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

The Budget and Economic Outlook: 2022 to 2032

MAY | 2022

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 that the federal budget deficit will shrink to $1.0 trillion in 2022 (it was $2.8 trillion last year) and that the annual shortfall would average $1.6 trillion from 2023 to 2032. The deficit continues to decrease as a percentage of gross domestic product (GDP) next year as spending related to the coronavirus pandemic wanes, but then deficits increase, reaching 6.1 percent of GDP in 2032. The deficit has been greater than that only six times since 1946 (see Chapter 1).

  Outlays are projected to average 23 percent of GDP over that period, a level high by historical standards, boosted by rising interest costs and greater spending for programs that provide benefits to elderly people (see Chapter 3). Revenues are projected to reach their highest level as a share of GDP in more than two decades in 2022 and then to decline over the following few years but remain above their long-term average through 2032 (see Chapter 4).

  Relative to the size of the economy, federal debt held by the public is projected to dip over the next two years, to 96 percent of GDP in 2023, and to rise thereafter. In CBO's projections, it reaches 110 percent of GDP in 2032 (higher than it has ever been) and 185 percent of GDP in 2052 (see Chapter 1). Moreover, if lawmakers amended current laws to maintain certain policies now in place, even larger increases in debt would ensue (see Chapter 5).

- **Changes in CBO's Budget Projections.** CBO's projection of the deficit for 2022 is now $118 billion less than it was in July 2021, but its projection of the cumulative deficit over the 2022–2031 period is $2.4 trillion more (see Appendix A).

- **The Economy.** In CBO's projections, elevated inflation initially persists in 2022 because of the combination of strong demand and restrained supply in the markets for goods, services, and labor. Inflation then subsides as supply disruptions dissipate, energy prices decline, and less accommodative monetary policy takes hold. Since mid-2021, inflation has reached its fastest pace in four decades. In CBO's projections, the price index for personal consumption expenditures increases by 4.0 percent in 2022. In response, the Federal Reserve tightens monetary policy and interest rates rise rapidly. Real GDP grows by 3.1 percent in 2022, and the unemployment rate averages 3.8 percent. After 2022, economic growth slows, and inflationary pressures ease (see Chapter 2).

- **Changes in CBO's Economic Projections.** The agency's projection of real GDP growth is similar to what it was last summer for 2022, higher for 2023 and 2024, and similar over the remainder of the projection period. CBO currently projects higher inflation in 2022 and 2023 than it did last July; prices are increasing more rapidly across many sectors of the economy than CBO anticipated. CBO now expects both short- and long-term interest rates over the coming decade to be higher, on average, than in its previous forecast, partly reflecting higher inflation.

Contents

Notes

The budget projections in this report include the effects of legislation enacted through April 8, 2022, and are based on the Congressional Budget Office's economic projections. Those economic projections reflect economic developments through March 2, 2022. The projections do not include budgetary or economic effects of subsequent legislation, economic developments, administrative actions, or regulatory changes.

Unless this 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.)

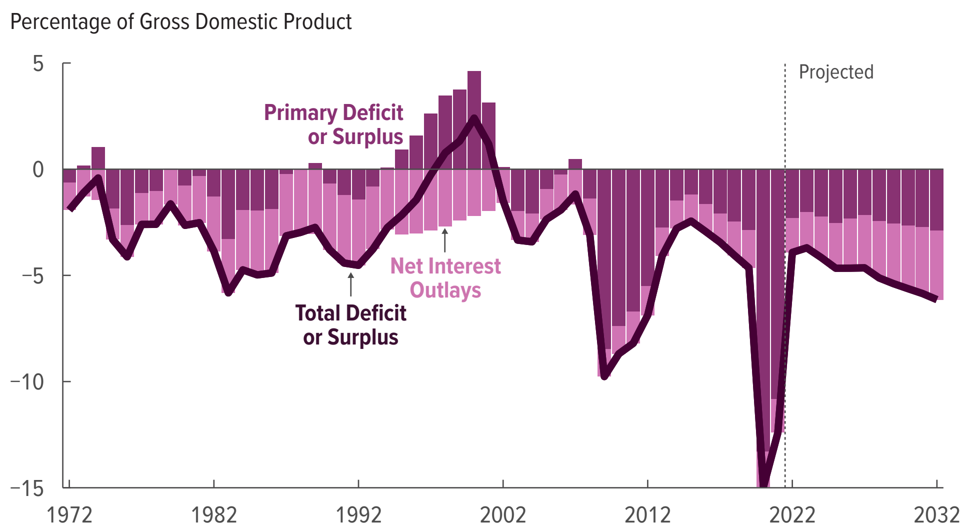
Previous editions of this report often included an appendix of historical budget data. Those data and other supplemental data for this analysis are available on CBO's website (www.cbo.gov/publication/57950#data), as are a glossary of common budgetary and economic terms (www.cbo.gov/publication/42904), 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://go.usa.gov/xQrzS).

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. Cumulative deficits projected for the 2022–2031 period are larger than those in the projections that CBO published last July. Revenues have increased in CBO's projections, buoyed in part by the stronger-than-anticipated economy, which CBO expects to persist. But higher projected inflation and interest rates have pushed up outlays for interest payments on federal debt and for benefit programs such as Social Security. Recently enacted legislation has increased CBO's projections of discretionary spending.

