation persists into 2023, in CBO's projections, but begins to decline in the second half of the year, in accordance with declines already present in house price indexes. The alleviation of upward price pressures in the goods sector, including food and energy, and the downward pressure on inflation in shelter services stemming from monetary policy are key forces driving the decline in CBO's projections of inflation in 2023 and 2024 (see Figure 2-3, bottom panel).

In CBO's projections, the overall and core measures for both the PCE price index and the CPI-U decline throughout 2023 and 2024. Core CPI-U inflation usually grows faster than core PCE inflation by roughly 0.3 percentage points, but in 2022 price growth in the core CPI-U outpaced growth in the core PCE price index by 1.3 percentage points because of the greater weight the CPI-U places on shelter costs. The agency expects the gap between those two measures of inflation to decline and eventually dip below its historical average at the beginning of 2024. By the end of 2024, PCE inflation is expected to outpace CPI-U inflation. That behavior of the gap between CPI-U inflation and PCE inflation is largely driven by categories of goods and services that are assigned comparatively more weight in the calculation of the CPI-U.

Over the 2025–2027 period, PCE inflation gradually declines to the Federal Reserve's long-run goal of 2 percent, in CBO's projections. That decline is attributable to slower economic growth and the actions the Federal Reserve has already begun to take to rein in inflation by reducing monetary accommodation. Those actions affect inflation by reducing demand for goods and services and by boosting the unemployment rate, which the agency expects to remain above the noncyclical rate of unemployment over that period.[12] The effects on the unemployment rate will put further downward pressure on both wage and price inflation as an increased unemployment rate reduces bargaining power for higher wages and the spending power of households.

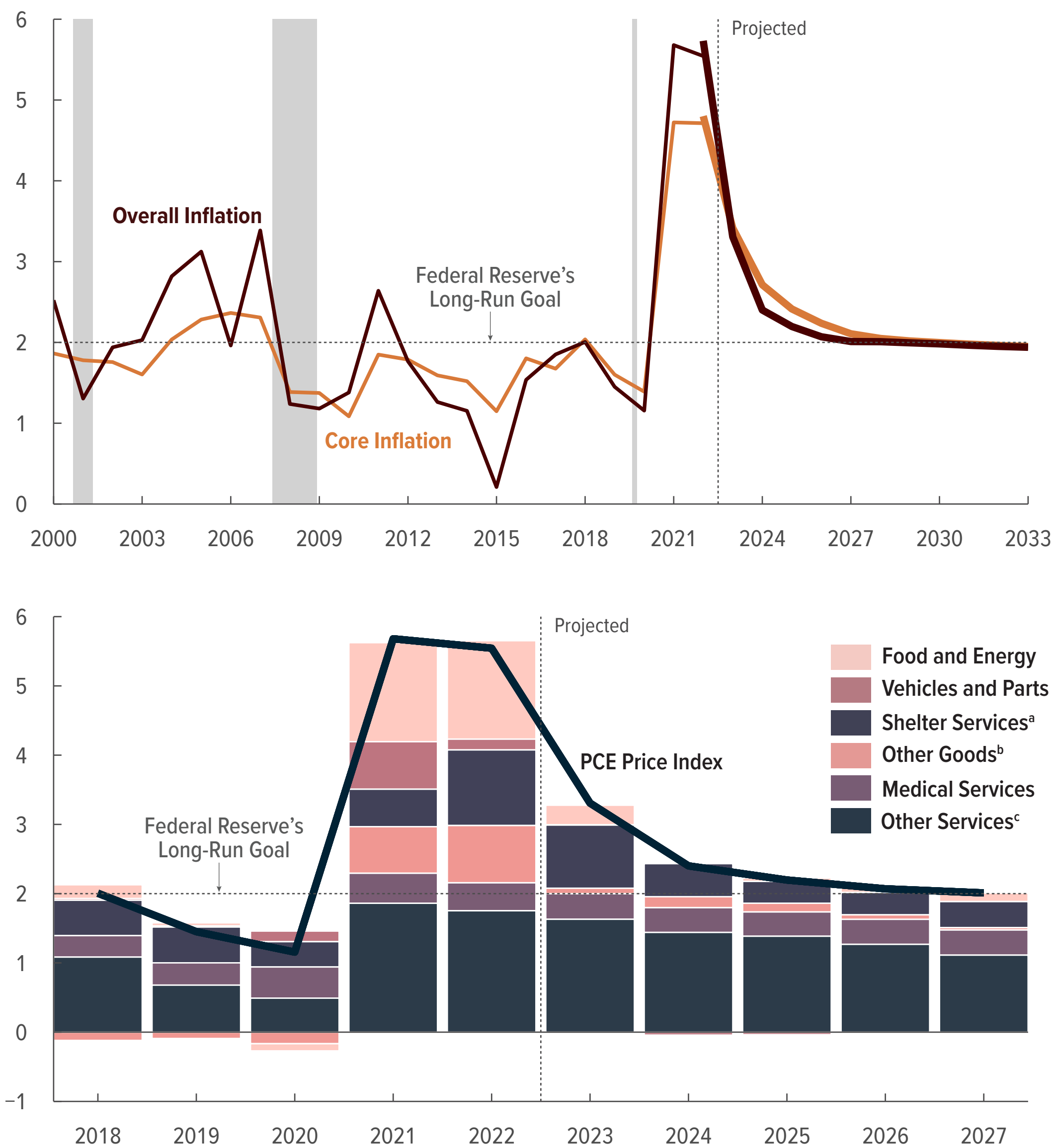
Interest Rates. In CBO's projections, interest rates on short-term Treasury securities move largely in concert with movements in the target range for the federal funds rate carried out by the Federal Reserve. To reduce inflationary pressures in the economy, the Federal Reserve increases the target range for the federal funds rate in early 2023 and leaves the target range for the federal funds rate unchanged for several months thereafter (see Figure 2-4). In CBO's projections, the interest rate on 3-month Treasury bills follows a similar path, rising to 4.7 percent in early 2023 and remaining above 4.0 percent through the end of the year. After 2023, the Federal Reserve normalizes the stance of monetary policy by lowering the target range for the federal funds rate as inflation falls toward its 2 percent long-run goal.

Interest rates on long-term Treasury securities are expected to rise slightly in 2023, largely because of an increase in term premiums. (A term premium is the additional return paid to bondholders for the extra risk associated with holding long-term bonds.) Several factors pushed term premiums to historically low levels in the

12. The noncyclical rate of unemployment is the rate of unemployment arising from all sources except fluctuations in aggregate demand.

Figure 2-3.

Overall Inflation, Core Inflation, and Contributions to Overall Inflation



In CBO's projections, inflation declines in 2023 as pressures ease from factors that, since mid-2020, have caused demand to grow more rapidly than supply. That decline continues until 2027, when the rate of inflation reaches the Federal Reserve's long-run goal.

The alleviation of upward pressure on the prices of food, energy, and other goods and the downward pressure on prices in shelter services are the two main causes of falling inflation in 2023 and 2024.

Data sources: Congressional Budget Office; Bureau of Economic Analysis. See www.cbo.gov/publication/58848#data.

The overall inflation rate is the rate of growth in the PCE price index; the core inflation rate excludes prices for food and energy.

Inflation is measured from the fourth quarter of one calendar year to the fourth quarter of the next.

Values in the bars represent the contributions, in percentage points, of each category of goods and services to the growth rate of the PCE price index. The sum of the contributions of those categories equals the overall growth of that index.

Values for 2000 to 2022 (in the upper panel, the thin lines) reflect data available from the Bureau of Economic Analysis in early February 2023. The data contain values for the fourth quarter of 2022, which were not available when CBO developed its current projections for 2022 to 2033 (in the upper panel, the thick lines).

PCE = personal consumption expenditures.

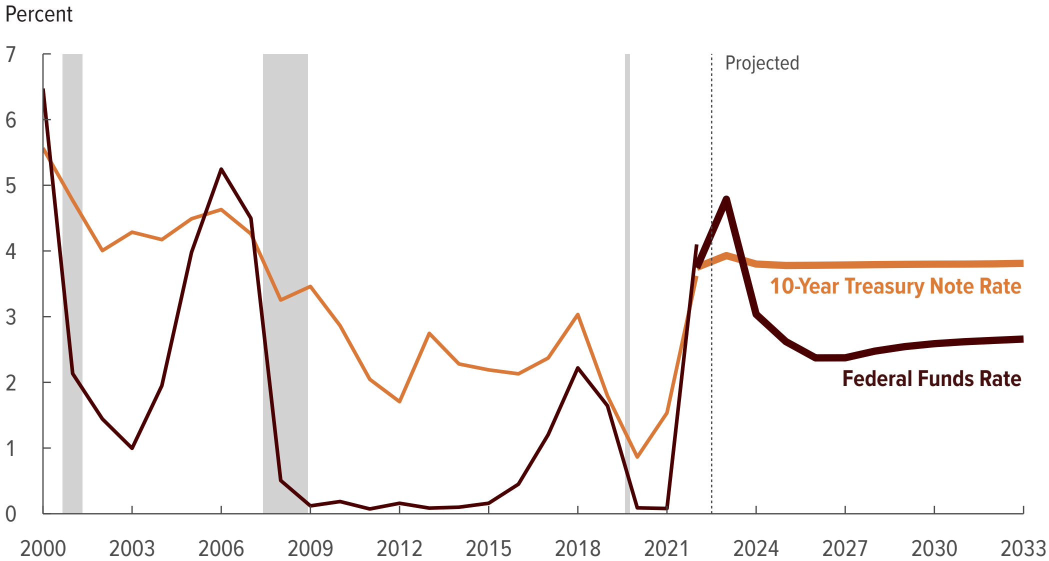
a. Measures the flow of housing services that housing units provide to their occupants.

b. Includes core durable and nondurable goods (other than vehicles and parts), such as electronics, home furnishings, and apparel.

c. Includes core services (other than housing services and medical services), such as transportation and recreation services.

Figure 2-4.

Interest Rates



In CBO's projections, the Federal Reserve further increases the target range for the federal funds rate in early 2023 to reduce inflationary pressures in the economy. That rate is projected to fall in 2024, as inflation slows and unemployment rises. The interest rate on 10-year Treasury notes, however, remains at 3.8 percent from 2024 to the end of the projection period.

Data sources: Congressional Budget Office; Federal Reserve. See www.cbo.gov/publication/58848#data.

The federal funds rate is the interest rate that financial institutions charge each other for overnight loans of their monetary reserves.

Values for 2000 to 2022 (the thin lines) reflect data on interest rates for the full month of December 2022. Those data were not available when CBO developed its current projections for 2022 to 2033 (the thick lines).

years that preceded the pandemic, including diminished perceived risk of unexpectedly high inflation, reduced uncertainty about the future path of monetary policy, and a strongly negative correlation between stock and bond returns. CBO expects those factors to continue to dissipate, thus increasing term premiums to a level close to their average over the past 40 years.

After 2023, interest rates on long-term Treasury securities are expected to fall slightly, largely because short-term rates are expected to decline. Potential purchasers of long-term bonds weigh those bonds' yields against the yields from purchasing a series of shorter-term bonds (for example, purchasing a 1-year bond each year for 10 years). When the expected future path of short-term interest rates falls, the yield on long-term bonds also falls. In CBO's projections, the interest rate on 10-year Treasury notes falls from 3.9 percent in the fourth quarter of 2023 to 3.8 percent in the fourth quarter of 2024 as the Federal Reserve begins to normalize monetary policy, signaling a lower future path for short-term interest rates. After 2024, the interest rate on 10-year Treasury notes remains roughly flat at 3.8 percent through the end of 2027.

The Economic Outlook for 2028 to 2033

CBO's projections of GDP, unemployment, inflation, and interest rates for the later years of the forecast period are based mainly on its projections of the underlying trends in the factors that determine those key variables, taking into account the effects of federal tax and spending policies embodied in current law. Those policies, as well as monetary policy, can influence not only the demand for goods and services—and, therefore, the gap between actual output and potential output—but also potential output itself. The projections also reflect the Federal Reserve's goal of eventually returning the rate of inflation to 2 percent.

Actual Output and Potential Output

Although changes in the overall demand for goods and services strongly influence CBO's economic projections for the first part of the period covered in this report, the agency's projections for the second part of the period are fundamentally determined by its assessment of the prospects for growth of key inputs: the potential number of workers in the labor force, capital services (that is, the flow of productive services from the stock of capital assets), and the potential productivity of those factors.

Table 2-3.

Key Inputs in CBO's Projections of Real Potential GDP

Percent

	Average Annual Growth							Projected Average Annual Growth		
	1950–1973	1974–1981	1982–1990	1991–2001	2002–2007	2008–2022	Overall, 1950–2022	2023–2027	2028–2033	Overall, 2023–2033
					Overall Economy					
Real Potential GDP	4.0	3.2	3.2	3.2	2.4	1.8	3.1	1.8	1.8	1.8
Potential Labor Force	1.6	2.5	1.6	1.2	1.0	0.5	1.4	0.4	0.4	0.4
Potential Labor Force Productivity[a]	2.3	0.7	1.6	2.0	1.4	1.2	1.7	1.3	1.4	1.4
					Nonfarm Business Sector					
Real Potential Output	4.1	3.5	3.5	3.7	2.6	2.1	3.4	2.1	2.1	2.1
Potential Hours Worked	1.4	2.3	1.7	1.2	0.3	0.6	1.3	0.4	0.4	0.4
Capital Services[b]	3.8	3.7	3.5	3.9	2.8	2.3	3.4	2.1	2.3	2.2
Potential Total Factor Productivity[c]	1.8	0.8	1.1	1.5	1.5	0.9	1.4	1.1	1.1	1.1
Contributions to the Growth of Real Potential Output (Percentage points)										
Potential hours worked	1.0	1.5	1.2	0.8	0.2	0.4	0.8	0.3	0.3	0.3
Capital input	1.2	1.2	1.1	1.3	0.9	0.8	1.1	0.7	0.7	0.7
Potential total factor productivity[c]	1.8	0.8	1.1	1.5	1.5	0.9	1.4	1.1	1.1	1.1
Total Contributions	**4.0**	**3.5**	**3.4**	**3.6**	**2.6**	**2.1**	**3.3**	**2.1**	**2.1**	**2.1**
Potential Labor Productivity[d]	2.6	1.2	1.7	2.4	2.3	1.5	2.1	1.7	1.7	1.7

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

Real values are nominal values that have been adjusted to remove the effects of inflation or, in the case of components of GDP, the effects of changes in prices. Potential GDP is CBO's estimate of the maximum sustainable output of the economy. The potential labor force is CBO's estimate of the size of the labor force that would occur 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 table shows compound annual growth rates over the specified periods. Those rates are calculated from the fourth quarter of the year immediately preceding each period to the fourth quarter at the end of that period.

GDP = gross domestic product.

a. The ratio of potential GDP to the potential labor force.

b. The services provided by capital goods (such as computers and other equipment) that constitute the actual input in the production process.

c. The average real output per unit of combined labor and capital services, excluding the effects of business cycles.

d. The ratio of potential output to potential hours worked in the nonfarm business sector.

In CBO's projections, real potential GDP grows at an average annual rate of 1.8 percent over both the 2023–2027 and the 2028–2033 periods—a rate roughly equal to the average since the business cycle peak in late 2007 (see Table 2-3). Annual growth of the potential labor force is about 0.4 percent in both the first and the second periods, and growth of potential labor force productivity averages 1.3 percent in the first period and 1.4 percent in the second period (see Figure 2-5).

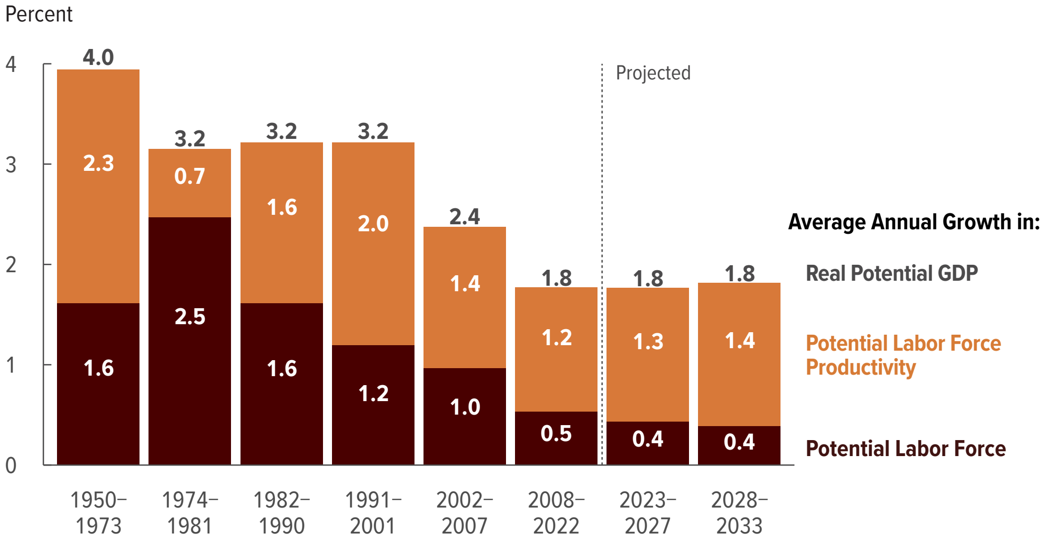
The growth of real output accelerates after 2023 and then gradually converges toward that of potential output. The output gap narrows to −0.5 percent by the end of 2027; it remains at that level thereafter, consistent with the long-term relationship between actual and potential output.[13] Growth of real GDP averages 1.8 percent per year over the 2028–2033 period, the same as growth of real potential GDP.

Over the 2028–2033 period, growth of potential output in the nonfarm business sector (which accounts for about three-quarters of economic activity and the bulk of productivity growth) averages about 2.1 percent per

13. The output gap is the difference between actual and potential gross domestic product, expressed as a percentage of potential GDP.

Figure 2-5.

Composition of the Growth of Real Potential GDP



In CBO's projections, real potential GDP grows during the next five years at a rate similar to its growth rate since the 2007–2009 recession. Because of the aging of the population, the potential labor force grows more slowly than it has in previous periods. But that slower growth is offset by faster growth in potential labor force productivity.

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

Real values are nominal values that have been adjusted to remove the effects of inflation.

Growth in real potential GDP is the sum of growth in the potential labor force and growth in potential labor force productivity. The potential labor force is CBO's estimate of the size of the labor force that would occur 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. Those rates are calculated using calendar year data.

GDP = gross domestic product.

year. About 1.1 percentage points of that growth are attributable to growth of potential total factor productivity (that is, the average real output per unit of combined labor and capital services, excluding the effects of business cycles) in the sector; about 0.7 percentage points are attributable to growth of capital services; and the remaining 0.3 percentage points are attributable to growth of potential hours worked.

The Labor Market

CBO's projections of employment, labor compensation per hour, unemployment, and labor force participation over the 2028–2033 period primarily reflect the agency's assessment of the overall performance of the economy and the effects of demographic trends over the long term. Demographic trends are expected to strongly influence the size and composition of the workforce in the coming decades.

Over the 2028–2033 period, the growth of employment is projected to moderate, and the growth of nominal labor compensation is expected to decrease, as compared with the first five years of the projection period. Nonfarm payroll employment increases by an average of 67,000 jobs per month during those years, in CBO's projections. The projected increase in employment is smaller than the average increase over the previous two decades because of the aging of the population, which CBO expects to result in slower growth of the labor force over the 2028–2033 period than during the previous two decades. Real compensation per hour in the nonfarm business sector, a measure of labor costs that is a useful gauge of longer-term trends, grows at an average annual rate of 1.8 percent over the 2028–2033 period—close to the projected average growth in labor productivity in that sector.

In CBO's projections, the unemployment rate rises over the 2027–2030 period as output returns to its historical relationship with potential output. After peaking at nearly 4.5 percent at the end of 2030, the unemployment rate declines slowly through 2033—in line with the decline in the noncyclical rate of unemployment over that period. That decline reflects the continuing shift in the composition of the workforce toward older workers, who tend to have lower rates of unemployment (when they participate in the labor force), and away from less educated workers, who tend to have higher ones.

CBO expects the labor force participation rate to fall during the second part of the 11-year projection period—from 61.8 percent at the end of 2027 to 61.2 percent by the end of 2033. That decline is mostly driven by the aging of the population and, in particular, the continued retirement of baby boomers. That rate in 2033 is slightly below the agency's estimate of the potential labor force participation rate, which falls from 62.8 percent in 2022 to 61.9 percent in 2027 and to 61.4 percent in 2033.

Inflation and Interest Rates

Over the 2028–2033 period, CBO expects inflation to have reached the long-run average rate that the agency projects. CBO expects interest rates on Treasury securities to be lower, on average, than they were over the first five years of the projection period.

Inflation. In CBO's forecast, the Federal Reserve maintains its long-run goal of 2 percent for inflation. The agency expects the growth rate of the PCE price index to average 2.0 percent over the 2028–2033 period. Similarly, inflation in the CPI-U is projected to grow at an average rate of 2.3 percent, that index's long-run average, over that period.

Interest Rates and Federal Reserve Policy. CBO expects interest rates on short- and long-term Treasury securities to be slightly lower over the 2028–2033 period than over the 2023–2027 period and well below their historical average. As inflation returns to its long-run average rate, the Federal Reserve normalizes the stance of monetary policy, resulting in the lower level of short- and long-term interest rates. In CBO's projections, interest rates are below their average over the past four decades for several reasons, including higher rates of domestic and foreign saving, slower growth of the labor force, and slower growth of productivity.[14]

14. For further details about the factors affecting CBO's projections of interest rates, see 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.

Projections of Income for 2023 to 2033

Nominal income is expected to grow at a moderate rate over the projection period. In CBO's projections, nominal gross domestic income (GDI) grows by 3.1 percent in 2023. Although CBO expects the growth rate of real GDI (that is, nominal GDI adjusted to remove the effects of inflation) to continue to stagnate in 2023, it anticipates that nominal GDI will grow at a stronger rate because of inflation (see Figure 2-6). Nominal GDI grows by 4.9 percent in 2024, by 4.8 percent in 2025, and at an average annual rate of 4.0 percent from 2026 to 2033, in CBO's projections.

Economic activity and federal tax revenues depend not only on the amount of total income in the economy but also on how that income is divided among labor income, domestic profits, proprietors' income, income from interest and dividends, and other categories. (Labor income includes wage and salary payments as well as other forms of compensation, such as employer-paid benefits and the part of proprietors' income corresponding to compensation for hours worked.) The shares of income for wages and salaries and for domestic profits are particularly important in projecting federal revenues because those types of income are taxed at higher rates than others.

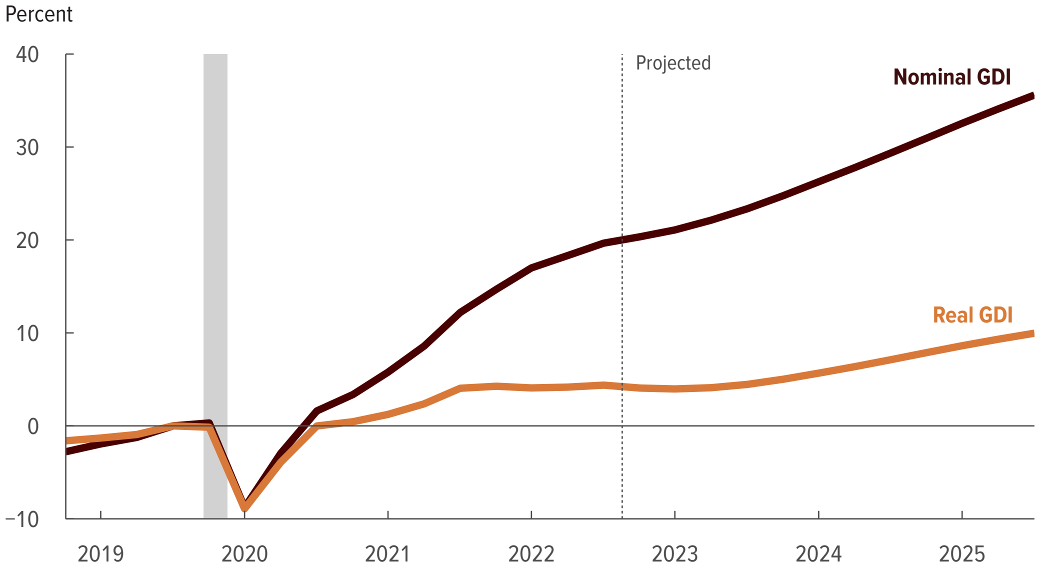
Labor Income

Compensation of employees is expected to rise more rapidly than GDP through the first half of 2024; as a result, labor income as a share of GDP is expected to rise from the end of 2022 through the first half of 2024. CBO's projection is consistent with the historical cyclical pattern of compensation as a share of income. When the economy slows, as it does in CBO's near-term projection, growth in compensation, which is less sensitive to cyclical fluctuations in the economy, tends to slow less than growth in profits, which is more sensitive to cyclical fluctuations in the economy. As a result, labor income as a share of GDP tends to rise and profits as a share of GDP tend to fall during periods when GDP growth declines. In CBO's projections, labor income as a share of GDP increases from 57.4 percent at the end of 2022 to 58.5 percent by mid-2024. It then falls from mid-2024 through the end of 2027 as GDP growth outpaces the growth in compensation.

After 2027, CBO expects labor income as a share of GDP to remain roughly unchanged, averaging 58.1 percent from 2028 through 2033. CBO's forecast of labor

Figure 2-6.

Gross Domestic Income



CBO expects slow growth in real GDI in 2023. In the agency's projections, nominal GDI continues to climb above its level at the end of 2019 and, as a result of inflation, grows more rapidly than real GDI.

Data sources: Congressional Budget Office; Bureau of Economic Analysis. See www.cbo.gov/publication/58848#data.

The figure shows the percentage difference in nominal and real GDI from their levels in the fourth quarter of 2019.

GDI is the sum of all income earned in the production of GDP. Real GDI is equal to nominal GDI that has been adjusted to remove the effects of inflation, as measured by the GDP price index.

GDI = gross domestic income; GDP = gross domestic product.

income as a share of GDP remains below 60 percent, its long-run average from 1947 to 2000, because some factors that have depressed that share since 2000 are expected to persist during the coming decade. One such factor is globalization, which has tended to move the production of labor-intensive goods and services to countries with lower labor costs. Another factor is technological change, which appears to have increased returns on capital more than returns on labor.

In CBO's projections, wages and salaries as a share of GDP follow roughly the same cyclical pattern as labor income as a share of GDP, rising from 43.6 percent at the end of 2022 to 44.5 percent in the first half of 2024. Wages and salaries as a share of GDP are projected to decline steadily through 2027 as GDP growth outpaces growth in wages and salaries. After 2027, wages and salaries as a share of GDP are expected to remain roughly constant.

Corporate Profits

Domestic corporate profits as a share of GDP are expected to decrease from 9.7 percent in 2022 to 7.5 percent in 2024 as the shares of GDP going to compensation of employees and business interest payments increase. Between 2024 and 2027, the profit share reverts to its historical average of about 8.0 percent and then stays relatively flat over the remainder of the projection period.

Uncertainty About the Economic Outlook

CBO's economic projections are subject to a high degree of uncertainty. Projections of economic output and labor market conditions are highly uncertain. In the short term, the effect of higher interest rates on overall demand, the easing of supply-chain disruptions, and participation in the labor market could be larger or smaller than expected; in the longer term, the pace of potential output in the aftermath of the pandemic could be faster or slower than expected. The agency's projections of price and wage inflation are also highly uncertain, particularly because the upward or downward pressure on wages and prices from conditions in product and labor markets could be greater or less than expected. The path of asset prices in the short term and the pace of the tightening of monetary policy may differ from the agency's projections of them. Other key sources of uncertainty are future monetary policy and the path of interest rates. Uncertainty about the path of interest rates contributes to the uncertainty of the agency's estimates of the effects of higher deficits and debt on the economy.

CBO's baseline projections reflect the assumption that current laws governing federal taxes and spending generally remain in place. (The Balanced Budget and Emergency Deficit Control Act of 1985, P.L. 99-177, requires CBO to project spending, revenues, and deficits independently of the debt limit.) Although new laws could be enacted that significantly alter federal taxes and spending, the following discussion is restricted to uncertainty stemming from other sources.

Economic Growth in 2023

CBO's forecast for roughly zero growth of real GDP in 2023 is highly uncertain. A key risk stems from uncertainty about the future paths of inflation and interest rates. If inflation is higher than CBO expects, that will probably cause the Federal Reserve to raise interest rates higher and keep them elevated for longer than CBO anticipates. Those higher interest rates would put further downward pressure on the interest-sensitive sectors of the economy, such as residential investment, net exports, and business investment. Alternatively, if inflation declines more rapidly than CBO projects, interest rates will probably fall faster than CBO anticipates. That would help the interest-sensitive sectors of the economy.

Another important source of uncertainty in the forecast for growth is the magnitude of the effects of higher interest rates on the interest-sensitive sectors of the economy. The downturns in the construction of new homes and sales of existing homes could be more or less severe than in CBO's forecast. The purchase of a home often leads to the purchase of related consumer goods, so the severity of the downturn in home sales would have downstream effects on consumer spending. The rise in the exchange value of the dollar stemming from higher interest rates could have a greater or lesser effect on net exports than in CBO's forecast. Finally, the response of business investment to higher costs of debt and equity could be greater or less than forecast.

The outlook for consumer spending is more uncertain than usual. Consumer spending depends on the strength of the labor market, both directly through income and indirectly through consumer confidence. If unemployment rises less than expected, consumers will have more income to spend on discretionary goods and services. Furthermore, consumer confidence may be higher than expected because of less uncertainty about future employment. If unemployment rises more than expected, consumers may pull back on spending. Consumer spending also depends on the pace at which consumers spend down excess savings. The stock of accumulated savings in the economy is unprecedented, and the distribution of savings is uncertain, so it is difficult to predict the pace at which excess savings will be spent down.

Developments outside the United States are another major source of uncertainty. Faster growth among U.S. trading partners would boost U.S. exports and thus GDP, whereas slower growth would put further downward pressure on the economy. The war in Ukraine could put further upward pressure on food and energy prices, reducing the real income of consumers and thus their spending. Disruptions elsewhere could have similar effects.

CBO's estimates of the economic effects of legislation enacted in 2022 represent the middle of the range of likely outcomes. Still, those estimates are subject to considerable uncertainty. Some important sources of that uncertainty are the responses of consumers, businesses, and state and local governments to various policy changes included in the legislation; the effects of the timing, scale, and breadth of the legislation on prices in labor and product markets; and the speed with which disruptions to the supply of labor are resolved.

The Labor Market

The uncertainty of the labor market in the near term is large. If labor demand remains strong despite the projected slowdown in economic growth in early 2023, the unemployment rate will rise by less and employment will fall by less than CBO currently expects in the near term. However, if the projected economic slowdown causes the demand for labor to fall by more than CBO expects, the unemployment rate will rise by more and employment will fall by more than CBO currently anticipates. A rise in COVID-19 infections could roil labor markets.

CBO's projection of the labor force participation rate is also subject to considerable uncertainty. If workers who dropped out of the labor force during the pandemic—because of health concerns, child care and other in-home care responsibilities, or early retirements—reenter the workforce in greater numbers than CBO expects, the growth rate of wages and salaries could decline faster than CBO anticipates. If fewer of those workers reenter the workforce than CBO expects, the elevated growth rate of wages and salaries could persist for longer than CBO currently forecasts.

Productivity Growth

In the longer term, the effects of the pandemic on the growth rate of potential total factor productivity in nonfarm businesses are uncertain. The pandemic sped the adoption of new technologies, such as teleconferencing and telemedicine, but the effects on productivity of a more rapid adoption of such technologies remain unknown. Increased remote work could create opportunities for new businesses and new jobs and could spur sectoral and geographic reallocations that help improve productivity and social and economic welfare. Innovations associated with remote work could lead to substantial reductions in costs and improvements in productivity. At the same time, uncertainty exists about the extent to which such dynamic forces could make existing businesses and business models obsolete, as well as about the negative consequences for output and labor markets.

Disruptions to the educational system could have lasting effects on the future productivity of workers. In addition, long-term health risks—including potential long-term effects of COVID-19 infections, exacerbation of the opioid crisis by the pandemic, and the toll of the pandemic on people's mental health—could influence the prospects of many workers as well as the strength of the overall labor market.

Price and Wage Inflation

There is much uncertainty about the rates at which wages and consumer prices will grow. Uncertainty about wage growth is related to uncertainty about economic growth, as well as to how the demand for labor responds to economic growth, how changes in labor demand affect wage growth, and how past inflation feeds into wages in the future. If wage growth is faster than CBO projects, businesses could pass along the cost of those higher wages by raising consumer prices, which might result in higher inflation than the agency expects. But slower-than-expected wage growth might result in lower inflation than CBO expects.

Supply-side disruptions were a key determinant of inflation in 2022. Those disruptions remain a large source of uncertainty in 2023, as businesses continue to recover from supply-side issues, workers continue returning to the labor force, and consumers spend down excess savings accumulated during the pandemic. If supply-side pressures do not continue to recede, inflation could be higher than CBO projects, particularly in key categories such as durable goods, energy goods, and food. But if businesses quickly restock inventory, and workers return to the labor force faster than expected, inflation could be lower than CBO projects.

The price of shelter services, which is affected indirectly by house prices, is also a source of uncertainty. CBO projects that PCE inflation in shelter services will decline in the second half of 2023 as new rental agreements respond to the decline in house prices that began in the second half of 2022, when interest rates rose and demand for homes softened. It is difficult to predict the magnitude and timing of the effect of house prices on inflation in shelter services; that inflation could begin declining sooner or later than CBO projects and could decline by more or less than the agency projects. In turn, aggregate PCE inflation and CPI-U inflation could be lower or higher than CBO projects.

Overall measures of inflation are affected by volatility in energy and food markets. Some potential sources of uncertainty in CBO's forecast for energy and food prices are the duration and severity of the war in Ukraine and the sanctions levied on Russia. If additional countries impose or enforce sanctions on Russia, a major exporter of petroleum and natural gas, that could further drive up energy prices in the United States. Increases in energy prices cause transportation costs to increase and therefore cause the price of goods to increase as retailers recoup production and shipping costs. Therefore, large increases in energy prices could drive inflation in the price of goods even higher. Sanctions on Russian oil could end sooner than expected, lowering energy prices and driving overall inflation lower.

Food prices are a source of much uncertainty in the inflation forecast. The invasion of Ukraine created three potential channels for upward pressure on food prices. First, higher energy prices could further strain supply chains for food by increasing transportation costs, a major input in food prices. Second, because Russia is a major exporter of nitrogen-rich fertilizers used in farming many agricultural products, continued sanctions on Russian exports could drive food prices higher. Third, Ukraine accounts for a large portion of the world's wheat exports, and it is currently exporting wheat under a United Nations agreement. If Russia withdrew from the grain deal, as it has done once before and warned it could do again, that would put upward pressure on global food prices.

Finally, CBO's projections of inflation depend on inflation expectations. If high inflation lasts longer than the agency expects, inflation expectations could rise more materially, and inflation could be higher than CBO projects. Alternatively, if actual inflation turns out to be below expected inflation, consumers could revise their inflation expectations downward.

The Financial Sector and Asset Prices

The prices of major classes of financial assets—stocks, bonds, and corporate debt—fell during 2022. Credit markets have tightened as a result of actions taken by the Federal Reserve. The market for Treasury securities has become less liquid in recent months, as indicated by a greater-than-usual effect of trades on prices. That lack of liquidity increases uncertainty in the market for Treasury securities. Corporate bond markets face similar risks that could cause general financial conditions to deteriorate. Problems in markets for cryptocurrencies could affect other markets. In addition, geopolitical risks in Russia, Ukraine, and China could disrupt global financial markets.

Demand and prices for housing declined during the final months of 2022 in response to high mortgage interest rates and tighter lending standards. A further tightening of lending standards could worsen those declines and cause households to cut back on their purchases. A sudden drop in consumer spending, coupled with high interest rates, could cause business investment to fall further. Alternatively, the Federal Reserve's path of tightening monetary policy could shift if inflation falls faster than CBO expects. The Federal Reserve could ease monetary policy sooner than currently anticipated, which would ease financial conditions and support asset prices.

Interest Rates and Monetary Policy

The path of monetary policy is uncertain as well. In CBO's projections, the terminal level of the federal funds rate and the duration of the period of tight monetary conditions are uncertain, contributing to uncertainty about the path of interest rates on Treasury securities. If inflation is higher than CBO expects over the next few quarters, the Federal Reserve may raise the policy rate higher or leave it high for longer, and interest rates on Treasury securities will probably be higher than CBO projects. But if economic conditions weaken significantly at some point during the next few years, the Federal Reserve may reverse policy rate hikes faster, and interest rates on Treasury securities will probably be lower than CBO expects.

The path of term premiums is an additional source of uncertainty for CBO's projections of interest rates on Treasury securities, especially those of longer duration. CBO expects that several factors that pushed term premiums to historically low levels in the decade before the pandemic will dissipate, thus increasing term premiums. If a stronger-than-expected negative correlation between stock and bond returns persists over the coming decade, interest rates on longer-term Treasury securities will be lower than projected. But if inflation is more persistent over the next year or two than the agency expects, increasing the risk of unexpectedly high inflation in the future, then interest rates on longer-term Treasury securities will be higher than projected. Contributing to the uncertainty of the agency's projections of interest rates on longer-term Treasury securities is uncertainty about the pace at which the Federal Reserve will reduce the size of its balance sheet, as well as uncertainty about the effect that such a reduction will have on interest rates.

The path of monetary policy is also uncertain in the longer term. If the Federal Reserve seeks to achieve inflation that is below 2 percent for a time—following the current episode of inflation well above that target—then interest rates could be higher than the agency projects. Alternatively, if the Federal Reserve determines that a rate of inflation higher than 2 percent is more consistent with its statutory mandate from the Congress to promote maximum employment and stable prices, then interest rates could be lower than CBO expects.