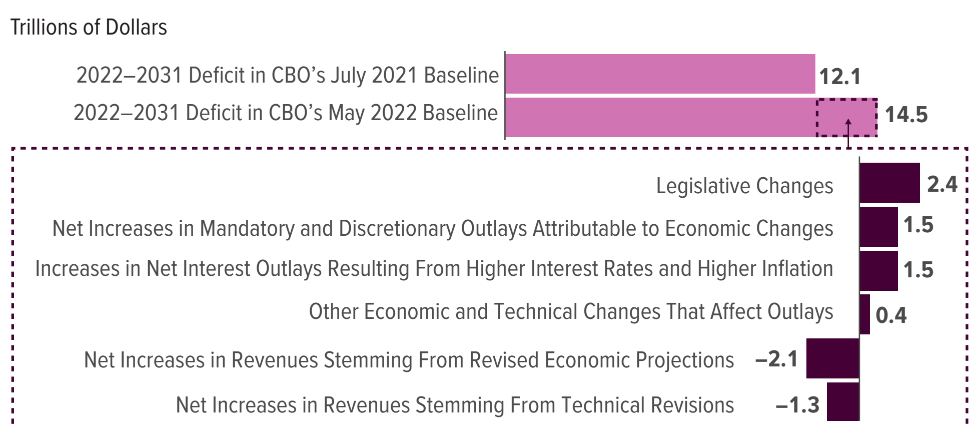
Deficits

In CBO's projections, the federal budget deficit (adjusted to exclude the effects of shifts in the timing of certain payments) decreases from 12.4 percent of gross domestic product (GDP) in 2021 to 3.9 percent this year and to 3.7 percent in 2023. The projected shortfall increases to 6.1 percent of GDP in 2032—significantly larger than the 3.5 percent of GDP that deficits have averaged over the past 50 years.



Rising interest rates and mounting debt cause net interest outlays to double as a percentage of GDP over the coming decade—from 1.6 percent in 2022 to 3.3 percent in 2032. Adjusted to exclude the effects of timing shifts, primary deficits (which exclude net interest costs) increase from 2.3 percent of GDP in 2022 to 2.9 percent in 2032, exceeding their 50-year average of 1.5 percent of GDP in each year of the projection period.

See Figure 1-1 on page 6

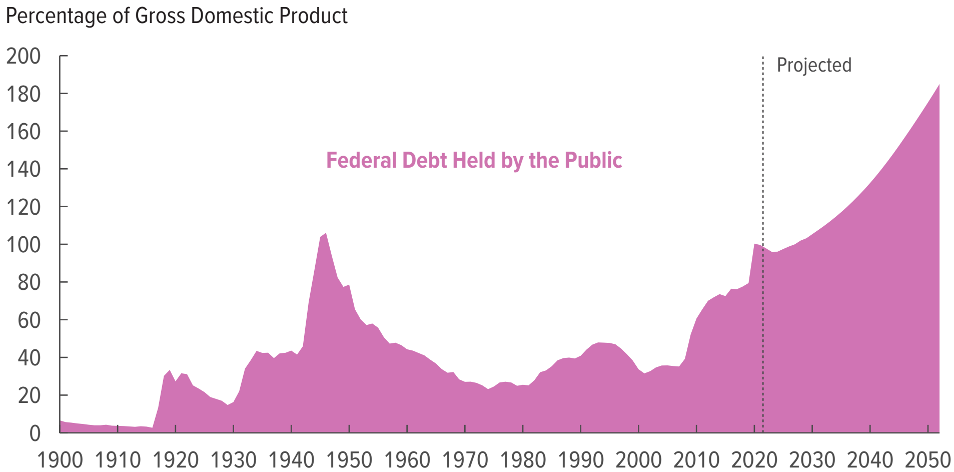


Since July 2021, CBO has raised its projection of the 10-year deficit by a total of $2.4 trillion, mainly because of newly enacted legislation. Revenue increases, which reduce deficits, were mostly offset by economic changes that increased outlays—particularly those for interest and Social Security.

See Figure A-1 on page 110

Debt

Federal debt held by the public is projected to dip from 100 percent of GDP at the end of 2021 to 96 percent in 2023. The rapid growth of nominal GDP—reflecting both high inflation and the continued growth of real GDP (that is, GDP adjusted to remove the effects of inflation)—helps hold down the amount of debt relative to the nation's output. As deficits increase in most years after 2023 in CBO's projections, debt steadily rises, reaching 110 percent of GDP in 2032—higher than it has ever been—and 185 percent of GDP in 2052.