Another source of long-term uncertainty is the global economy's longer-term response to the substantial increases in public deficits and debt that occurred as governments spent significant amounts of funds in an attempt to mitigate the impact of the pandemic and the economic downturn it caused. In addition, changes in foreign demand for U.S. assets or the international role of the dollar could affect interest rates. If, for example, foreign demand for Treasury securities is weaker than CBO projects, interest rates will be higher than they otherwise would be. But if foreign demand for those securities is stronger than projected, perhaps because of heightened geopolitical concerns, interest rates will be lower.

Uncertainty about the path of interest rates in the long term contributes to uncertainty about the economic costs of higher public deficits and debt. Factors such as increased foreign and domestic saving, slower growth in total factor productivity, and lower labor force participation have contributed to the downward trend in interest rates over the past several decades. Much uncertainty remains about how much those factors will continue to weigh on interest rates over the next several years. In addition, the extent and timing of upward pressure on interest rates stemming from increased federal borrowing are highly uncertain.

Quantifying the Uncertainty in CBO's Projections

CBO's forecast of the economy, especially its projections of nominal GDP, is a primary input in the agency's baseline budget projections. As a result, much of the uncertainty of the baseline budget projections reflects the uncertainty of the economic forecast.

To quantify the uncertainty of its economic projections for the next five years, CBO conducted 1,000 simulations of several key macroeconomic variables to produce probability distributions for the future path of those variables.[15] On the basis of that analysis, the agency estimates that there is an approximately two-thirds chance that the annual rate of real GDP growth (on a calendar year basis) will be between −1.5 percent and 1.7 percent in 2023 and between 0.7 percent and 3.6 percent in 2027. In 2023, there is a roughly two-thirds chance that the unemployment rate will be between 3.8 percent and 5.7 percent, that the rate of PCE inflation will be between 2.1 percent and 4.7 percent, and that the interest rate on 10-year Treasury notes will be between 3.2 percent and 4.6 percent, CBO estimates (see Figure 2-7).

Comparison With CBO's May 2022 Economic Projections

CBO has compared its current projections with those published in May 2022 (see Table 2-4). The comparison illuminates aspects of the current projections and highlights the kinds of uncertainty that affect all such projections.

Inflation

The agency's current projections of inflation for 2023 are substantially higher than last spring's projections. In May, CBO projected that inflation in the PCE price index would be 2.3 percent in 2023, whereas the current projection of the increase in that index in 2023 is 3.3 percent. Similarly, the agency previously forecast that inflation in the CPI-U would be 2.7 percent in 2023, whereas the current projection of inflation for that index in 2023 is 4.0 percent.

Those large upward revisions are the result of momentum in recent historical inflation data that suggests more persistence in inflation across many sectors of the economy than CBO anticipated last May. Additionally, supply-side disruptions have remained greater than CBO previously forecast. In CBO's current projections, price increases for most goods and services, especially shelter services, are larger than the agency expected them to be last May.

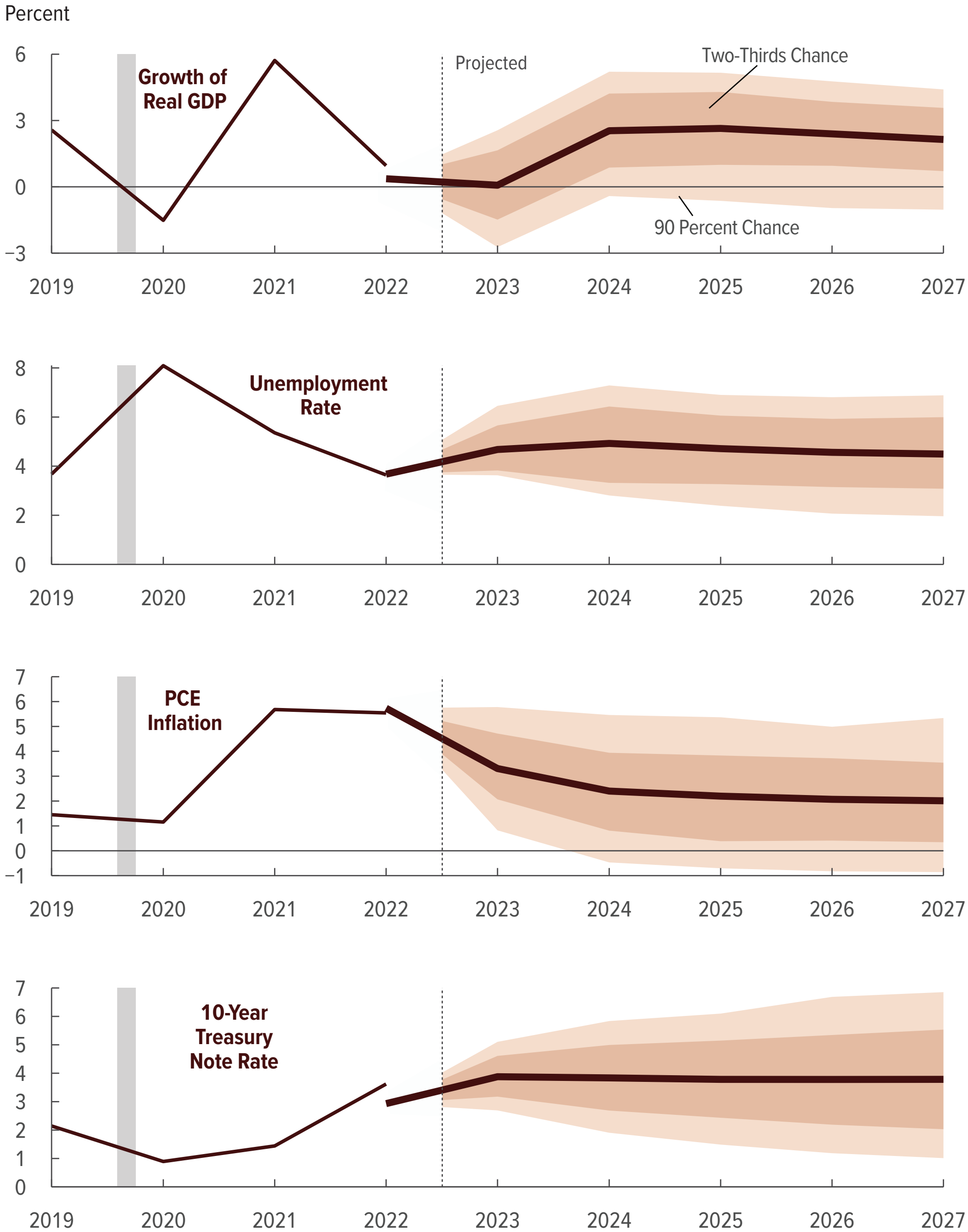
CBO's projections of PCE and CPI-U inflation in 2024 are also higher than they were last May. A large driver of the agency's revisions is inflation in the price of services; last May, CBO projected that the PCE price index for services would grow by 2.9 percent in 2024, whereas the current projection of the increase in that index in 2024 is 3.4 percent. The services category of the PCE price index includes several wage-sensitive components of inflation, such as medical services, restaurant meals, and other hospitality services. CBO's upward revision to inflation in the services category reflects the currently tight conditions in the labor market as well as the agency's projections of persistently high wage growth. The services category of the PCE price index also includes the price of shelter services; in CBO's projections, inflation in that category remains above its long-run trend into 2025. The agency's projections of CPI-U inflation have similarly been revised upward across categories.

CBO's projections of PCE inflation in 2025 and 2026 are slightly higher than they were in the agency's May projections. CBO's projections of CPI-U inflation in 2025 and 2026 are slightly lower than they were in the agency's May projections. PCE inflation and CPI-U inflation were revised in opposing directions because the CPI-U places greater weight on prices of shelter services.

15. For a discussion of the methods used to quantify uncertainty, see Congressional Budget Office, *CBO's Current View of the Economy in 2023 and 2024 and the Budgetary Implications* (November 2022), Box 1, www.cbo.gov/publication/58757.

Figure 2-7.

Uncertainty of CBO's Projections of Output, Unemployment, Inflation, and Interest Rates



CBO estimates that there is an approximately two-thirds chance that the annual rate of real GDP growth will be between −1.5 percent and 1.7 percent in 2023 and between 0.7 percent and 3.6 percent in 2027.

The agency also estimates that there is a roughly two-thirds chance that in 2023 the average unemployment rate will be between 3.8 percent and 5.7 percent,

. . . the rate of PCE inflation will be between 2.1 percent and 4.7 percent, and

. . . the average interest rate on 10-year Treasury notes will be between 3.2 percent and 4.6 percent.

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Bureau of Labor Statistics; Federal Reserve. See www.cbo.gov/publication/58848#data.

To quantify the uncertainty of its projections for the next five years, CBO conducted 1,000 simulations of several key macroeconomic variables to produce probability distributions for the future path of those variables. For discussion of the methods used to quantify uncertainty, see Congressional Budget Office, "Estimating the Uncertainty of the Economic Forecast Using CBO's Expanded Markov-Switching Model" (January 2023), www.cbo.gov/publication/58884; and "Estimating the Uncertainty of the Economic Forecast Using CBO's Bayesian Vector Autoregression Model" (January 2023), www.cbo.gov/publication/58883.

Real values are nominal values that have been adjusted to remove the effects of inflation. Growth of real GDP is measured from the fourth quarter of one calendar year to the fourth quarter of the next. The unemployment rate is the number of people not working who are available for work and are either seeking work or expecting to be recalled from a temporary layoff, expressed as a percentage of the labor force. The inflation rate is based on the price index for personal consumption expenditures. Inflation is measured from the fourth quarter of one calendar year to the fourth quarter of the next.

Values for 2019 to 2022 (the thin lines) reflect data available from the Bureau of Economic Analysis and the Bureau of Labor Statistics in early February 2023. The data contain values for the fourth quarter of 2022, which were not available when CBO developed its current projections for the next five years (the thick lines) and analyzed their uncertainty.

GDP = gross domestic product; PCE = personal consumption expenditures.

Table 2-4.

CBO's Current and Previous Economic Projections for Calendar Years 2022 to 2032

Percent

	2022	2023	2024	Annual Average 2022–2026	Annual Average 2027–2032	Annual Average Overall, 2022–2032
	Change From Fourth Quarter to Fourth Quarter					
Real GDP[a]						
February 2023	0.4	0.1	2.5	1.6	1.9	1.8
May 2022	3.1	2.2	1.5	1.9	1.7	1.8
Nominal GDP						
February 2023	6.7	3.1	4.9	4.8	3.9	4.3
May 2022	7.4	4.5	3.6	4.5	3.9	4.1
PCE Price Index						
February 2023	5.7	3.3	2.4	3.1	2.0	2.5
May 2022	4.0	2.3	2.1	2.5	2.0	2.2
Core PCE Price Index[b]						
February 2023	4.8	3.4	2.7	3.1	2.0	2.5
May 2022	3.8	2.5	2.2	2.5	2.1	2.3
Consumer Price Index[c]						
February 2023	7.5	4.0	2.4	3.6	2.2	2.9
May 2022	4.7	2.7	2.3	2.9	2.4	2.6
Core Consumer Price Index[b]						
February 2023	6.2	4.2	2.8	3.5	2.3	2.8
May 2022	4.4	2.9	2.5	2.9	2.4	2.6
GDP Price Index						
February 2023	6.3	3.0	2.3	3.1	2.0	2.5
May 2022	4.0	2.3	2.1	2.5	2.1	2.3
Employment Cost Index[d]						
February 2023	5.4	4.5	3.8	4.1	3.2	3.6
May 2022	5.4	4.1	3.7	4.0	3.1	3.5
Real Potential GDP[a]						
February 2023	1.8	1.7	1.7	1.8	1.8	1.8
May 2022	1.9	1.9	1.9	1.9	1.8	1.8

Continued

Prices of those services make up 30 percent of the core CPI-U but only 17 percent of the core PCE price index. In 2025 and 2026, inflation in the shelter services category is projected to be well below its long-run trend because of a lagged response to the expected decline in house prices; that lower inflation places downward pressure on overall inflation, but it affects the CPI-U more than the PCE price index.

CBO's current projections of inflation after 2026 are similar to the agency's projections from last spring. That is because, in the long term, inflation is expected to return to the Federal Reserve's long-run goal of 2 percent growth in the PCE price index. In CBO's projections, a combination of the Federal Reserve's policy actions, the easing of supply-side issues, and the continuation of fairly well-anchored inflation expectations keeps inflation near that 2 percent goal after 2026.

Interest Rates

CBO now expects both short- and long-term interest rates over the first half of the coming decade to be higher, on average, than it forecast last May. The upward revision in rates over the 2022–2026 period mostly reflects the upward revision to inflation. The agency now anticipates that, in response to recent inflation that was higher and more broad-based than expected, the Federal Reserve will raise the target range for the federal funds rate higher than previously projected. The more aggressive tightening of monetary conditions means that short-term rates are projected to be higher, on average, over the 2022–2026 period than CBO expected in May. It also means that long-term rates, which partly reflect the expected path of short-term rates, will be higher, on average.

The agency's forecasts of both short- and long-term interest rates, on average, over the later years of the projection

Table 2-4. Continued

CBO's Current and Previous Economic Projections for Calendar Years 2022 to 2032

Percent

	2022	2023	2024	Annual Average 2022–2026	Annual Average 2027–2032	Annual Average Overall, 2022–2032
			Annual Average			
Unemployment Rate						
February 2023	3.7	4.7	4.9	4.5	4.5	4.5
May 2022	3.8	3.5	3.7	3.8	4.5	4.2
Interest Rates						
3-month Treasury bills						
February 2023	2.0	4.5	3.2	2.9	2.3	2.6
May 2022	0.9	2.0	2.5	2.1	2.3	2.2
10-year Treasury notes						
February 2023	2.9	3.9	3.8	3.6	3.8	3.7
May 2022	2.4	2.9	3.1	3.0	3.8	3.4
Tax Bases (Percentage of GDP)						
Wages and salaries						
February 2023	43.9	44.3	44.5	44.3	44.0	44.2
May 2022	44.7	44.2	44.1	44.2	44.0	44.1
Domestic corporate profits[e]						
February 2023	9.7	7.9	7.5	8.2	8.1	8.1
May 2022	9.7	9.3	8.8	8.9	7.8	8.3

Data sources: Congressional Budget Office; Bureau of Labor Statistics; Federal Reserve. See www.cbo.gov/publication/58848#data.

For the February 2023 projections, the values shown are based on the economic forecast that CBO completed on December 6, 2022.

GDP = gross domestic product; PCE = personal consumption expenditures.

a. Real values are nominal values that have been adjusted to remove the effects of inflation.

b. Excludes prices for food and energy.

c. The consumer price index for all urban consumers.

d. The employment cost index for wages and salaries of workers in private industry.

e. Adjusted to remove the effect of tax rules on depreciation allowances and to exclude the effects of changes in prices on the value of inventories.

period are roughly the same as they were last May. The effects of faster growth of total factor productivity and higher capital income as a fraction of total income, which the agency estimates put upward pressure on interest rates, are largely offset by higher domestic and foreign rates of saving and higher risk premiums, which the agency estimates put downward pressure on interest rates.

Actual Output, Potential Output, and Income

The agency's projection of real GDP growth for 2023, 0.1 percent, is considerably weaker than last spring's forecast of 2.2 percent growth. The downward revision to growth is broad-based, stemming from slower growth in consumer spending, business fixed investment, residential investment, and exports. Those revisions to real GDP growth for 2023 largely result from two sources. First, larger increases in interest rates and a bigger fall in equity prices during 2022 and early 2023 than CBO anticipated in May put downward pressure on consumer spending and the interest-sensitive sectors of the economy, such as private investment and exports. Second, CBO now projects slower growth in real exports as a result of a downward revision to the rate of projected economic growth among major U.S. trading partners and an upward revision to the foreign exchange value of the dollar. Some of the weakness in domestic demand spills over into imports, lessening the net decline in GDP.

Real GDP is now projected to grow more rapidly during the 2024–2026 period than in CBO's May forecast as the economy rebounds from slow growth in 2023 and as the Federal Reserve unwinds a higher level of interest rates in 2023 than previously projected. Annual growth projected over that period now averages 2.5 percent rather than the 1.5 percent expected last spring. The additional growth is concentrated in business fixed investment, residential investment, and exports. Growth during the entire 2022–2026 period averages 1.6 percent in the current projection, compared with the 1.9 percent expected last May.[16]

In the second part of the projection period, growth of real GDP is forecast to be slightly faster than the agency expected last May. Annual growth over the 2027–2032 period now averages 1.9 percent rather than the 1.7 percent projected last spring. That upward revision stems from faster expected growth of potential GDP. Updated data show significantly lower business investment in 2022 than CBO projected last May, and the agency now projects significantly lower investment over the next year than it had projected previously. That lower business investment slows growth in potential labor force productivity over the first part of the projection period but raises it slightly in the second part as investment recovers from a lower base. CBO now estimates that average growth in potential labor force productivity will be 0.2 percentage points lower over the 2022–2026 period and 0.1 percentage point higher over the 2027–2032 period than the agency projected last May.

CBO also raised its estimate of growth of the potential labor force because net immigration is now projected to be higher than previously forecast. Increased population growth leads to increased growth of the labor force. As a result, the agency now estimates that potential output growth over the 2027–2032 period will be about 0.1 percentage point higher than it projected last May. The combined effect of the changes in investment and population data on potential output is an average annual growth rate of roughly 1.8 percent over the 2022–2032 period, which is practically unchanged from last May's forecast.

The Labor Market

CBO's current projection of the average unemployment rate over the 2022–2026 period is higher than it was in the earlier forecast—now 4.5 percent, up from 3.8 percent. That upward revision stems from slower projected economic growth. The current projection of the labor force participation rate over the period is 62.1 percent, the same as last May. CBO's projection of the average unemployment rate over the 2027–2032 period, 4.5 percent, is the same as last May.

CBO also made an upward revision to its projection of the labor force participation rate over the 2027–2032 period; it now averages 61.6 percent over that period, up from 61.5 percent in May's projections. That revision is mainly attributable to an upward revision to CBO's projection of net immigration that increases the share of the population ages 25 to 54 relative to CBO's projection last year. People in that age group have the highest average rates of labor force participation, so an increase in their share of the population tends to raise the overall participation rate.

Comparison With Other Economic Projections

Part of the variation between CBO's projections and those of other forecasters is attributable to differences in the economic data available when the forecasts were completed and to differences in the economic and statistical models used to prepare them. In addition, other forecasts may reflect an expectation that additional legislation will be enacted, whereas CBO's projections reflect the assumption that current laws generally remain unchanged. This section compares CBO's forecast with those of the *Blue Chip* participants, the *Survey of Professional Forecasters*, and the Federal Reserve.

The *Blue Chip* Forecasts

CBO's economic projections for 2023 and 2024, other than those for consumer price inflation, are similar to the forecasts of the more than 40 private-sector economists published in the January 2023 *Blue Chip Economic Indicators* (see Figure 2-8).[17] In particular, the agency's projections of real GDP growth and the unemployment rate for those years are within the middle two-thirds of the range of *Blue Chip* forecasts. CBO's projections of inflation, as measured by the GDP price index, are within the middle two-thirds of the ranges of *Blue Chip* forecasts for 2023 and 2024. However, the agency's projections of inflation in consumer prices (as measured by the CPI-U) are above the middle two-thirds of the ranges of *Blue Chip* forecasts for 2023 and 2024. CBO's projections of interest rates on 3-month Treasury bills and on 10-year Treasury notes for 2023 and 2024 fall within the middle two-thirds of the ranges of *Blue Chip* forecasts.