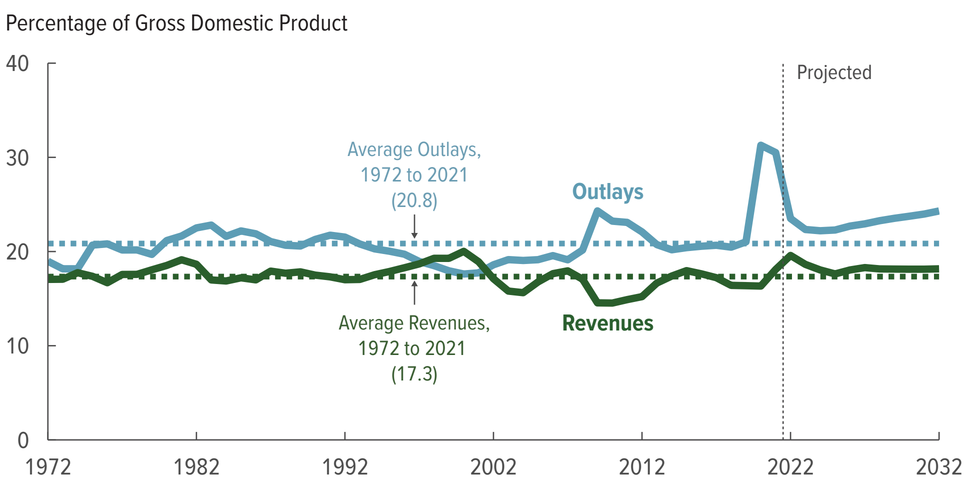


Debt is projected to rise in relation to GDP mainly because of increasing interest costs and growth in spending for Medicare and Social Security.

See Figure 1-8 on page 19

Outlays and Revenues

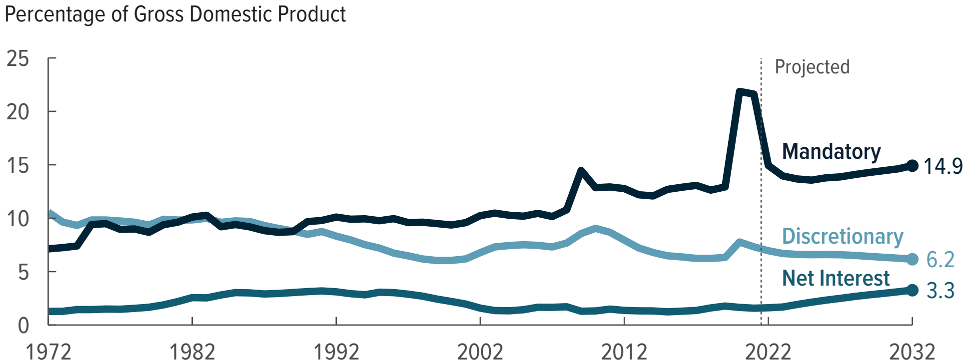
In CBO's projections, outlays total $5.8 trillion, or 24 percent of GDP, in 2022. (Those outlays are adjusted to exclude the effects of timing shifts.) As a percentage of GDP, they dip below that level for a few years and then rise. In 2032, outlays again total 24 percent of GDP. Since 1946, outlays have reached or exceeded that percentage of GDP only three times—in 2009, 2020, and 2021 (all of which were during a recession or the coronavirus pandemic). Revenues total $4.8 trillion, or 20 percent of GDP, in 2022—their highest level relative to the size of the economy in more than two decades. They fall as a percentage of GDP over the next few years before rising again in 2026 and 2027, and then they stabilize.



From 2023 to 2032, outlays are projected to average 23.2 percent of GDP, exceeding their 50-year average of 20.8 percent. Revenues, which are projected to average 18.1 percent of GDP over the next 10 years, exceed their 50-year average of 17.3 percent.

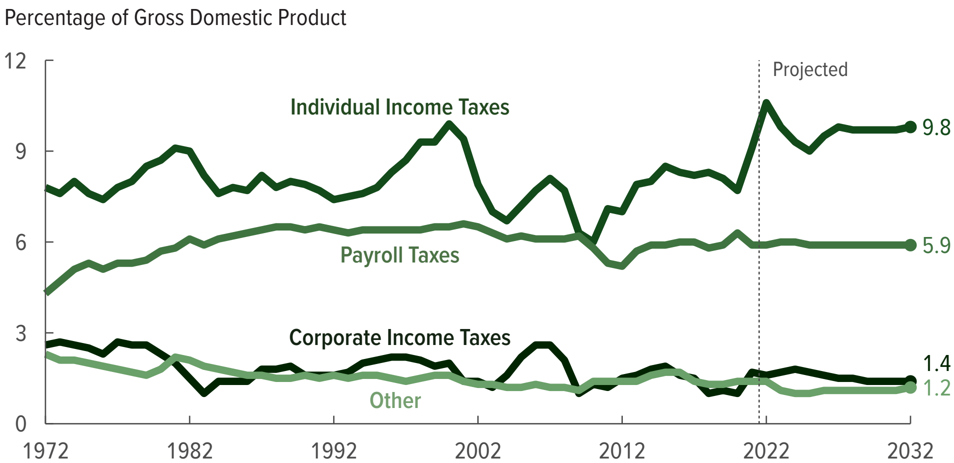
See Figure 1-2 on page 9

Outlays and Revenues (Continued)



Increases in projected outlays stem from the aging of the population and the rising cost of health care, which boost outlays for programs that provide benefits to elderly people. In addition, rising interest rates and accumulating debt cause net interest costs to double as a percentage of GDP.

See Figure 3-1 on page 61



Total projected revenues rise sharply in 2022 because of the economic recovery, the end of temporary provisions enacted in response to the pandemic, and the strength in tax collections so far this year (which cannot yet be fully explained). Projected revenues rise again after 2025 because of the scheduled expiration of some provisions of the 2017 tax act.

See Figure 4-2 on page 87

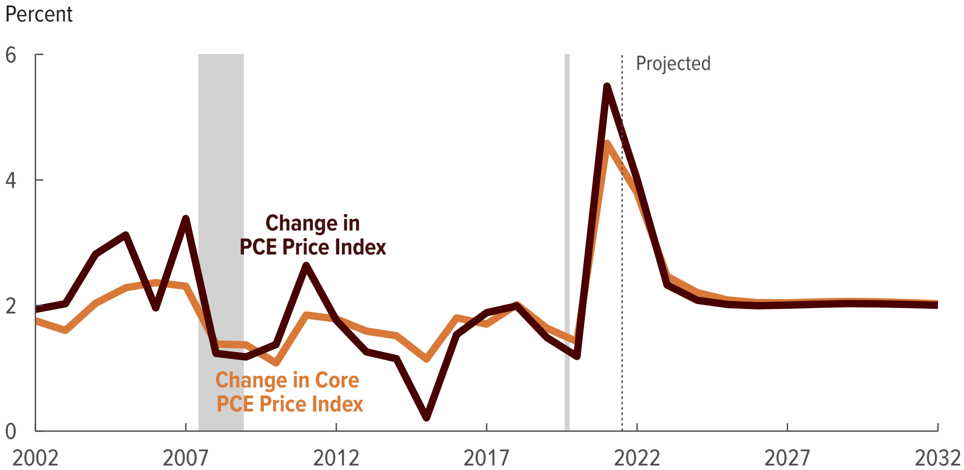
The Economy

During the past year, prices of many goods and services increased sharply, and the unemployment rate fell. In CBO's projections, over the next year, economic growth stays above its average of the past two decades, and unemployment remains low. Elevated inflation initially persists as strong demand for products and labor continues, but it gradually subsides as supply disruptions dissipate, energy prices decline, and less accommodative monetary policy takes hold.

Real GDP grows by 3.1 percent in 2022 in CBO's projections. After 2022, growth of real GDP slows because of tightening monetary policy, waning fiscal support, and other factors.

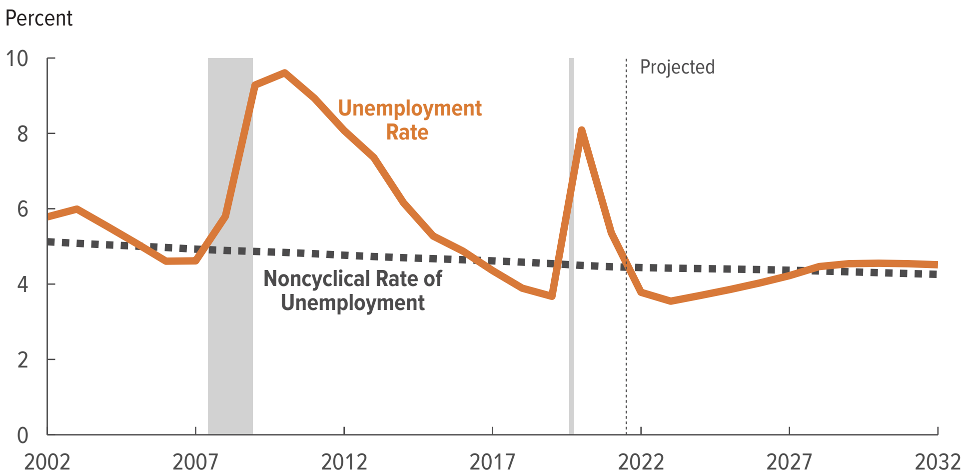
See Figure 2-1 on page 22

The Economy (Continued)



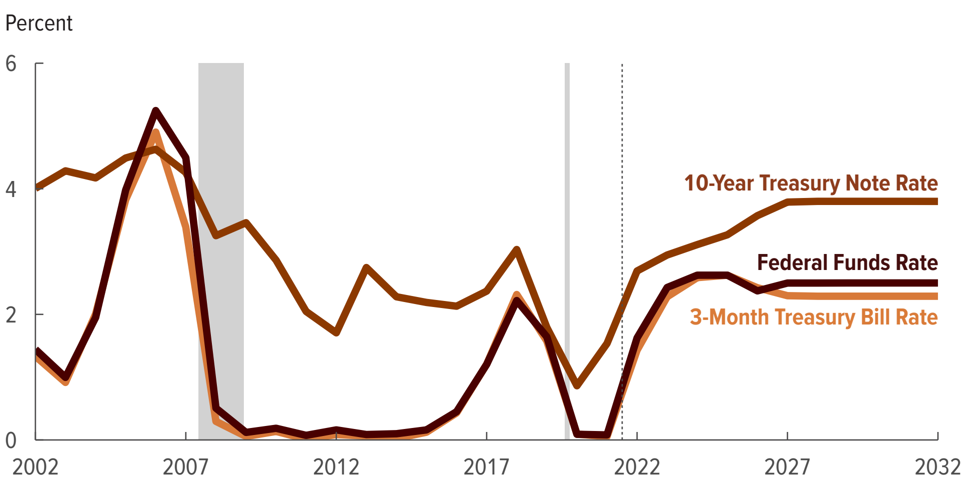
Inflation has recently reached its fastest pace in four decades. It is expected to remain high in 2022 because of various factors that continue to restrain supply in the face of strong demand in product and labor markets. Inflation slows in 2023 and 2024 in CBO's projections, nearing the Federal Reserve's long-run goal of 2 percent by the end of 2024.