The *Survey of Professional Forecasters*

CBO's economic projections can also be compared—over more years—with the projections of the roughly 40 forecasters participating in the Federal Reserve Bank

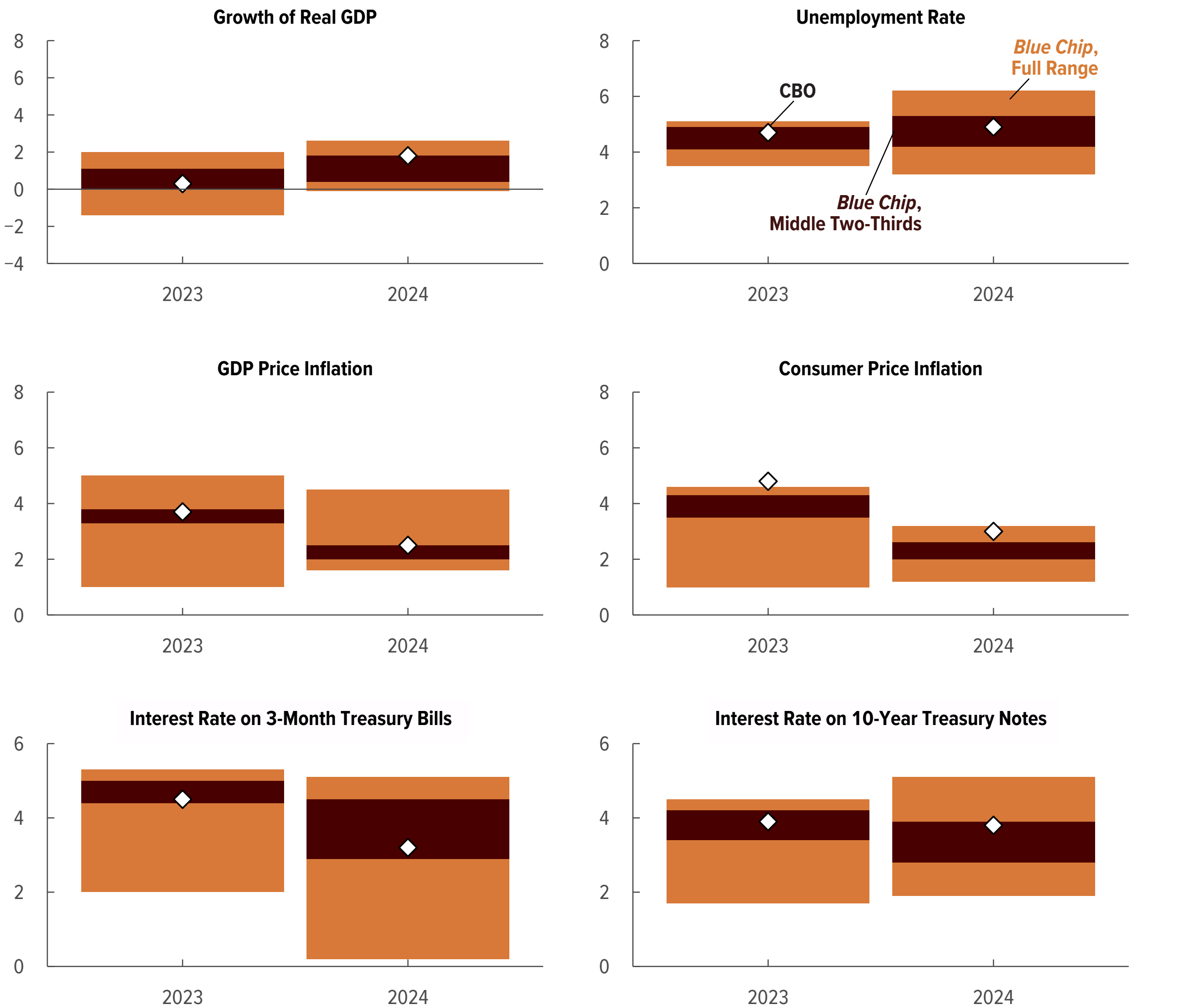
16. In this section, GDP growth in 2022 is from the forecast that CBO completed on December 6, 2022.

17. See Wolters Kluwer, *Blue Chip Economic Indicators*, vol. 48, no. 1 (January 10, 2023).

Figure 2-8.

Comparison of CBO's Economic Forecasts With Those of the *Blue Chip* Forecasters

Percent



Data sources: Congressional Budget Office; Wolters Kluwer, *Blue Chip Economic Indicators*, vol. 48, no. 1 (January 10, 2023). See www.cbo.gov/publication/58848#data.

The full range of forecasts from the *Blue Chip* survey is based on the highest and lowest of the more than 40 forecasts in the survey. The middle two-thirds of that range omits the top one-sixth and the bottom one-sixth of the forecasts.

Real values are nominal values that have been adjusted to remove the effects of inflation. Consumer price inflation is based on the consumer price index for all urban consumers. Real GDP growth and inflation rates are measured from the average of one calendar year to the next.

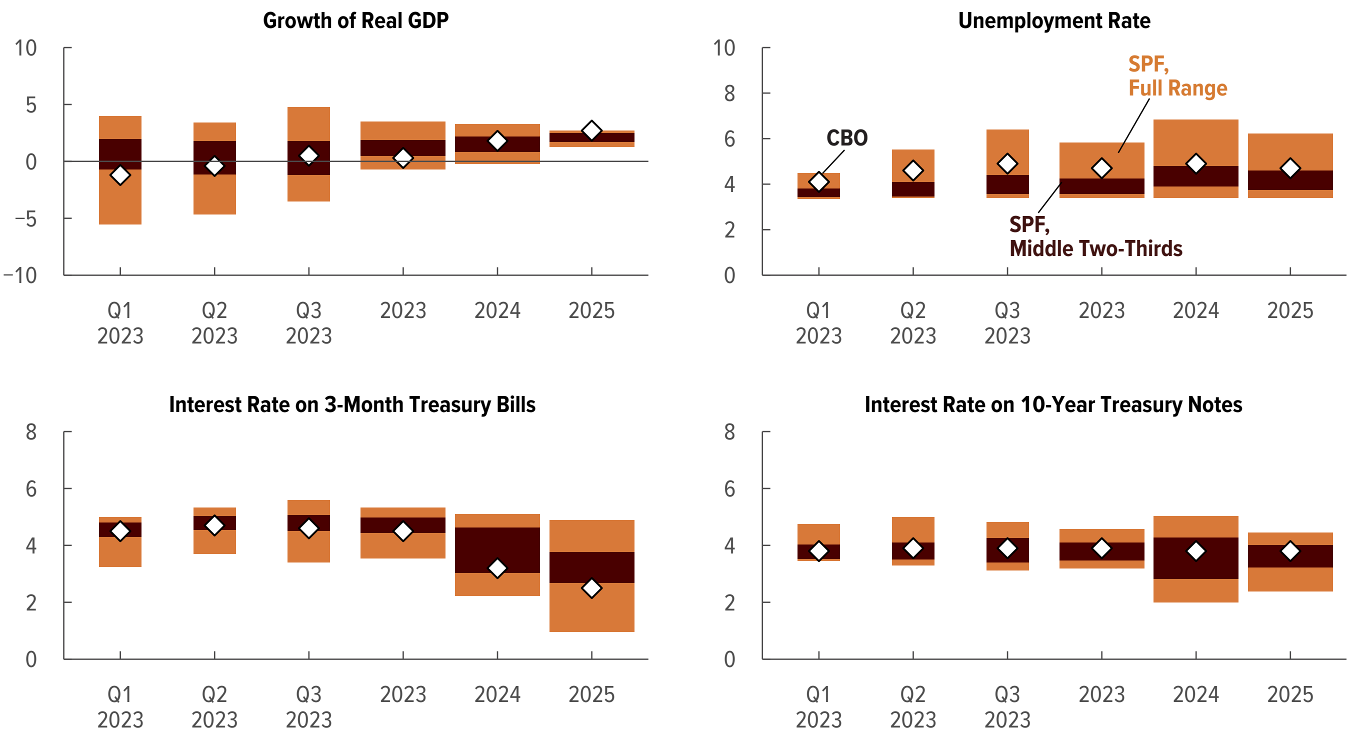
The unemployment rate is the number of people not working who are available for work and are either seeking work or expecting to be recalled from a temporary layoff, expressed as a percentage of the labor force. The unemployment rate and interest rates are calendar year averages.

GDP = gross domestic product.

Figure 2-9.

Comparison of CBO's Forecasts of Output, Unemployment, and Interest Rates With Those in the *Survey of Professional Forecasters*

Percent



Data sources: Congressional Budget Office; Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters: First Quarter 2023* (February 10, 2023), https://tinyurl.com/y2xctkwk. See www.cbo.gov/publication/58848#data.

The full range of forecasts from the *Survey of Professional Forecasters* is based on the highest and lowest of the roughly 40 forecasts in the survey. The middle two-thirds of that range omits the top one-sixth and the bottom one-sixth of the forecasts.

Real values are nominal values that have been adjusted to remove the effects of inflation. Quarterly growth of real GDP is measured from one quarter to the next and expressed as an annual rate; annual growth is measured from the average of one calendar year to the next.

The unemployment rate is the number of people not working who are available for work and are either seeking work or expecting to be recalled from a temporary layoff, expressed as a percentage of the labor force.

GDP = gross domestic product; SPF = *Survey of Professional Forecasters*.

of Philadelphia's *Survey of Professional Forecasters* (SPF).[18] CBO's projection of real GDP growth for calendar year 2023 is slightly below the middle two-thirds of the range of the SPF forecast (see Figure 2-9). The agency's projection of real GDP growth for 2024 is within that range, but the agency's projection of real GDP growth for 2025 is slightly above the middle two-thirds of the range in the SPF. In CBO's projections, the probabilities that the unemployment rates will be 6.0 percent or more are greater than the average probabilities for those ranges in the SPF (see Table 2-5). CBO's projections of interest rates on 3-month Treasury bills and 10-year Treasury notes are within the middle two-thirds of the ranges of SPF forecasts except for 2025, when CBO expects lower short-term rates.

The agency's projections of inflation in consumer prices (as measured by the PCE price index) are within the middle two-thirds of the ranges of the SPF forecasts for 2023, 2024, and the 2025–2027 and 2028–2032 periods (see Figure 2-10). CBO's projections of inflation in the CPI-U price index are also within the middle two-thirds of the ranges of the SPF forecasts for 2024 and the 2028–2032 period but are above that range in 2023 and below that range in the 2025–2027 period.

18. See Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters: First Quarter 2023* (February 10, 2023), https://tinyurl.com/y2xctkwk.

Table 2-5.

Comparison of CBO's Projections of Probabilities for the Unemployment Rate With Those in the *Survey of Professional Forecasters*

Percent

	Projected Probability That the Annual Average of the Unemployment Rate Will Be Within the Indicated Range					
	2023		2024		2025	
	CBO	SPF	CBO	SPF	CBO	SPF
Unemployment Rate (Range)						
Less than 3.0 percent	0	3	9	3	12	3
3.0 percent to 3.9 percent	28	38	22	27	18	28
4.0 percent to 4.9 percent	41	42	22	46	28	43
5.0 percent to 5.9 percent	20	13	22	18	25	20
6.0 percent or more	11	4	25	6	17	5

Data sources: Congressional Budget Office; Federal Reserve Bank of Philadelphia, "Probability Variables: Survey of Professional Forecasters" (February 10, 2023), https://tinyurl.com/4s2wmz8m. See www.cbo.gov/publication/58848#data.

Estimates from the *Survey of Professional Forecasters* are the averages of responses from roughly 30 forecasters. For the basis of CBO's estimates, see Michael McGrane, *A Markov-Switching Model of the Unemployment Rate*, Working Paper 2022-05 (Congressional Budget Office, March 2022), www.cbo.gov/publication/57582; and Congressional Budget Office, "Estimating the Uncertainty of the Economic Forecast Using CBO's Expanded Markov-Switching Model" (January 2023), www.cbo.gov/publication/58884.

SPF = *Survey of Professional Forecasters*.

The Federal Reserve

CBO's forecast can also be compared with forecasts made by the Federal Open Market Committee of the Federal Reserve. The agency's projection of real GDP growth for 2023 is below the central tendency in the Federal Reserve's most recent *Summary of Economic Projections*, but its projections of real GDP growth for 2024 and 2025 are above the central tendency (see Figure 2-11).[19]

CBO's projection of real GDP growth in the longer term is within the central tendency in the Federal Reserve's forecasts. CBO's forecasts of the unemployment rate are above the central tendency in 2023 and in the longer term but are within the central tendency in 2024 and 2025. The agency's projections of PCE inflation are within the central tendency in the Federal Reserve's forecasts. CBO's projections of the federal funds rate are near or below the low end of the range of the Federal Reserve's forecasts in 2023, 2024, and 2025.

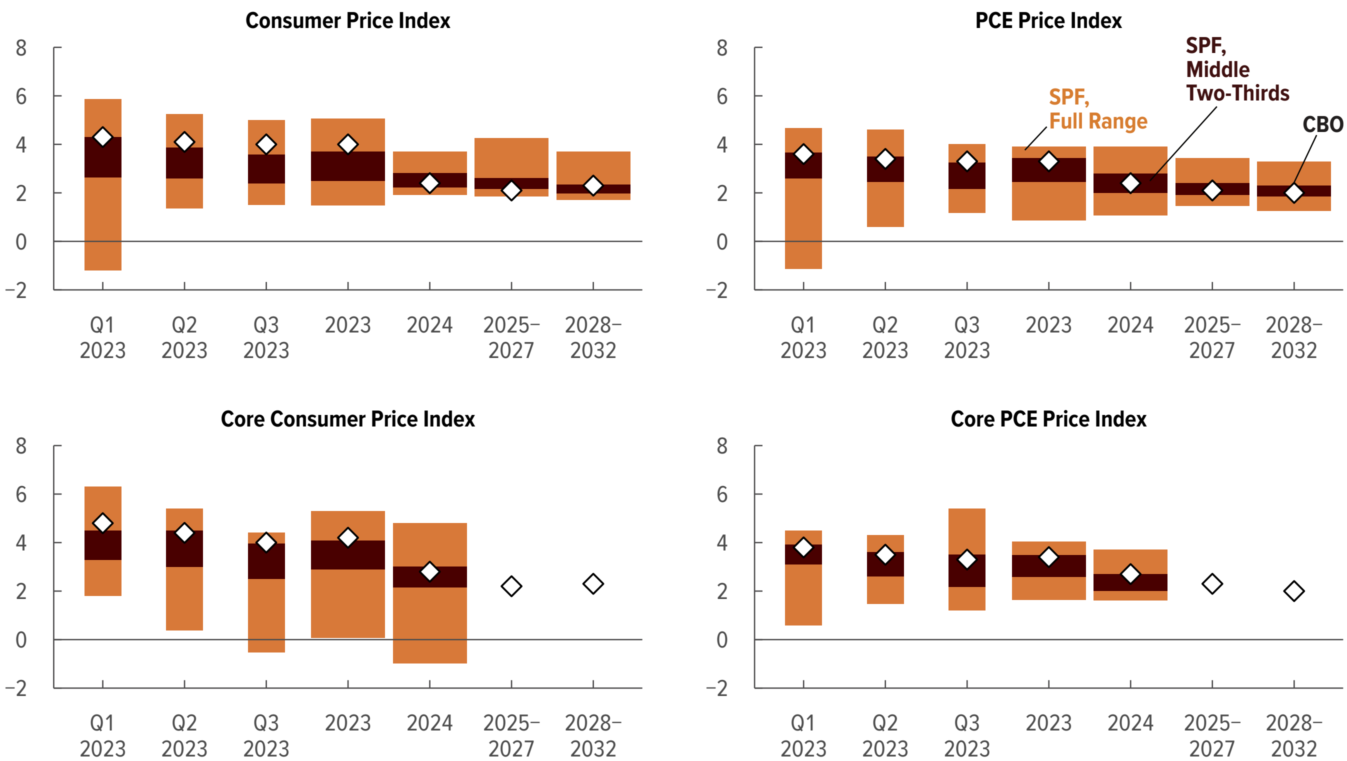
A key difference between CBO's economic projections and those made by Federal Reserve officials is that CBO develops its projections so that they fall in the middle of the likely range of outcomes under current law. By contrast, the Federal Reserve reports a different concept: Each Federal Reserve official provides a modal forecast—a forecast of the most likely outcome—reflecting that person's assessment of appropriate monetary policy, and the Federal Reserve reports ranges of those modal values.

19. See Board of Governors of the Federal Reserve System, *Summary of Economic Projections*, "Table 1. Economic Projections of Federal Reserve Board Members and Federal Reserve Bank Presidents, Under Their Individual Assumptions of Projected Appropriate Monetary Policy, December 2022" (December 14, 2022), p. 2, https://tinyurl.com/bdftk8j7 (PDF). The range of Federal Reserve forecasts is based on the highest and lowest projections made by the members of the Board of Governors of the Federal Reserve System and the presidents of the Federal Reserve Banks; the central tendency is the range formed by removing the three highest and three lowest Federal Reserve forecasts. The median is the middle projection (or, if the number of projections is even, the average of the two middle projections) when the projections are arranged from highest to lowest. For comparison with the Federal Reserve's longer-term projections, CBO uses its projections for the last quarter of the projection period.

Figure 2-10.

Comparison of CBO's Forecasts of Inflation With Those in the *Survey of Professional Forecasters*

Percent



Data sources: Congressional Budget Office; Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters: First Quarter 2023* (February 10, 2023), https://tinyurl.com/y2xctkwk. See www.cbo.gov/publication/58848#data.

The full range of forecasts from the *Survey of Professional Forecasters* is based on the highest and lowest of the roughly 40 forecasts in the survey. The middle two-thirds of that range omits the top one-sixth and the bottom one-sixth of the forecasts.

Quarterly inflation is measured from one quarter to the next and expressed as an annual rate. Annual inflation is measured from the fourth quarter of one calendar year to the fourth quarter of the next.

Consumer price inflation is based on the consumer price index for all urban consumers. Core indexes exclude prices for food and energy.