See Figure 2-4 on page 39



The unemployment rate is projected to fall over the next year because of the ongoing expansion of the economy.

See Figure 2-3 on page 37



CBO expects the Federal Reserve to rapidly increase its target range for the federal funds rate over the next two years. In CBO's projections, the interest rate on 3-month Treasury bills rises in tandem with that increase.

See Figure 2-4 on page 39

Chapter 1: The Outlook for Deficits and Debt

Overview

As federal spending in response to the coronavirus pandemic wanes and the economic expansion continues, the budget deficit in 2022 is expected to shrink substantially from the amounts recorded in 2020 and 2021 (when deficits, relative to the size of the economy, were larger than at any time since World War II). Nevertheless, under the assumption that current laws governing taxes and spending will generally remain unchanged in future years, federal deficits are set to remain large by historical standards and to generally increase throughout the next decade, the Congressional Budget Office projects (see Figure 1-1). Federal debt measured relative to the size of the economy is projected to dip over the next two years and then to rise each year through 2032.

Large Deficits

In CBO's baseline budget projections, the federal deficit equals $1.0 trillion this year, and deficits average $1.6 trillion per year between 2023 and 2032. The cumulative deficit over the 2023–2032 period totals $15.7 trillion (see Table 1-1).[1] Deficits average 5.1 percent of gross domestic product (GDP) over that period, and in 2032, the deficit equals 6.1 percent of GDP. By comparison, over the past 50 years, the annual deficit has averaged 3.5 percent of GDP. From 2025 through 2032, projected annual deficits exceed 4.5 percent of GDP. At no time since at least 1930 have deficits remained that large for longer than five years.

Growing Debt

Despite the large deficits, federal debt held by the public is projected to dip from 100 percent of GDP at the end of 2021 to 96 percent in 2023. The rapid growth of nominal GDP—reflecting both high inflation and the continued growth of real GDP (that is, GDP adjusted to remove the effects of inflation)—helps hold down the amount of debt relative to the nation's output. After 2023, debt is projected to increase as a percentage of GDP, rising to 110 percent at the end of 2032. At that point, federal debt would be higher as a percentage of GDP than at any point in the nation's history—and heading still higher in the following two decades.

Uncertainty of Budgetary Outcomes

CBO's budget projections are subject to considerable uncertainty. Those projections depend on the agency's economic projections and many other factors, including the course of the ongoing pandemic. Developments that vary from what CBO projects could lead to budgetary outcomes that are very different from the baseline. That uncertainty increases in later years of the projection period because changes in the economy, demographics, and a variety of other factors are more difficult to anticipate over longer time horizons.

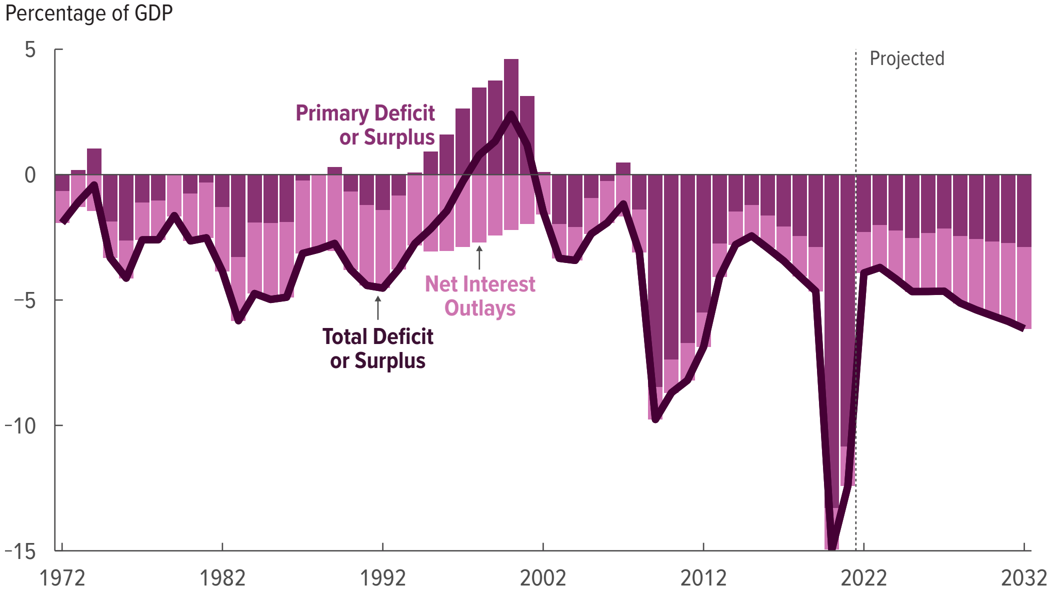
Moreover, outcomes will depend on future legislative action, which could increase or decrease budget deficits. For example:

- CBO's baseline projections reflect the scheduled expiration of a number of individual income tax provisions contained in Public Law 115-97 (referred to as the 2017 tax act in this report). If the scheduled expirations did not occur and current tax policies were continued instead, much larger deficits and greater debt would result: By 2032, the deficit, measured as a percentage of GDP and including associated debt-service costs, would exceed CBO's baseline estimate by 1.1 percentage points; and debt held by the public would grow to 116 percent of GDP.

1. CBO constructs its baseline in accordance with provisions set forth in the Balanced Budget and Emergency Deficit Control Act of 1985 (Deficit Control Act, Public Law 99-177) and the Congressional Budget and Impoundment Control Act of 1974 (P.L. 93-344). CBO's baseline is not intended to be a forecast of budgetary outcomes; rather, it is meant to provide a benchmark that policymakers can use to assess the potential effects of policy decisions.

Figure 1-1.

Total Deficits, Primary Deficits, and Net Interest Outlays



In CBO's projections, primary and total deficits initially shrink as a percentage of GDP and then generally increase, particularly in the second half of the projection period. The aging of the population and the rising costs of health care boost primary deficits; net interest outlays, which double as a percentage of GDP over the projection period, further increase total deficits.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#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.

- CBO's baseline projections reflect the assumption that funding provided for 2022 by the Infrastructure Investment and Jobs Act (P.L. 117-58) continues each year with adjustments for inflation, the standard assumption for appropriations. If that funding was not assumed to continue beyond the amounts stated in that act, the deficit, including associated debt-service costs, would be smaller by 0.5 percent of GDP, and debt would be lower by about 2.5 percent of GDP in 2032. (For more information on other alternatives to CBO's baseline projections, see Chapter 5.)

Long-Term Budgetary Pressures

Beyond 2032, if current laws remained generally unchanged, deficits would continue to grow relative to the size of the economy over the following 20 years, keeping debt measured as a percentage of GDP on an upward trajectory throughout that period. Those large budget deficits would arise because outlays—particularly for interest on federal debt and for Medicare—would grow steadily under current law, and revenues would not keep pace with those outlays.

Deficits

Under the assumption that current laws governing taxes and spending generally remain in place, the amount by which the government's outlays exceed its revenues will fall from $2.8 trillion in 2021 to $1.0 trillion in 2023. That shortfall is similar, in nominal terms, to the one recorded in 2019 before the onset of the pandemic. The budget deficit is projected to increase in most years thereafter, reaching $2.3 trillion in 2032. Relative to the size of the economy, this year's deficit is projected to total 4.2 percent of GDP, about a third as large as the 12.4 percent shortfall recorded last year.

The Deficit in 2022

According to CBO's projections, under current law, the budget deficit in 2022 will be $1.0 trillion, $1.7 trillion less than the shortfall recorded last year, as spending in response to the pandemic wanes and revenues increase. That decrease would be larger if not for a shift in the timing of certain payments. Because October 1, 2022 (the first day of fiscal year 2023), falls on a weekend, certain payments that would ordinarily be made on

Table 1-1.