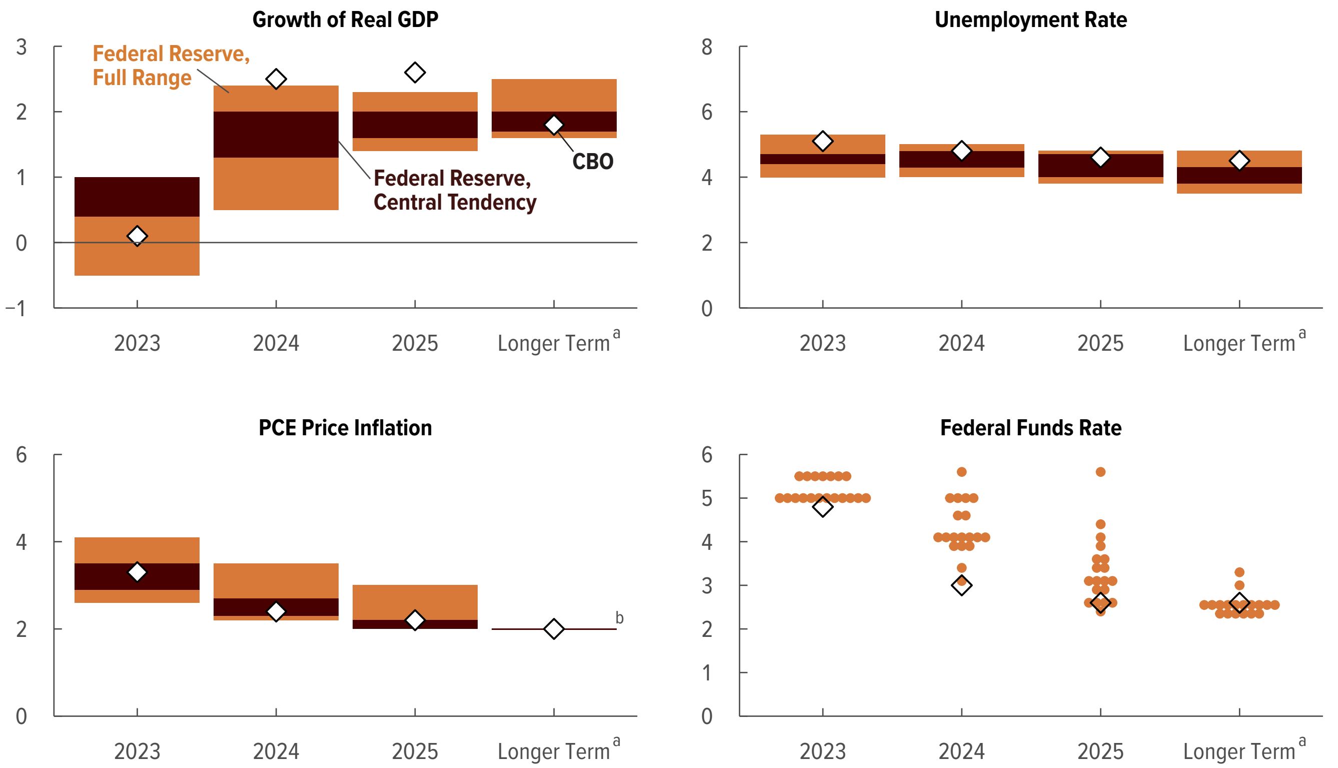
Multiyear averages are calculated using the 5-year and 10-year averages reported in the SPF. The SPF did not provide forecasts of inflation in the core consumer price index or the core PCE price index beyond 2024.

PCE = personal consumption expenditures; SPF = *Survey of Professional Forecasters*.

Figure 2-11.

Comparison of CBO's Economic Forecasts With Those of the Federal Reserve

Percent



Data sources: Congressional Budget Office; Board of Governors of the Federal Reserve System, *Summary of Economic Projections*, "Table 1. Economic Projections of Federal Reserve Board Members and Federal Reserve Bank Presidents, Under Their Individual Assumptions of Projected Appropriate Monetary Policy, December 2022" (December 14, 2022), p. 2, https://tinyurl.com/bdftk8j7 (PDF). See www.cbo.gov/publication/58848#data.

The full range of forecasts from the Federal Reserve is based on the highest and lowest of the 19 projections by the Board of Governors and the presidents of the Federal Reserve Banks. (One Federal Reserve official did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate.) The central tendency is roughly the middle two-thirds of the full range, formed by removing the three highest and three lowest projections.

The federal funds rate is the interest rate that financial institutions charge each other for overnight loans of their monetary reserves.

Each of the data points for the federal funds rate represents a forecast made by one of the members of the Federal Reserve Board or one of the presidents of the Federal Reserve Banks in December 2022. The Federal Reserve officials' forecasts of the federal funds rate are for the rate at the end of the year, whereas CBO's forecasts are fourth-quarter values.

Real values are nominal values that have been adjusted to remove the effects of inflation.

The unemployment rate is the number of people not working who are available for work and are either seeking work or expecting to be recalled from a temporary layoff, expressed as a percentage of the labor force.

Real GDP growth and inflation rates are measured from the fourth quarter of one calendar year to the fourth quarter of the next. The unemployment rate is a fourth-quarter value.

GDP = gross domestic product; PCE = personal consumption expenditures.

a. For CBO, longer-term projections are values for the last quarter of 2033. For the Federal Reserve, longer-term projections are described as the value at which each variable would settle under appropriate monetary policy and in the absence of future shocks to the economy.

b. All Federal Reserve officials forecast a 2 percent rate of inflation in the longer term.

Appendix A: Changes in CBO's Baseline Projections Since May 2022

Overview

The Congressional Budget Office estimates that if no new legislation affecting spending and revenues is enacted, the budget deficit for fiscal year 2023 will total $1.4 trillion. That amount is $0.4 trillion (or 43 percent) larger than the $1.0 trillion deficit the agency estimated in May 2022, when it last updated its baseline budget projections.[1] Since then, CBO has increased its estimate of outlays in 2023 by $0.3 trillion (or 6 percent) and reduced its projection of revenues in 2023 by $0.1 trillion (or 2 percent).

CBO now projects that if current laws generally remained in place, the cumulative deficit for the 2023–2032 period would be $18.8 trillion. That amount is $3.1 trillion (or 20 percent) more than the $15.7 trillion the agency projected in May 2022 (see Figure A-1). That change is the net result of a $4 trillion (or 6 percent) increase in projected outlays and a $0.9 trillion (or 2 percent) increase in projected revenues over the 2023–2032 period.

In CBO's projections, debt held by the public reaches $43.5 trillion by the end of 2032—$3.3 trillion more than the $40.2 trillion the agency projected in May 2022. Debt is currently projected to reach 115 percent of gross domestic product (GDP) in 2032, up from the 110 percent of GDP that CBO projected in May 2022.

When CBO updates its baseline budget projections, it groups the revisions into three categories—legislative, economic, and technical. Those categories are defined as follows:

- **Legislative changes** result from laws enacted since the agency published its previous baseline projections.[2]
- **Economic changes** arise from revisions the agency has made to its economic forecast, including those made to incorporate macroeconomic effects (that is, behavioral changes that affect total output in the economy) stemming from recently enacted legislation.[3]
- **Technical changes** are revisions to projections that are neither legislative nor economic.

Changes in each of the three categories boosted projected deficits over the 2023–2032 period (see Table A-1):

- Legislative changes increased projected deficits by $1.5 trillion, on net, mostly by increasing projected outlays. In particular, CBO increased its projections of mandatory outlays for veterans' benefits, as well as its overall projections of discretionary spending.
- Taken together, economic changes increased projected deficits by $1.2 trillion. CBO revised its projections of outlays upward by $2.1 trillion because of changes to projections of several economic variables, including increases in interest rates and inflation. That increase in projected outlays was partly offset by a $0.9 trillion increase in projected revenues associated with higher projections of nominal GDP.
- Technical changes in the agency's projections of revenues and outlays increased projected deficits by a total of $0.4 trillion. The largest technical revision was a $0.2 trillion decrease in projected Medicare outlays, which reduced deficits. On net, other changes more than offset that reduction, including reductions in projected individual income tax revenues and increases in projected outlays for student loans and Social Security.

1. See Congressional Budget Office, *The Budget and Economic Outlook: 2022 to 2032* (May 2022), www.cbo.gov/publication/57950.

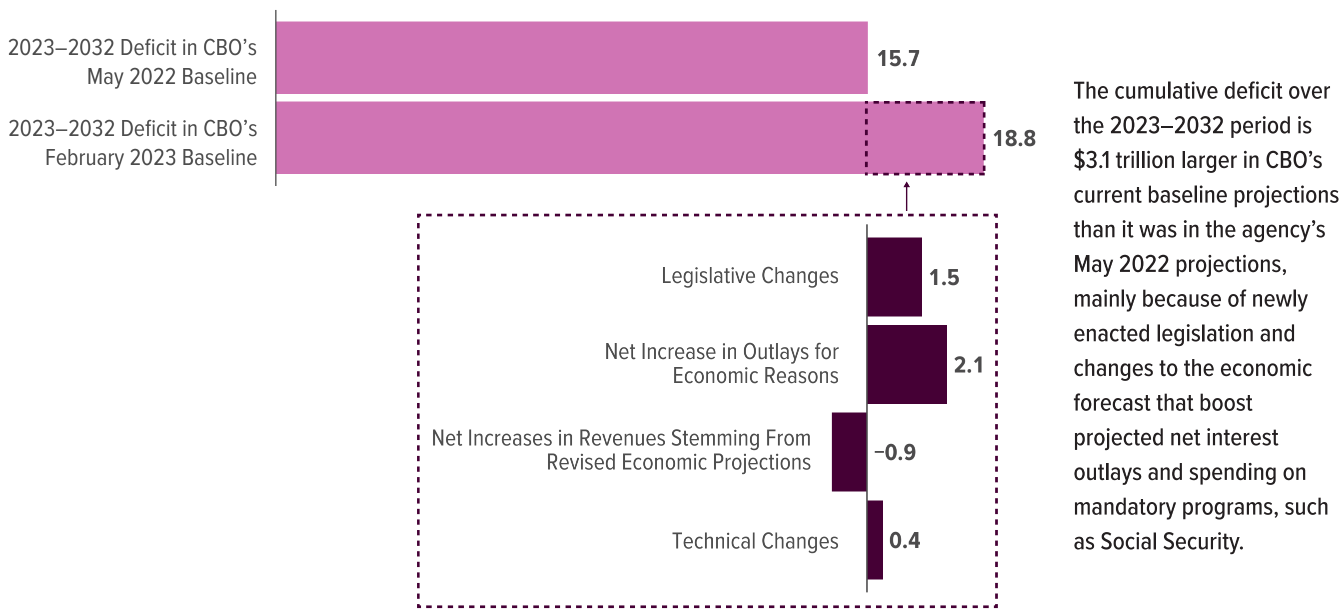
2. The baseline projections described in this report incorporate the effects of legislation enacted through January 9, 2023. The effects of legislation discussed here generally reflect the estimates provided for budget enforcement purposes around the time the legislation was enacted.

3. The current budget projections are based on CBO's latest economic forecast, which was completed on December 6, 2022, and reflects estimates of the effects of laws enacted and policies implemented through that date, as well as a preliminary assessment of full-year funding for fiscal year 2023.

Figure A-1.

Changes in CBO's Baseline Projections of the 10-Year Deficit Since May 2022

Trillions of Dollars



Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

As a result of those changes, primary deficits—that is, deficits excluding net outlays for interest—are now projected to total $1.5 trillion more over the 2023–2032 period than CBO projected in May 2022. The agency's projections of net outlays for interest over that period increased by a similar amount—$1.6 trillion.

Legislative Changes

To account for legislation enacted after the May 2022 baseline projections were prepared, CBO increased its estimate of the deficit for 2023 by $17 billion and its projections of deficits over the 2023–2032 period by $1.5 trillion (see Table A-1).[4] Nearly all the legislative changes were to outlays. Those changes included significant increases in outlays for mandatory veterans' benefits and increases in outlays for discretionary defense programs.

Changes in Outlays

Incorporating the effects of recently enacted legislation into CBO's baseline projections increased outlays in 2023 by $43 billion (or 1 percent) and increased outlays over the 2023–2032 period by $1.5 trillion (or 2 percent). Half of the additional spending is for mandatory programs, and one-third is for discretionary programs.[5] The remainder is an increase in net outlays for interest, stemming from additional federal borrowing to finance the larger deficits resulting from the legislative changes.

Mandatory Outlays. Because of recently enacted legislation, CBO increased its estimate of mandatory outlays by $4 billion (or less than 1 percent) for 2023 and by $824 billion (or 2 percent), on net, for the 2023–2032 period.

The bulk of those changes can be attributed to the Honoring our PACT Act (Public Law 117-168), which increased spending for veterans' benefits. (Specifically,

4. The May 2022 baseline projections incorporated the effects of legislation enacted through March 2, 2022.

5. Funding that is provided in annual appropriation acts and the outlays that result from it are generally categorized as discretionary.

Table A-1.

Changes in CBO's Baseline Projections of the Deficit Since May 2022

Billions of Dollars

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Deficit in CBO's May 2022 Baseline	-984	-1,056	-1,318	-1,364	-1,409	-1,725	-1,651	-1,912	-2,067	-2,253	-6,131	-15,740
Legislative Changes												
Changes in Revenues												
Corporate income taxes	24	20	4	-5	-5	-3	-3	-4	-5	-7	37	15
Excise taxes	7	9	10	10	11	11	10	10	11	11	47	100
Individual income taxes	-5	-11	-13	-14	12	18	1	-10	-10	-10	-31	-42
Other	*	*	1	2	2	2	2	2	1	1	5	12
Total Change in Revenues	**26**	**18**	**2**	**-7**	**20**	**27**	**9**	**-2**	**-3**	**-6**	**59**	**84**
Changes in Outlays												
Mandatory												
Veterans' benefits	9	41	50	63	73	85	95	107	117	129	236	770
2022 reconciliation act												
Medicare	-1	2	-14	-6	-24	-43	-45	-55	-59	-64	-42	-307
Internal Revenue Service funding[a]	4	3	5	6	8	10	13	15	15	0	27	80
Provisions related to natural resources and the environment	2	7	12	16	14	9	6	4	3	2	52	76
Climate tax credits	1	3	3	4	4	5	5	5	6	0	15	36
Energy innovation programs	*	2	5	7	7	6	4	2	1	0	22	35
Premium tax credits	21	12	11	-8	-1	*	*	*	*	*	35	35
Medicaid	*	1	1	1	1	1	1	2	2	3	5	15
Other	-3	3	3	4	5	4	3	2	1	*	12	23
Subtotal (For 2022 reconciliation act)	25	34	27	25	15	-7	-13	-24	-31	-59	125	-8
CHIPS for America Fund[b]	2	5	8	9	8	6	5	4	3	1	32	51
Medicare (Excluding 2022 reconciliation act)	3	8	-2	-15	-6	*	1	1	16	-20	-12	-14
Medicaid (Excluding 2022 reconciliation act)	-13	-5	3	3	3	3	3	2	-3	-4	-9	-8
SNAP and child nutrition	-21	2	2	2	3	3	3	3	3	3	-11	3
Other	*	7	1	*	3	2	2	3	6	7	11	30
Subtotal	4	92	90	88	99	91	95	97	111	58	373	824
Discretionary												
Defense	15	30	41	51	59	65	69	71	73	76	196	550
Nondefense	23	31	35	12	-2	-14	-21	-24	-25	-27	100	-12
Subtotal	39	61	76	63	57	51	48	47	47	49	295	538
Debt service[c]	*	2	7	12	16	20	24	29	34	39	38	185
Total Change in Outlays	**43**	**155**	**173**	**162**	**172**	**162**	**167**	**173**	**193**	**146**	**706**	**1,547**
Increase (-) or Decrease in the Deficit From Legislative Changes	**-17**	**-137**	**-171**	**-169**	**-153**	**-135**	**-158**	**-175**	**-196**	**-152**	**-647**	**-1,463**

Continued

Table A-1. Continued

Changes in CBO's Baseline Projections of the Deficit Since May 2022

Billions of Dollars

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
						Economic Changes						
Changes in Revenues												
Individual income taxes	-64	-61	-18	30	62	81	97	106	112	116	-51	461
Payroll taxes	-5	7	29	46	53	56	59	61	63	64	130	434
Corporate income taxes	9	-3	-1	10	21	29	31	32	31	31	37	191
Federal Reserve remittances	-29	-16	-26	-40	-46	13	12	11	11	11	-157	-99
Other	-7	-9	-7	-4	-4	-2	-2	-3	-2	-3	-32	-44
Total Change in Revenues	**-97**	**-82**	**-22**	**42**	**87**	**177**	**197**	**207**	**215**	**219**	**-72**	**943**
Changes in Outlays												
Mandatory												
Social Security	16	38	49	51	49	45	41	40	40	43	203	412
Medicaid	4	7	9	10	10	10	11	12	12	13	40	98
Medicare	*	4	6	7	8	9	9	11	13	16	26	85
Federal employees' retirement	3	6	7	7	7	7	7	7	7	7	31	64
Unemployment compensation	6	12	9	6	4	1	*	1	1	1	37	41
SNAP	2	10	10	7	4	2	1	*	-1	-1	34	34
Child nutrition	*	1	2	3	3	4	4	4	4	4	10	30
Supplemental Security Income	1	2	3	3	3	3	2	2	2	2	11	23
Other	4	2	6	5	3	2	2	1	-1	*	19	24
Subtotal	38	83	100	100	91	83	76	77	78	85	412	810
Discretionary	3	12	14	13	12	12	12	12	11	11	53	113
Net interest												
Effects of interest rates and inflation	181	183	117	86	77	71	63	54	46	41	643	919
Debt service[c]	2	17	26	32	35	38	38	37	36	35	112	295
Subtotal	184	199	143	117	112	109	101	92	82	75	755	1,214
Total Change in Outlays	**224**	**294**	**257**	**230**	**215**	**204**	**190**	**181**	**171**	**172**	**1,220**	**2,137**
Increase (-) or Decrease in the Deficit From Economic Changes	**-321**	**-376**	**-280**	**-188**	**-128**	**-26**	**7**	**27**	**44**	**48**	**-1,293**	**-1,194**

Continued

that act established the Cost of War Toxic Exposures Fund to support health care, medical research, and other activities for veterans exposed to toxic substances or environmental hazards.) Other significant changes stem from the act to provide for reconciliation pursuant to title II of S. Con. Res. 14 (referred to here as the 2022 reconciliation act, P.L. 117-169); the Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act of 2022 (division A of P.L. 117-167); the Bipartisan Safer Communities Act (BSCA; P.L. 117-159); and the Consolidated Appropriations Act, 2023 (2023 CAA; P.L. 117-328).[6]

Veterans' Benefits. To account for legislation enacted after the May 2022 baseline was prepared, CBO increased its projections of mandatory outlays

6. For more detailed information about the budgetary effects of that legislation, see Congressional Budget Office, estimated budgetary effects of Public Law 117-169, an act to provide for reconciliation pursuant to title II of S. Con. Res. 14 (September 7, 2022), www.cbo.gov/publication/58455; estimated budgetary effects of H.R. 4346, as amended by the Senate and as posted by the Senate Committee on Commerce, Science, and Transportation on July 20, 2022 (July 21, 2022), www.cbo.gov/publication/58319; estimated budgetary effects of S. 2938, the Bipartisan Safer Communities Act (June 22, 2022), www.cbo.gov/publication/58238; and estimated budgetary effects of divisions O through MM of the Consolidated Appropriations Act, 2023 (Public Law 117-328), as enacted on December 29, 2022 (January 12, 2023), www.cbo.gov/publication/58901.

Table A-1. Continued

Changes in CBO's Baseline Projections of the Deficit Since May 2022

Billions of Dollars

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
						Technical Changes						
Changes in Revenues												
Individual income taxes[a]	13	-3	3	-23	-26	-27	-21	-20	-23	-39	-36	-165
Payroll taxes	-5	1	4	6	10	11	11	11	11	12	16	72
Corporate income taxes[a]	-13	-17	2	16	21	19	16	13	10	-2	10	65
Other	-2	-3	-3	-5	-5	-6	-6	-7	-9	-9	-19	-56
Total Change in Revenues	**-7**	**-21**	**6**	**-5**	*****	**-4**	**-1**	**-2**	**-11**	**-38**	**-28**	**-84**
Changes in Outlays												
Mandatory												
Medicare	-19	-22	-25	-27	-27	-26	-23	-25	-26	-26	-121	-246
Student loans	29	9	9	10	10	10	10	10	11	11	68	120
Social Security	-1	2	6	7	9	11	13	16	19	23	24	107
SNAP	8	4	9	5	10	11	11	11	10	12	37	93
Pension Benefit Guaranty Corporation	56	-19	4	*	-1	-2	-2	-1	-1	-1	41	35
Supplemental Security Income	-1	-2	-3	-4	-4	-3	-2	-2	-2	-2	-13	-24
Medicaid	-3	-10	-25	-19	-11	-4	2	8	15	24	-68	-23
Crop insurance	6	2	2	2	2	2	2	2	2	2	14	23
U.S. Coronavirus Refundable Credits	16	0	0	0	0	0	0	0	0	0	16	16
Other	32	14	-7	1	10	17	8	11	13	17	51	118
Subtotal	125	-20	-29	-27	-1	17	21	31	40	61	49	218
Discretionary	-58	-7	4	-1	-2	-1	3	1	-1	-2	-64	-65
Net interest												
Other	13	7	7	10	10	14	11	12	12	13	47	109
Debt service[c]	1	5	8	8	8	9	10	9	9	12	29	79
Subtotal	14	12	14	18	18	23	21	21	22	25	76	188
Total Change in Outlays	**81**	**-14**	**-11**	**-10**	**16**	**38**	**45**	**52**	**61**	**84**	**61**	**341**
Increase (-) or Decrease in the Deficit From Technical Changes	**-88**	**-7**	**17**	**5**	**-16**	**-42**	**-46**	**-55**	**-72**	**-122**	**-89**	**-426**
						All Changes						
Total Increase (-) or Decrease in the Deficit	**-426**	**-520**	**-434**	**-352**	**-297**	**-204**	**-196**	**-203**	**-224**	**-227**	**-2,029**	**-3,082**
Deficit in CBO's February 2023 Baseline	-1,410	-1,576	-1,752	-1,716	-1,706	-1,929	-1,847	-2,115	-2,291	-2,480	-8,160	-18,822
Memorandum:												
Change in Revenues	-78	-85	-15	30	106	201	205	203	201	175	-42	943
Increase in Outlays	348	435	419	382	403	404	401	406	425	402	1,987	4,025
Increase (-) in the Primary Deficit[d]	-228	-307	-269	-205	-151	-51	-50	-61	-86	-87	-1,160	-1,495
Increase (-) in the Deficit From the Increase in Net Interest Outlays	-198	-213	-165	-147	-146	-152	-147	-142	-138	-140	-869	-1,587

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

SNAP = Supplemental Nutrition Assistance Program; * = between -$500 million and $500 million.

a. In the cost estimate for the 2022 reconciliation act, CBO estimated that the increase in funding for tax enforcement would increase revenues by $180 billion over the 2022–2031 period. However, under guidelines agreed to by the legislative and executive branches, that increase in revenues was not included in the totals used for budget enforcement purposes. CBO estimates that over the 2023–2032 period, those additional revenues would total $186 billion. Those revenues have been accounted for here as a technical change to CBO's baseline projections, with half of the amount allocated to individual income taxes and half to corporate income taxes.

b. Funding related to the Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act of 2022 (division A of Public Law 117-167).

c. Changes in debt-service costs are the changes in interest payments resulting from an increase or decrease in projected deficits.

d. Primary deficits exclude net outlays for interest.

for veterans' benefits by $9 billion for 2023 and by $770 billion for the 2023–2032 period. That increase in spending reflects the projected cost of implementing the Honoring our PACT Act—and, in particular, establishing the Cost of War Toxic Exposures Fund. In total, enactment of that legislation increased projections of outlays for health care, disability compensation, and other benefits for veterans by $28 billion for 2023 and by $789 billion for the 2023–2032 period. Other legislation reduced projected mandatory spending for veterans' benefits over the 10-year period by $19 billion.

The 2022 Reconciliation Act. In CBO's estimation, the 2022 reconciliation act increased outlays in 2023 by $25 billion and reduced outlays for the 2023–2032 period by $8 billion. The largest effect was a $307 billion net decrease in projected outlays for Medicare from 2023 to 2032. The main contributors to that decrease were pricing reforms for prescription drugs, which CBO estimates will reduce prescription drug spending in Medicare Part D and Medicare Part B.

That decrease was almost entirely offset by increases in projected outlays for other programs over the 2023–2032 period, including the following:

- $80 billion from increased funding for the Internal Revenue Service (IRS) for enhancing tax enforcement and taxpayer services;[7]
- $76 billion from provisions related to natural resources and the environment, including provisions to reduce greenhouse gas emissions and fund agricultural and forest land conservation programs;
- $36 billion for refundable tax credits for clean energy production and carbon sequestration;[8]
- $35 billion for programs related to the development of innovative energy technology, the improvement of home energy efficiency, grants for the domestic production of electric and hybrid cars, the reduction of emissions in the industrial sector, and increased support for rural electricity systems;
- $35 billion from changes to premium tax credits (which help defray the cost of obtaining health insurance); and
- $15 billion from changes to Medicaid, including an increase in spending for prescription drugs.

CHIPS for America Fund. The CHIPS Act created a fund to provide grants to strengthen semiconductor research, design, and manufacturing in the United States. CBO estimates that mandatory outlays from that fund will amount to $51 billion over the 2023–2032 period.[9]

Medicare. In addition to the 2022 reconciliation act, other laws affected projected outlays for Medicare. The effects of those other laws led CBO to increase its projection of Medicare outlays in 2023 by $3 billion and decrease its projection of such outlays over the 2023–2032 period by $14 billion. The largest change—a $13 billion drop in projected outlays over the 10-year period—resulted from a provision in the BSCA that delayed the implementation of a rule affecting rebates for prescription drugs.

Other significant changes stem from the 2023 CAA. First, that law reduced funding for the Medicare Improvement Fund, decreasing outlays by $7 billion over the 10-year period. Second, it reduced Medicare sequestration rates in 2030 and 2031, and extended sequestration of Medicare into 2032, resulting in a net $3 billion decrease in CBO's projections of outlays for the program over the 2023–2032 period.[10] Those reductions were

7. In its cost estimate for the 2022 reconciliation act, CBO estimated that the increase in funding for tax enforcement would boost revenues by $180 billion over the 2022–2031 period. However, under guidelines agreed to by the legislative and executive branches, that change in revenues was not included in the totals used for budget enforcement purposes. As a result, the estimated increase in revenues is accounted for as a technical change to CBO's baseline projections. For more information on those guidelines, see Congressional Budget Office, *CBO Explains Budgetary Scorekeeping Guidelines* (January 2021), www.cbo.gov/publication/56507.

8. The refundable tax credits created by the 2022 reconciliation act also decreased revenues, as discussed below.

9. The CHIPS Act also decreased projected revenues over the 2023–2032 period by $24 billion, as discussed below.

10. The Budget Control Act of 2011 (P.L. 112-25) reinstituted procedures set forth in the Balanced Budget and Emergency Deficit Control Act of 1985 (the Deficit Control Act, P.L. 99-177) to automatically reduce funding provided for certain mandatory programs from 2013 through 2021. The law directed the Office of Management and Budget to determine and enforce the amount of the reduction each year for defense and nondefense programs in a process of across-the-board reductions known as sequestration. Subsequent legislation extended the cuts through 2031 and specified that future reductions would use the percentages calculated for 2021: 8.3 percent for defense accounts and 5.7 percent for most nondefense accounts. Different rules apply to Medicare, the largest program subject to sequestration. Its funding is reduced by 2 percent in most years.

partly offset by a projected $5 billion increase in outlays over the 10-year period because of provisions that expanded Medicare's coverage of telehealth services and extended support for medical professionals to adjust to Medicare payment changes.

Medicaid. Outlays for Medicaid were also affected by laws other than the 2022 reconciliation act. The effects of those laws led CBO to decrease its projection of Medicaid outlays in 2023 by $13 billion and by $8 billion over the 2023–2032 period.

The decrease in 2023 was largely the result of the 2023 CAA. Under that act, the maintenance-of-effort policy will end on April 1, 2023. That policy required states to maintain Medicaid coverage for most enrollees for the duration of the COVID-19 public health emergency. Partly offsetting that decrease, other provisions of the 2023 CAA extended states' access to additional Medicaid matching funds during the public health emergency by three months, through December 2023, though they also lowered the matching rate beginning in April 2023.

Supplemental Nutrition Assistance Program and Child Nutrition. Legislation reduced projected outlays for nutrition programs in 2023 by $21 billion but increased such outlays over the 2023–2032 period by $3 billion. The major reason for those changes was that the 2023 CAA reduced spending for the Supplemental Nutrition Assistance Program (SNAP) in 2023 by $23 billion and increased spending on child nutrition programs over the 2023–2032 period by the same amount.

Other Mandatory Programs. Additional effects of legislation enacted after CBO prepared its May 2022 projections amount to a net increase of $30 billion in projected mandatory outlays over the 2023–2032 period.

Discretionary Outlays. Legislation enacted since CBO completed its May 2022 baseline projections increased the agency's projections of discretionary outlays over the 2023–2032 period by $538 billion. That increase resulted from additional discretionary funding provided by the 2023 CAA and other appropriation acts—mostly for defense programs.

In all, projected discretionary funding for 2023 currently totals $1.8 trillion, $14 billion (or about 1 percent) more than the amount projected in CBO's May 2022 baseline.[11] Funding for defense in 2023 is $63 billion (or 8 percent) more than previously projected; $36 billion of that increase is for additional emergency funding to provide aid to Ukraine. Funding for nondefense programs is $49 billion (or 5 percent) less than previously projected. Because CBO generally projects yearly increases in funding for discretionary programs to account for inflation, the net increase in funding persists each year after 2023, resulting in increases in outlays through 2032.[12]

In addition, the 2023 CAA provided $162 billion in advance appropriations for 2024—mostly for veterans' benefits and services and for education, training, employment, and social services.[13] That advance funding is $18 billion (or 12 percent) more than the amount projected in CBO's May 2022 baseline.

Projected outlays also increased because the Additional Ukraine Supplemental Appropriations Act, 2022 (P.L. 117-128), provided $40 billion in funding for 2022. (That law was enacted on May 21, 2022, after CBO had prepared its May 2022 projections.) Most of the outlays from those appropriations will occur in 2023 and later years, increasing CBO's projections of outlays over the 2023–2032 period by $34 billion. (Because that

11. Each year, some mandatory programs are modified by provisions in annual appropriation acts (often called CHIMPs, for "changes in mandatory programs"). CHIMPs may increase or decrease spending for a given mandatory program. For budget enforcement procedures, they are considered to increase or decrease the amount of discretionary budget authority attributed to the appropriation acts; in subsequent baseline projections, those effects are applied in the budget to the relevant mandatory programs. In CBO's cost estimates for 2023 appropriation legislation, CHIMPs decreased discretionary funding by $28 billion. When CBO incorporated those CHIMPs into its baseline projections, it accounted for those changes on the mandatory side of the ledger; thus, the discretionary funding for 2023 in the baseline is higher than the amount shown in the cost estimate for the 2023 CAA and other 2023 appropriation acts.

12. In accordance with section 257 of the Deficit Control Act, CBO projects funding for individual accounts in future years by applying the specified inflation rate to the most recent appropriations for those accounts. For its projections of discretionary funding related to federal personnel, CBO is required to use the employment cost index for wages and salaries to adjust for inflation; for its projections of other types of discretionary funding, the agency is required to use the GDP price index.

13. An advance appropriation becomes available in a specified year following the year for which the appropriation act was enacted.

funding was provided for 2022 and future discretionary funding in the current baseline is projected on the basis of appropriations provided for 2023, funding from the act is not projected to continue.)

Projected discretionary funding related to division J of the Infrastructure Investment and Jobs Act (IIJA, P.L. 117-58) is less than it was in the May 2022 baseline. Whereas, in its May 2022 baseline, CBO projected that funding on the basis of the $163 billion provided by the IIJA for 2022, such funding in the current baseline is projected from the $69 billion provided by the IIJA for 2023.[14] That difference resulted in $1.0 trillion less in projected funding, and $610 billion less in projected outlays, associated with the IIJA over the 2023–2032 period.[15]

Net Interest Outlays. Excluding changes in debt-service costs, CBO increased its projection of the deficit for 2023 by $17 billion and increased its projections of the cumulative deficit over the 2023–2032 period by $1.3 trillion to account for legislation enacted since the May 2022 baseline was prepared.[16] The additional federal borrowing stemming from those larger annual deficits added $185 billion to CBO's projections of net outlays for interest over the 10-year period.

Changes in Revenues

CBO increased its estimate of revenues for 2023 by $26 billion (or 0.5 percent) and its projections of revenues over the 2023–2032 period by $84 billion (or 0.1 percent) to account for recently enacted legislation. The 2022 reconciliation act and the CHIPS Act explain nearly all of those changes.

The 2022 reconciliation act contained a number of provisions affecting receipts. The provisions expected to result in the largest revenue increases are a new minimum tax on the book income of certain corporations (based on an adjusted measure of the income reported on their financial statements), a new excise tax on corporate stock repurchases, a new excise tax on drug manufacturers and importers that do not enter into drug pricing agreements, and an extension of an existing provision that limits the ability of noncorporate taxpayers to use business losses to offset nonbusiness income. Partly offsetting those revenue increases are an extension through 2025 of the modifications to premium tax credits for health insurance introduced by the American Rescue Plan Act of 2021 (P.L. 117-2) and the modification and creation of tax credits related to the energy sector. Those credits include extended and modified credits for electricity produced from certain renewable resources, extended and modified manufacturing and residential energy credits, and new tax incentives for clean vehicles and alternative fuels. Altogether, provisions of the 2022 reconciliation act will increase federal revenues by $31 billion in 2023 and by $105 billion over the 2023–2032 period, CBO and the staff of the Joint Committee on Taxation estimate.

In addition, the CHIPS Act of 2022 is expected to reduce receipts by $3 billion in 2023 and by $24 billion over the 2023–2032 period. Most of that effect is explained by a reduction in corporate income taxes stemming from the Advanced Manufacturing Investment Credit, a tax credit equal to 25 percent of qualified investment in a facility that manufactures semiconductors or the equipment to manufacture semiconductors.

All told, for the 2023–2032 period, legislative changes led CBO to reduce its projections of individual income tax receipts by $42 billion and to increase its projections of excise tax receipts by $100 billion, corporate income tax receipts by $15 billion, and other sources of revenues by $12 billion.

Economic Changes

The economic forecast that underlies CBO's baseline budget projections includes the agency's projections of GDP growth, interest rates, wages and salaries, inflation, and other factors that affect federal spending and revenues (see Figure A-2). Taken together, changes in that forecast increased CBO's estimate of the deficit in 2023 by $321 billion—by increasing projected outlays,

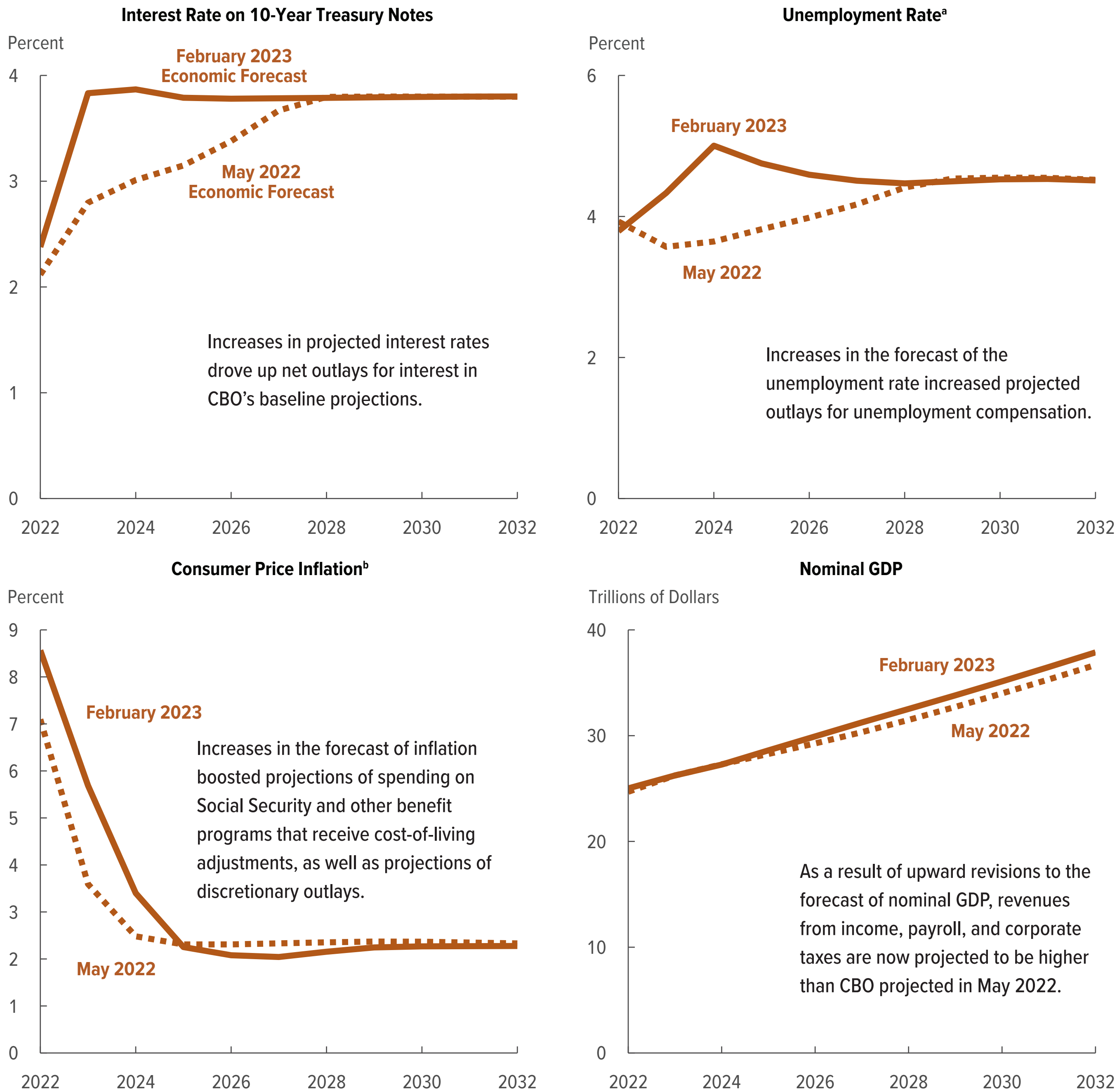
14. Division J of the IIJA provided $163 billion for 2022, an estimated $69 billion in advance appropriations for 2023, and smaller amounts for later years. After consulting with the House and Senate Budget Committees, CBO projected that the funding would continue in future years, with adjustments for inflation. As a result, CBO's May 2022 baseline included a projected $162 billion in funding associated with division J of the IIJA for 2023, instead of the $69 billion actually provided. For more details, see Box 3-2 of Congressional Budget Office, *The Budget and Economic Outlook: 2022 to 2032* (May 2022), www.cbo.gov/publication/57950.