CBO's Baseline Budget Projections, by Category

													Total	
	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2023–2027	2023–2032
							In Billions of Dollars							
Revenues														
Individual income taxes	2,044	2,623	2,579	2,542	2,539	2,771	2,970	3,049	3,170	3,301	3,436	3,582	13,400	29,938
Payroll taxes	1,314	1,465	1,572	1,625	1,669	1,726	1,786	1,853	1,923	1,995	2,072	2,150	8,378	18,372
Corporate income taxes	372	395	456	478	483	473	457	461	470	480	491	505	2,347	4,755
Other	317	354	283	279	290	310	336	352	370	385	403	424	1,498	3,433
Total	**4,047**	**4,836**	**4,890**	**4,924**	**4,982**	**5,280**	**5,548**	**5,716**	**5,934**	**6,161**	**6,402**	**6,662**	**25,623**	**56,498**
On-budget	3,095	3,782	3,754	3,737	3,753	4,008	4,229	4,347	4,514	4,689	4,875	5,078	19,481	42,984
Off-budget[a]	952	1,054	1,136	1,186	1,228	1,272	1,320	1,369	1,420	1,472	1,527	1,584	6,142	13,514
Outlays														
Mandatory	4,834	3,751	3,674	3,656	3,834	4,032	4,206	4,542	4,564	4,911	5,162	5,461	19,401	44,041
Discretionary	1,636	1,722	1,758	1,798	1,862	1,930	1,996	2,057	2,096	2,155	2,209	2,261	9,344	20,122
Net interest	352	399	442	525	604	681	756	842	925	1,007	1,099	1,194	3,009	8,075
Total	**6,822**	**5,872**	**5,874**	**5,980**	**6,300**	**6,643**	**6,958**	**7,441**	**7,585**	**8,074**	**8,469**	**8,915**	**31,754**	**72,238**
On-budget	5,819	4,794	4,688	4,705	4,942	5,208	5,436	5,826	5,872	6,258	6,546	6,887	24,979	56,368
Off-budget[a]	1,004	1,077	1,186	1,275	1,358	1,436	1,521	1,614	1,713	1,816	1,923	2,029	6,775	15,870
Total Deficit	**-2,775**	**-1,036**	**-984**	**-1,056**	**-1,318**	**-1,364**	**-1,409**	**-1,725**	**-1,651**	**-1,912**	**-2,067**	**-2,253**	**-6,131**	**-15,740**
On-budget	-2,724	-1,013	-934	-968	-1,189	-1,200	-1,207	-1,480	-1,358	-1,568	-1,671	-1,808	-5,498	-13,384
Off-budget[a]	-52	-23	-50	-88	-130	-164	-202	-245	-293	-344	-396	-445	-633	-2,356
Primary Deficit[b]	-2,423	-637	-542	-531	-714	-683	-653	-883	-726	-905	-969	-1,060	-3,122	-7,665
Debt Held by the Public	22,284	24,173	25,193	26,217	27,561	28,925	30,326	32,105	33,760	35,808	37,949	40,213	n.a.	n.a.
Memorandum:														
Gross Domestic Product	22,365	24,694	26,240	27,291	28,271	29,266	30,332	31,487	32,716	33,996	35,318	36,680	141,400	311,596
							As a Percentage of Gross Domestic Product							
Revenues														
Individual income taxes	9.1	10.6	9.8	9.3	9.0	9.5	9.8	9.7	9.7	9.7	9.7	9.8	9.5	9.6
Payroll taxes	5.9	5.9	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	1.6	1.7	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.7	1.5
Other	1.4	1.4	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.1
Total	**18.1**	**19.6**	**18.6**	**18.0**	**17.6**	**18.0**	**18.3**	**18.2**	**18.1**	**18.1**	**18.1**	**18.2**	**18.1**	**18.1**
On-budget	13.8	15.3	14.3	13.7	13.3	13.7	13.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8
Off-budget[a]	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Outlays														
Mandatory	21.6	15.2	14.0	13.4	13.6	13.8	13.9	14.4	14.0	14.4	14.6	14.9	13.7	14.1
Discretionary	7.3	7.0	6.7	6.6	6.6	6.6	6.6	6.5	6.4	6.3	6.3	6.2	6.6	6.5
Net interest	1.6	1.6	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.3	2.1	2.6
Total	**30.5**	**23.8**	**22.4**	**21.9**	**22.3**	**22.7**	**22.9**	**23.6**	**23.2**	**23.7**	**24.0**	**24.3**	**22.5**	**23.2**
On-budget	26.0	19.4	17.9	17.2	17.5	17.8	17.9	18.5	17.9	18.4	18.5	18.8	17.7	18.1
Off-budget[a]	4.5	4.4	4.5	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	4.8	5.1
Total Deficit	**-12.4**	**-4.2**	**-3.8**	**-3.9**	**-4.7**	**-4.7**	**-4.6**	**-5.5**	**-5.0**	**-5.6**	**-5.9**	**-6.1**	**-4.3**	**-5.1**
On-budget	-12.2	-4.1	-3.6	-3.5	-4.2	-4.1	-4.0	-4.7	-4.2	-4.6	-4.7	-4.9	-3.9	-4.3
Off-budget[a]	-0.2	-0.1	-0.2	-0.3	-0.5	-0.6	-0.7	-0.8	-0.9	-1.0	-1.1	-1.2	-0.4	-0.8
Primary Deficit[b]	-10.8	-2.6	-2.1	-1.9	-2.5	-2.3	-2.2	-2.8	-2.2	-2.7	-2.7	-2.9	-2.2	-2.5
Debt Held by the Public	99.6	97.9	96.0	96.1	97.5	98.8	100.0	102.0	103.2	105.3	107.5	109.6	n.a.	n.a.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

n.a. = not applicable.

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

b. 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, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	In Billions of Dollars											
Payments That Are Shifted in CBO's Baseline[a]	0	-68	-12	80	0	0	0	-113	113	0	0	0
Outlays Adjusted for Timing Shifts												
Mandatory	4,834	3,688	3,662	3,731	3,834	4,032	4,206	4,435	4,671	4,911	5,162	5,461
Discretionary	1,636	1,717	1,757	1,803	1,862	1,930	1,996	2,051	2,102	2,155	2,209	2,261
Net interest	352	399	442	525	604	681	756	842	925	1,007	1,099	1,194
Total	**6,822**	**5,804**	**5,861**	**6,060**	**6,300**	**6,643**	**6,958**	**7,328**	**7,698**	**8,074**	**8,469**	**8,915**
Total Deficit Adjusted for Timing Shifts	**-2,775**	**-968**	**-972**	**-1,136**	**-1,318**	**-1,364**	**-1,409**	**-1,612**	**-1,764**	**-1,912**	**-2,067**	**-2,253**
Primary Deficit Adjusted for Timing Shifts[b]	-2,423	-569	-529	-611	-714	-683	-653	-770	-839	-905	-969	-1,060
	As a Percentage of Gross Domestic Product											
Outlays Adjusted for Timing Shifts												
Mandatory	21.6	14.9	14.0	13.7	13.6	13.8	13.9	14.1	14.3	14.4	14.6	14.9
Discretionary	7.3	7.0	6.7	6.6	6.6	6.6	6.6	6.5	6.4	6.3	6.3	6.2
Net interest	1.6	1.6	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.3
Total	**30.5**	**23.5**	**22.3**	**22.2**	**22.3**	**22.7**	**22.9**	**23.3**	**23.5**	**23.7**	**24.0**	**24.3**
Total Deficit Adjusted for Timing Shifts	**-12.4**	**-3.9**	**-3.7**	**-4.2**	**-4.7**	**-4.7**	**-4.6**	**-5.1**	**-5.4**	**-5.6**	**-5.9**	**-6.1**
Primary Deficit Adjusted for Timing Shifts[b]	-10.8	-2.3	-2.0	-2.2	-2.5	-2.3	-2.2	-2.4	-2.6	-2.7	-2.7	-2.9
Memorandum:												
Baseline Deficit, Unadjusted												
In billions of dollars	-2,775	-1,036	-984	-1,056	-1,318	-1,364	-1,409	-1,725	-1,651	-1,912	-2,067	-2,253
As a percentage of GDP	-12.4	-4.2	-3.8	-3.9	-4.7	-4.7	-4.6	-5.5	-5.0	-5.6	-5.9	-6.1

Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#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.

that day will instead be made in fiscal year 2022.[2] If not for that shift, this year's projected shortfall would have been $68 billion smaller (see Table 1-2).