15. In CBO's current baseline, IIJA-related funding projected for 2024 through 2033 exceeds the amounts specified in division J of that act by $526 billion, adding $271 billion to projected outlays over the same period.

16. Changes in debt-service costs are the changes in interest payments resulting from an increase or decrease in projected deficits.

Figure A-2.

Key Changes in CBO's Economic Forecast Since May 2022



Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

Data are for fiscal years.

In the February 2023 economic forecast shown here, values for 2022 are actual values.

GDP = gross domestic product.

a. The unemployment rate is the number of people not working who are available for work and are either seeking work or expecting to be recalled from a temporary layoff, expressed as a percentage of the labor force. The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are available for work and are either seeking work or expecting to be recalled from a temporary layoff.

b. As measured by the consumer price index for urban wage earners and clerical workers.

mostly for interest, and reducing revenues (see Table A-1 on page 69). In CBO's projections for the 2023–2032 period, economic changes increased the cumulative deficit by $1.2 trillion. That increase is the net result of a $2.1 trillion increase in outlays and a $0.9 trillion increase in revenues.

Changes in Outlays

CBO's revisions to its economic forecast include increases in interest rates, inflation, and unemployment rates from 2023 to 2032. Those and other economic changes increased the agency's estimate of outlays in 2023 by $224 billion (or 4 percent) and its projections of outlays over the 2023–2032 period by $2.1 trillion (or 3 percent).

Mandatory Outlays. Economic changes increased CBO's estimate of mandatory outlays in 2023 by $38 billion (or 1 percent), on net. Projections of mandatory outlays from 2023 to 2032 increased by $810 billion (or 2 percent). Upward revisions to projected outlays for Social Security account for about half of that increase.

Social Security. Projected outlays for Social Security from 2023 to 2032 increased by a total of $412 billion (or 2 percent) because CBO now projects generally higher inflation and higher average wages than it did previously.

Social Security provides annual cost-of-living adjustments (COLAs) based on changes in the consumer price index for urban wage earners and clerical workers (CPI-W). CBO increased its projections of CPI-W growth and COLAs over the 2023–2032 period; as a result, the agency's projections of Social Security benefits paid over that period increased by $391 billion. The COLA that took effect in January 2023 was 8.7 percent—the largest since 1982 and 2.7 percentage points more than CBO projected in May 2022. Next year's COLA is currently projected to be 4.2 percent—1.3 percentage points more than CBO previously projected—and the projected January 2025 COLA is 2.8 percent, up 0.4 percentage points. Partly offsetting those increases are reductions in CBO's projections of COLAs for 2026 through 2031, by an average of 0.2 percentage points. In addition, CBO increased its projections of average wages from 2025 through 2032 by an average of 6 percent, which boosted projected Social Security benefits for new recipients by $21 billion over that period.

Medicaid and Medicare. CBO increased its projections of outlays for Medicaid over the 2023–2032 period by $98 billion (or 2 percent) and its projections of outlays for Medicare in those years by $85 billion (or 1 percent). CBO's latest economic forecast includes upward revisions to the projected growth of wages and of many prices, which push up projected payment rates for Medicaid and for many of the services provided by Medicare's fee-for-service sector (such as hospital care and services provided by home health agencies).[17]

Federal Employees' Retirement. CBO increased its projections of spending for federal employees' retirement benefits over the 2023–2032 period by $64 billion (or 3 percent). As with Social Security benefits, COLAs are applied to civil service and military retirement benefits. Upward revisions to CBO's projections of inflation boosted the agency's COLA projections, which in turn increased projected outlays for those retirement benefits.

Unemployment Compensation. CBO increased its projections of spending on unemployment compensation over the 2023–2032 period by $41 billion (or 10 percent), primarily because of changes in its forecast of the unemployment rate. CBO's projections of the unemployment rate from 2023 through 2028 are higher now than they were in May 2022 (reaching 5.0 percent in 2024, a 1.4 percentage-point increase over the previous projection) but are largely unchanged for 2029 through 2032. Overall, those changes increased projected outlays over the 2023–2032 period by $36 billion. In addition, increases in CBO's projections of wage growth and the size of the labor force—resulting in higher average unemployment benefits and larger caseloads, respectively—increased projected outlays over the 2023–2032 period by $5 billion.

Supplemental Nutrition Assistance Program and Child Nutrition. Economic changes to CBO's projections for the 2023–2032 period increased outlays for SNAP by $34 billion (or 3 percent) and increased outlays for child nutrition programs by $30 billion (or 7 percent). Those

17. By law, spending on Medicare is adjusted to reflect changes in the prices of labor, goods, and services and in private nonfarm business productivity (the ability to produce the same output using fewer inputs, such as hours of labor). See Centers for Medicare & Medicaid Services, "Market Basket Research and Information" (December 7, 2022), https://tinyurl.com/y9jsu9ch. Upward revisions to CBO's forecast of productivity decreased projected Medicare spending, but those changes were smaller than the changes in projected prices.

increases stemmed primarily from upward revisions to CBO's projections of growth in food prices.

Supplemental Security Income. CBO's projections of outlays for the Supplemental Security Income (SSI) program over the 2023–2032 period increased by $23 billion (or 3 percent). Upward revisions to inflation rates in CBO's projections pushed up COLAs, which in turn increased outlays for SSI benefits.

Other Mandatory Programs. Changes in CBO's economic forecast also affected projected outlays for other mandatory programs. Although those updates included both upward and downward adjustments, the net effect was a $24 billion increase in projected outlays over the 2023–2032 period.

Discretionary Outlays. CBO's baseline projections generally reflect the assumption that funding for discretionary programs keeps pace with inflation. Increases in the agency's forecasts of certain measures of inflation drove up its projections of such funding over the 2023–2032 period. As a result, discretionary outlays over that period are now projected to be $113 billion (or less than 1 percent) greater than they were in CBO's previous baseline projections.

Net Interest Outlays. Economic changes boosted CBO's projection of net outlays for interest in 2023 by $181 billion (or 42 percent) and by $0.9 trillion (or 11 percent) from 2023 to 2032. The change in the estimate for this year stems from higher interest rates and higher inflation, which increase the cost of Treasury inflation-protected securities. The increase over the 2023–2032 period is largely attributable to upward revisions to the agency's forecasts of interest rates on Treasury securities.

In all, changes stemming from revisions to CBO's economic forecast increased the projected cumulative deficit over the 2023–2032 period by $0.9 trillion. As a result, the agency increased its projections of debt-service costs over that period by $295 billion.

Changes in Revenues

To account for changes in its economic forecast, CBO lowered its estimate of revenues in 2023 by $97 billion (or 2 percent) but raised its projections of revenues over the entire 2023–2032 period by $943 billion (or 2 percent), on net. The initial reductions in revenues are largely the result of lower projected asset values, which reduce receipts from individual income taxes, and higher short-term interest rates, which increase the expenses of the Federal Reserve and reduce its remittances to the Treasury. The upward revisions for the remainder of the period resulted from increases in CBO's projections of nominal GDP and of gross domestic income and the taxable forms of income that comprise it; each of those increases was driven in part by higher projected inflation.

Individual Income Taxes. Economic changes led CBO to lower its estimate of individual income tax receipts by $64 billion (or 2 percent) for 2023 but to raise it, on net, by $461 billion (or less than 2 percent) for the 2023–2032 period. The decline in CBO's estimate for 2023 was driven largely by lower projected asset values, which reduce expected capital gains realizations and distributions from pensions and individual retirement accounts. Projections of wages and salaries and proprietors' income in 2023 also decreased. The longer-term increase in receipts from individual income taxes was driven largely by a 3 percent increase in projected wages and salaries over the 2023–2032 period, owing to higher-than-expected inflation.

Payroll Taxes. CBO's estimate of payroll tax revenues in 2023 decreased by $5 billion (or less than 1 percent); for the 2023–2032 period, it rose by $434 billion (or 2 percent). The main drivers of those changes were revisions to projections of wages and salaries and proprietors' income, discussed above.

Corporate Income Taxes. CBO raised its estimate of corporate income tax revenues in 2023 by $9 billion (or 2 percent) and raised its projections of such revenues over the 2023–2032 period by $191 billion (or 4 percent). Those changes resulted from increases in CBO's projections of nominal GDP over the next decade, including upward revisions to the agency's forecast of domestic corporate profits, which make up most of the corporate income tax base.

Federal Reserve Remittances. CBO reduced its estimate of remittances from the Federal Reserve by $29 billion (or 97 percent) for 2023 and by $99 billion (or 16 percent) for the 2023–2032 period. Those changes can be explained by higher projected short-term interest rates in 2023 and 2024, which increase the Federal Reserve's interest expenses. CBO now estimates that the Federal Reserve System as a whole will have costs that exceed its income through 2024, reducing remittances to close to zero for a number of years. Nonetheless, the agency's baseline projections show small amounts of remittances every year to account for the possibility that some individual Federal Reserve banks might record profits and remit them to the Treasury.

Other Revenues. CBO reduced its estimates of estate and gift taxes, customs duties, and excise taxes over the 2023–2032 period by a total of $44 billion (or 2 percent). Most of that reduction resulted from lower projected asset values, which reduce the expected tax base for estate and gift taxes.

Technical Changes

Technical changes—those changes that are neither legislative nor economic—result from a variety of factors, including revisions to CBO's population projections, new information or data from federal agencies, and changes in the way programs are administered that affect federal spending and revenues. Such changes increased CBO's estimate of the deficit in 2023 by $88 billion and boosted projected deficits over the 2023–2032 period by $0.4 trillion (see Table A-1 on page 69).

Changes in Outlays

Taken together, technical revisions increased CBO's estimate of outlays in 2023 by $81 billion (or 1 percent) and its projections of outlays over the 2023–2032 period by $341 billion (or less than 1 percent).

Mandatory Outlays. Technical changes led CBO to increase its estimates of spending for some mandatory programs and decrease them for others. On net, technical changes to CBO's projections increased mandatory outlays by $125 billion (or 3 percent) in 2023 and by $218 billion (or less than 1 percent) over the 2023–2032 period.

Medicare. CBO's projections of outlays for Medicare decreased by $19 billion (or 2 percent) in 2023 and by $246 billion (or 2 percent) over the 2023–2032 period for technical reasons. Three factors—all of which are related to actual net outlays in 2022—explain most of that decrease. First, outlays for Medicare's fee-for-service program in 2022 were lower than expected, so CBO decreased its projections of such outlays in later years. Second, CBO lowered its projections of Medicare Advantage outlays because outlays for the program in 2022 were lower than anticipated. Finally, offsetting receipts were higher than expected in 2022, leading CBO to increase its projections of those receipts over the 10-year period. In particular, CBO increased its projections of payments from states to Medicare Part D on behalf of enrollees who are dually eligible for both Medicare and Medicaid and of estimated recoveries of payments made to providers. Those increases in projected receipts contributed to a reduction in projected outlays.[18]

Student Loans. CBO's estimate of outlays for student loan programs in 2023 is now $29 billion larger than it was in May 2022; over the 2023–2032 period, it is $120 billion larger. Much of that increase stems from final regulations released on October 31, 2022, that would, in CBO's estimation, increase outlays for student loans by a total of $95 billion over the 10-year period. Those final rules expanded eligibility for the discharge of loans, eliminated the addition of unpaid interest to loan balances in certain circumstances, and increased eligibility for the Public Service Loan Forgiveness program. CBO also raised its projections of subsidy rates for future student loans, which increased projected outlays (see Figure A-3).[19]

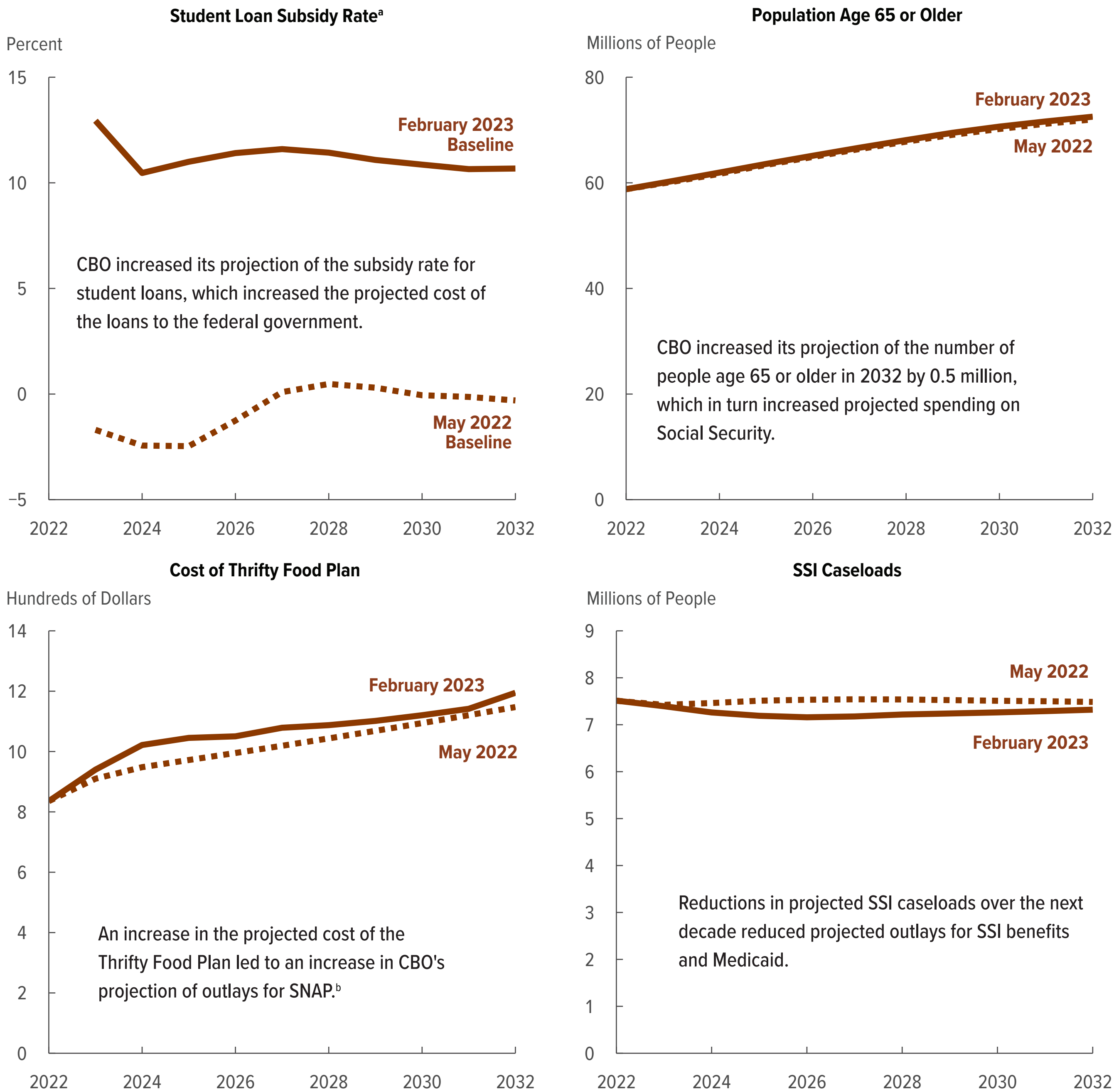
CBO's estimates do not include costs stemming from new regulations for student loans repaid through income-driven plans that were proposed by the Department of Education on January 10, 2023, or the costs of extending the pause in student loan payments and interest accrual through August 2023. Those costs are reported in the budget as estimated by the Administration but have not yet been recorded. Additionally, CBO's estimates do not include $379 billion estimated by the Administration as the costs of its student loan forgiveness policy, announced in August 2022, because those costs were recorded in fiscal year 2022.

18. Offsetting receipts are funds collected by federal agencies from other government accounts or from the public in businesslike or market-oriented transactions that are recorded as negative budget authority and outlays (that is, as reductions in mandatory spending).

19. The subsidy rate is the cost of a program, calculated following the procedures specified in the Federal Credit Reform Act of 1990 (P.L. 101-508), divided by the amount disbursed. A positive subsidy rate indicates a cost to the government, and a negative rate indicates budgetary savings. For additional information about the costs of credit programs, see Congressional Budget Office, *Estimates of the Cost of Federal Credit Programs in 2023* (June 2022), www.cbo.gov/publication/58031.

Figure A-3.

Key Changes in CBO's Technical Projections Since May 2022



Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

In the February 2023 baseline projections shown here, values for 2022 are actual values.

SNAP = Supplemental Nutrition Assistance Program; SSI = Supplemental Security Income.

a. The subsidy rate shown is the weighted average rate of several different loan programs, adjusted for the amount of loans disbursed. That average rate does not include the costs of new regulations for student loans repaid through income-driven plans that were proposed by the Department of Education on January 10, 2023. No values are shown for 2022 because the subsidy rates are projections used to prepare CBO's baseline; thus, there are no corresponding actual values for 2022.

b. The change in the cost of the Thrifty Food Plan (TFP) also reflects economic changes: revisions to CBO's projections of growth in food prices. In CBO's projections, the technical change increases the cost of the TFP beginning in 2027.

Social Security. CBO lowered its estimate of outlays for Social Security in 2023 by $1 billion (or less than 1 percent) and increased its projections of such outlays over the 2023–2032 period by $107 billion (or 1 percent) for technical reasons. Most of that 10-year increase stems from an increase in the projection of the population age 65 or older, which increases the number of recipients of Old-Age and Survivors Insurance.

Supplemental Nutrition Assistance Program. CBO increased its estimate of outlays for SNAP by $8 billion (or 6 percent) for 2023 and by $93 billion (or 8 percent) over the 2023–2032 period for technical reasons—two in particular. First, projected SNAP enrollment is higher than it was in the May 2022 baseline. Second, CBO increased its projections of the cost of the Thrifty Food Plan (TFP) in 2027 and 2032, anticipating that reevaluations of the TFP, which occur every five years, would result in increases in costs. (The TFP is a basket of foods identified by the Department of Agriculture that would provide a nutritious diet for a household of a particular size; the cost of the TFP is used to determine SNAP benefit levels.)

Pension Benefit Guaranty Corporation. Since May 2022, technical revisions to CBO's projections increased outlays for the Pension Benefit Guaranty Corporation (PBGC) by $56 billion for 2023 and by $35 billion for the 2023–2032 period. Most of that increase stems from slower-than-anticipated spending on PBGC's special financial assistance program in 2022, which led CBO to shift those outlays to 2023 in its projections.

Supplemental Security Income. CBO lowered its estimate of outlays for SSI by $1 billion (or 1 percent) for 2023 and by $24 billion (or 4 percent) over the 2023–2032 period for technical reasons. Specifically, the agency reduced the number of SSI beneficiaries in its projections in response to new data and a Supreme Court decision. First, recent data show that SSI caseloads are rebounding more slowly than expected from a decline that occurred during the coronavirus pandemic. Second, the Supreme Court ruled in *United States v. Vaello Madero* that the Fifth Amendment's equal protection guarantee does not require the Congress to make SSI benefits available to residents of Puerto Rico.[20] Because the U.S. Court of Appeals for the First Circuit had previously held that excluding residents of Puerto Rico from the SSI program violated the Fifth Amendment, CBO's May 2022 baseline reflected the expectation that those residents would be eligible for benefits from 2023 to 2032.[21]

Medicaid. Technical revisions led CBO to decrease its estimate of outlays for Medicaid by $3 billion (or 1 percent) for 2023 and by $23 billion (or less than 1 percent) over the 2023–2032 period. Those decreases are the net result of several factors. The ending of the maintenance-of-effort policy on April 1, 2023, is now expected to reduce Medicaid enrollment in 2023 and 2024 more than CBO had previously estimated. The decline in projected SSI enrollment discussed above slightly decreases projected outlays for Medicaid as well, because SSI beneficiaries are typically automatically eligible for Medicaid.

Three additional factors partly offset those decreases in projected outlays for Medicaid:

- An increase in projected Medicaid enrollment among people age 65 or older who are not SSI beneficiaries;
- An increase in projected Medicaid enrollment stemming from the 2023 Streamlining Eligibility and Enrollment proposed rule, which, if finalized, will facilitate Medicaid enrollment and renewal processes; and
- An increase in projected outlays for Medicaid because actual spending on the program in 2022 was higher than expected.

Crop Insurance. CBO increased its estimate of total outlays for crop insurance in 2023 by $6 billion and its projections of such outlays over the 2023–2032 period by $23 billion. That increase largely stems from a projected rise in crop prices, which CBO expects will return to more typical historical levels after falling during the pandemic.

U.S. Coronavirus Refundable Credits. CBO increased its estimate of total outlays for U.S. Coronavirus Refundable Credits (a group of tax credits for employers for sick and family leave, employee retention, and continuation of health insurance for certain workers) by $16 billion for 2023 because of higher-than-anticipated actual outlays in the first two months of 2023. CBO had

20. *United States v. Vaello Madero,* 142 S. Ct. 1539, 1541 (2022).

21. For that earlier decision, see *United States v. Vaello Madero,* 956 F.3d 12, 31 (1st Cir. 2020).

previously expected outlays related to those credits to end in 2022.

Other Mandatory Programs. Other technical changes increased CBO's estimate of outlays for other mandatory programs in 2023 by $32 billion and its projections of outlays for such programs over the 2023–2032 period by $118 billion.

Discretionary Outlays. Technical changes caused CBO's estimate of discretionary outlays over the 2023–2032 period to drop by $65 billion (or less than 1 percent). The largest of those changes are confined to 2023. Estimated outlays from the Public Health and Social Services Emergency Fund to support responses to the ongoing public health emergency dropped by $22 billion, accounting for much of the overall decrease. Other reductions in estimated discretionary outlays for 2023, totaling $36 billion on net, are dispersed across the budget. Taken together, technical changes reduced CBO's projections of discretionary outlays over the rest of the 10-year period by $7 billion.

Net Interest Outlays. Technical changes increased CBO's projections of net interest outlays over the 2023–2032 period by $188 billion (or 2 percent). Most of that increase stems from a reduction in balances of nonbudgetary financing accounts that record the collections and disbursements of federal loan and loan guarantee programs.

Interest Earnings From Financing Accounts. The amount owed to the Treasury from the financing account for the federal student loan program was $1.7 trillion at the start of 2022; by the end of the year, in large part because of the Administration's plans to forgive some student loan debt, it had declined to $1.3 trillion. That substantial reduction resulted in a $120 billion decrease in CBO's projections of interest paid to the Treasury from those financing accounts from 2023 to 2032. (Reductions in the Treasury's interest earnings from the financing accounts are recorded in the budget as increases in outlays; see Box A-1.)

Debt Service. All told, technical changes to revenues and noninterest outlays increased CBO's projections of debt held by the public in 2032 by $0.3 trillion and increased the cost of servicing debt over the 2022–2032 period by an estimated $79 billion.

Changes in Revenues

For technical reasons, CBO's estimate of revenues in 2023 fell by $7 billion (or less than 1 percent), and its projections of revenues over the entire 2023–2032 period fell by $84 billion (or less than 1 percent). Lower projections of the amount of assets in retirement accounts account for the most significant reductions.

Individual Income Taxes. Technical revisions boosted CBO's estimate of individual income tax receipts in 2023 by $13 billion (or 1 percent) but decreased the agency's projections of such receipts over the 2023–2032 period by $165 billion (or 1 percent). CBO increased its estimate of income tax receipts for 2023 because tax collections in 2022 were stronger than expected. New data indicated that capital gains realizations in 2021 were larger as a share of GDP than at any other point over the past 40 years. Those data explained some discrepancies between projected and actual tax revenues in prior years, but CBO does not expect such historically high receipts to continue.

In CBO's projections for the full 2023–2032 period, the net technical change to individual income tax receipts is negative. That change was driven by downward revisions to projections of distributions from retirement plans based on new data indicating that the amount of assets in retirement plans in recent years was less than previously estimated. Those reductions are partly offset by the effects of increased mandatory funding provided to the IRS by the 2022 reconciliation act. That funding will be spent on enforcement and other initiatives through 2031 and is projected to increase income tax collections by $186 billion over the 2023–2032 period. In the absence of more detailed information about how the IRS will use the funding, CBO has allocated about half of those additional revenues to individual income taxes and half to corporate income taxes.[22]

Payroll Taxes. For technical reasons, CBO decreased its estimate of payroll tax revenues in 2023 by $5 billion (or less than 1 percent) but increased its projections of such revenues for the 2023–2032 period by a total of $72 billion (or less than 1 percent). Revenues in 2023 were reduced because the actual taxable maximum for

22. Under long-standing guidelines agreed to by the legislative and executive branches, those increases in revenues were not included in the estimated budgetary effects of the act that CBO reported for budget enforcement purposes. Those changes are instead recorded as a technical change in CBO's baseline.

Box A-1.

How Student Loan Forgiveness Affects Deficits and Debt

Under the Federal Credit Reform Act of 1990 (FCRA), the costs of loan programs are recorded on a present-value basis to reflect the estimated lifetime costs of loans (that is, their subsidy costs) at the time those loans are made.[1] The original estimated cost for a set of loans may be increased or decreased in subsequent years by a credit subsidy reestimate that reflects an updated assessment of the cash flows associated with the outstanding loans. FCRA also established procedures to reconcile that present-value accounting with the cash flows associated with the loans.[2] For each program, those procedures involve a program account (which appears in the budget and shows the subsidy costs) and a financing account (which is not part of the budget and records the annual cash flows).

Because of those accounting procedures, the effects of student loan forgiveness on budget deficits and federal debt occur at different times. The $379 billion cost of student loan forgiveness that the Administration recorded in 2022 was a credit subsidy reestimate reflecting the present value of the reduction in future collections of both principal and interest payments. That cost increased outlays and the deficit in 2022. It did not affect the debt in 2022 because it did not reflect any cash flows of the government in that year; it was an intragovernmental transaction—a payment from the student loan program account to the student loan financing account.

Over time, the loan forgiveness policy will reduce or eliminate borrowers' payments on their student loans, reducing receipts in the nonbudgetary student loan financing accounts. That decrease in collections will not directly increase budget deficits (because the increase in the deficit was recorded up front, in 2022), but it will increase the amounts that the federal government needs to borrow in future years and the interest payments on that borrowing.

Additionally, the reduction in the balance that the student loan financing account owes to the Treasury will reduce the financing account's interest payments to the Treasury. Those changes affect deficits but do not affect the debt. Because the receipt of such payments is reflected in the budget as a reduction in interest earnings, smaller payments have the effect of increasing deficits. Any reduction in interest payments from financing accounts is offset by a reduction in the financing account's borrowing requirements—in other words, if their payments decrease, they need to borrow less to cover those payments. As a result, there is no effect on the debt stemming from the decrease in interest earnings recorded in the budget.

1. A present value expresses a flow of current or future income or payments in terms of an equivalent lump sum received or paid at a specific time.

2. For more information, see Congressional Budget Office, *Estimates of the Cost of Federal Credit Programs in 2023* (June 2022), www.cbo.gov/publication/58031.

calendar year 2023 ($160,200) was lower than CBO previously estimated ($163,500). That taxable maximum for 2023, determined by the Social Security Administration, was based on average earnings in 2021, which turned out to be lower than CBO had estimated. A lower taxable maximum means more earnings are above that ceiling and are thus not subject to the payroll tax, which reduces payroll tax receipts.

The upward revisions for the 2023–2032 period resulted in part from updated projections of the population and the earnings distribution, which indicate that a larger share of total earnings will fall below the taxable maximum. In addition, CBO increased its projections of receipts from unemployment insurance taxes (a type of payroll tax) because newly available historical data indicated that states will need to collect additional amounts over the next decade to maintain the solvency of their unemployment trust funds. Those collections count as federal revenues, reflecting the nature of the unemployment insurance system, which is a federal program administered by the states.

Corporate Income Taxes. CBO reduced its estimate of corporate income tax revenues in 2023 by $13 billion (or 3 percent) and raised its projections of such revenues for the 2023–2032 period by $65 billion (or 1 percent) for technical reasons. CBO lowered its projection for 2023 because the agency now anticipates that some of the strength seen in collections in 2022 will not continue. After 2023, the increases in projected corporate income tax receipts—amounting to about $78 billion between 2024 and 2032—are mostly the result of additional funding for IRS enforcement provided by the 2022 reconciliation act. Additionally, the agency revised its approaches to estimating foreign tax credits and back taxes, which reduced net receipts in later years of the projection period.

Other Revenues. CBO decreased its projections of other revenues over the next decade by $56 billion (or 2 percent) because of technical changes. The largest of those changes was to projected revenues from fees and fines, which CBO reduced by $30 billion (or 7 percent) over the projection period to reflect persistent weak collections. In addition, CBO lowered its projections of revenues from excise taxes over the next decade by $17 billion. Most of that change is explained by the agency's expectation that newer—and more fuel-efficient—vehicles will account for a greater share of total miles driven, leading to steeper declines in receipts from gas taxes.

Appendix B: CBO's Economic Projections for 2023 to 2033

The tables in this appendix show the Congressional Budget Office's economic projections for each year from 2023 to 2033. For the projections by calendar year, see Table B-1; for the projections by fiscal year, see Table B-2.

Table B-1.

CBO's Economic Projections, by Calendar Year

Percent

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Change From Year to Year											
Gross Domestic Product												
Real[a]	2.1	0.3	1.8	2.7	2.4	2.3	2.0	1.9	1.9	1.8	1.8	1.7
Nominal	9.2	4.0	4.4	4.9	4.5	4.3	4.0	3.9	3.9	3.8	3.8	3.7
Inflation												
PCE price index	6.2	3.8	2.7	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9
Core PCE price index[b]	5.0	3.8	2.9	2.5	2.3	2.1	2.1	2.0	2.0	2.0	2.0	2.0
Consumer price index[c]	8.0	4.8	3.0	2.2	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3
Core consumer price index[b]	6.1	4.9	3.3	2.5	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3
GDP price index	7.0	3.7	2.5	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9
Employment Cost Index[d]	5.3	4.9	4.0	3.6	3.4	3.3	3.3	3.2	3.2	3.2	3.2	3.1
	Calendar Year Average											
Unemployment Rate	3.6	4.7	4.9	4.7	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Payroll Employment (Monthly change, in thousands)[e]	427	9	66	97	83	77	79	72	64	63	59	63
Interest Rates												
3-month Treasury bills	2.0	4.5	3.2	2.5	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3
10-year Treasury notes	3.0	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Tax Bases (Percentage of GDP)												
Wages and salaries	43.8	44.3	44.5	44.5	44.4	44.2	44.1	44.1	44.0	44.0	43.9	43.9
Domestic corporate profits[f]	9.7[g]	7.9	7.5	7.9	8.1	8.2	8.2	8.1	8.0	8.0	7.9	7.9
Tax Bases (Billions of dollars)												
Wages and salaries	11,153	11,719	12,276	12,874	13,432	13,946	14,481	15,039	15,611	16,197	16,791	17,395
Domestic corporate profits[f]	2,466[g]	2,077	2,063	2,298	2,457	2,599	2,689	2,764	2,846	2,934	3,033	3,131
Nominal GDP (Billions of dollars)	25,461	26,438	27,592	28,947	30,262	31,573	32,843	34,138	35,468	36,832	38,225	39,646

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

Actual values for 2022 reflect data available from the Bureau of Economic Analysis and the Bureau of Labor Statistics in early February 2023. The data contain values for the fourth quarter of 2022, which were not available when CBO developed its current projections.

GDP = gross domestic product; PCE = personal consumption expenditures.

a. Real values are nominal values that have been adjusted to remove the effects of inflation.

b. Excludes prices for food and energy.

c. The consumer price index for all urban consumers.

d. The employment cost index for wages and salaries of workers in private industry.

e. The average monthly change is calculated by dividing by 12 the change in nonfarm payrolls from the fourth quarter of one calendar year to the fourth quarter of the next.

f. Adjusted to remove the effects of tax rules on depreciation allowances and to exclude the effects of changes in prices on the value of inventories.

g. Estimated value for 2022.

Table B-2.

CBO's Economic Projections, by Fiscal Year

Percent

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Change From Year to Year											
Gross Domestic Product												
Real[a]	3.3	0.3	1.2	2.7	2.5	2.3	2.0	1.9	1.9	1.8	1.8	1.8
Nominal	10.4	4.9	3.9	4.9	4.6	4.4	4.1	4.0	3.9	3.9	3.8	3.7
Inflation												
PCE price index	6.3	4.4	2.9	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9
Core PCE price index[b]	5.0	4.2	3.1	2.6	2.4	2.2	2.1	2.0	2.0	2.0	2.0	2.0
Consumer price index[c]	7.9	5.7	3.4	2.3	2.1	2.0	2.2	2.2	2.3	2.3	2.3	2.3
Core consumer price index[b]	5.9	5.4	3.6	2.6	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.3
GDP price index	6.9	4.6	2.7	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9
Employment Cost Index[d]	5.2	5.1	4.2	3.6	3.5	3.4	3.3	3.2	3.2	3.2	3.2	3.2
	Fiscal Year Average											
Unemployment Rate	3.8	4.3	5.0	4.8	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Payroll Employment (Monthly change, in thousands)[e]	512	67	52	99	84	78	79	75	65	63	59	63
Interest Rates												
3-month Treasury bills	1.0	4.4	3.6	2.6	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3
10-year Treasury notes	2.4	3.8	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Tax Bases (Percentage of GDP)												
Wages and salaries	44.0	44.2	44.5	44.5	44.4	44.2	44.1	44.1	44.0	44.0	43.9	43.9
Domestic corporate profits[f]	10.0	8.3	7.4	7.8	8.1	8.2	8.2	8.1	8.0	8.0	7.9	7.9
Tax Bases (Billions of dollars)												
Wages and salaries	10,994	11,593	12,131	12,725	13,299	13,817	14,345	14,898	15,467	16,049	16,641	17,244
Domestic corporate profits[f]	2,492	2,179	2,018	2,244	2,420	2,567	2,670	2,744	2,826	2,910	3,010	3,107
Nominal GDP (Billions of dollars)	25,016	26,238	27,266	28,610	29,932	31,251	32,525	33,811	35,133	36,488	37,874	39,288

Data source: Congressional Budget Office. See www.cbo.gov/publication/58848#data.

GDP = gross domestic product; PCE = personal consumption expenditures.

a. Real values are nominal values that have been adjusted to remove the effects of inflation.

b. Excludes prices for food and energy.

c. The consumer price index for all urban consumers.

d. The employment cost index for wages and salaries of workers in private industry.

e. The average monthly change is calculated by dividing by 12 the change in nonfarm payrolls from the fourth quarter of one fiscal year to the fourth quarter of the next.

f. Adjusted to remove the effects of tax rules on depreciation allowances and to exclude the effects of changes in prices on the value of inventories.

List of Tables and Figures

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. It satisfies the requirement of section 202(e) of the Congressional Budget Act of 1974 for CBO to submit to the Committees on the Budget periodic reports about fiscal policy and to provide baseline projections of the federal budget. In keeping with CBO's mandate to provide objective, impartial analysis, this report makes no recommendations.

CBO's Panel of Economic Advisers commented on an early version of the economic forecast underlying this report at a meeting in November 2022. At that time, members of the panel were Katharine Abraham, Alan Auerbach, David Autor, Markus Brunnermeier, Seth Carpenter, Steven Davis, Kathryn Dominguez, Karen Dynan, Robert Hall, Jan Hatzius, Donald Kohn, Gregory Mankiw, Emi Nakamura, Jonathan Parker, James Poterba, Valerie Ramey, Joshua Rauh, Ayşegül Şahin, James Stock, Kevin Warsh, and Mark Zandi. Ricardo Reis attended the panel's meeting as a guest, and Joe Beaulieu, David Wilcox, and Ellen Zentner provided helpful comments. Although CBO's outside advisers provided considerable assistance, they are not responsible for the contents of this report.

The following pages list CBO's staff members who contributed to this report by preparing the economic, revenue, and spending projections; writing the report; reviewing, editing, fact-checking, and publishing it; compiling the supplemental materials posted along with it on CBO's website (www.cbo.gov/publication/58848); and providing other support.

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

Phillip L. Swagel
Director
February 2023

Economic Projections

The economic projections were prepared by the Macroeconomic Analysis Division, with contributions from analysts in other divisions. That work was supervised by Richard DeKaser, Devrim Demirel, and Robert Arnold.

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Edward Gamber · Labor markets, current-quarter analysis

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Mark Lasky · Business investment, housing

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The revenue projections were prepared by the Tax Analysis Division, supervised by John McClelland, Joseph Rosenberg, Joshua Shakin, and Edward Harris. In addition, the staff of the Joint Committee on Taxation provided valuable assistance.

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Nathaniel Frentz · Federal Reserve System's earnings, miscellaneous fees and fines

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Shannon Mok · Estate and gift taxes

Omar Morales · Excise taxes

James Pearce · Capital gains realizations, wage distribution, tax modeling

Kevin Perese · Tax modeling

Tess Prendergast · Excise taxes

Molly Saunders-Scott · International taxation, business taxation

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Vinay Maruri · Federal Deposit Insurance Corporation

Michael McGrane · Federal Reserve's balance sheet, extended benefits for unemployment insurance

Noah Meyerson · Pension Benefit Guaranty Corporation

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Avi Lerner · Debt, interest on the public debt, sequestration, Troubled Asset Relief Program

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Amy McConnel · Appropriation bills (Commerce, Justice, and Science; Financial Services and General Government)

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Mark Sanford · Appropriation bills (Agriculture and Food and Drug Administration; Defense)

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Patrice Watson · Computer applications and data systems

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