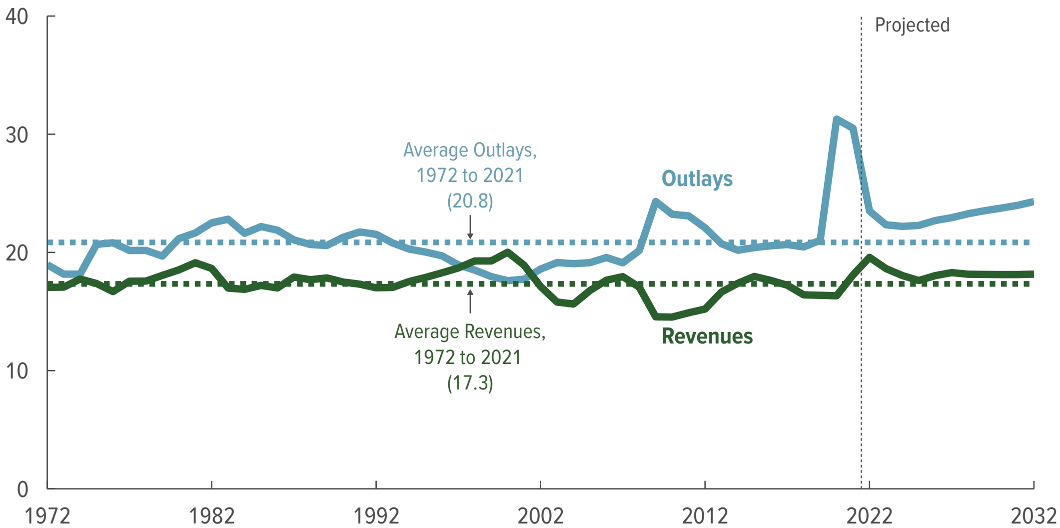
CBO projects that, under current law, revenues will increase by 19 percent in 2022, a slightly faster rate of growth than the 18 percent increase that occurred in 2021. That growth in 2022 results in part from the current economic expansion and the end of temporary provisions enacted in response to the pandemic that reduced revenues. However, even after accounting for those factors, tax collections so far in 2022 have been larger than currently available data on economic activity would suggest. CBO will evaluate the reasons for the discrepancy as more detailed information from tax returns becomes available. In total, revenues are projected to rise by $789 billion in 2022, to $4.8 trillion. Revenues will

2. October 1 will fall on a weekend again in 2023 and 2028. In such cases, certain payments due on October 1 are made at the end of September and thus are recorded in the previous fiscal year. Those shifts will noticeably boost outlays and the deficit in fiscal year 2028; the timing shifts will reduce federal outlays and deficits in fiscal years 2024 and 2029. (Because one set of payments will be shifted out of 2023 and one set will be shifted into 2023, the overall effect of shifts in payments in 2023 will be small, on net.)

Figure 1-2.

Total Outlays and Revenues

Percentage of Gross Domestic Product



Outlays are projected to drop from recent highs, as pandemic-related spending wanes, and then trend upward, as they did before the pandemic. Revenues are projected to increase sharply this year and then hover around their historical average as a share of the economy.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#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 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.

reach 19.6 percent of GDP this year—the largest that receipts have been as a share of the economy in more than two decades.

Outlays, which rose by 4 percent in 2021, are projected to decrease by 15 percent (or $1.0 trillion) this year, to $5.8 trillion, as pandemic-related spending falls. (The amount for 2022 and the projections for outlays and deficits cited throughout the remainder of the chapter reflect adjustments to exclude the effects of timing shifts.) As a percentage of GDP, outlays are estimated to fall from 30.5 percent in 2021 to 23.5 percent this year. That decrease is the net result of changes to the three major components of federal spending:

- *Mandatory spending* is expected to fall by 24 percent (or $1.1 trillion) in 2022, to $3.7 trillion, as spending related to the pandemic declines rapidly.[3]
- *Discretionary outlays* are projected to rise by 5 percent (or $81 billion) this year, to $1.7 trillion. That rate of increase is faster than the 1 percent rate of increase observed last year but slower than the 22 percent jump in 2020.[4] (The growth in discretionary outlays that occurred in 2020 stemmed primarily from legislation enacted in response to the ongoing pandemic.)
- *Net outlays for interest* are expected to rise from $352 billion in 2021 to $399 billion in 2022, an increase of 13 percent (or $47 billion). Higher inflation this year accounts for most of that change because it boosts the principal of inflation-protected securities, which are recorded as outlays for interest.

Deficits From 2023 to 2032

In CBO's baseline projections, the budget deficit—relative to GDP—grows from 3.7 percent next year to 4.7 percent in 2025 and remains near that amount through 2027. Thereafter, the deficit increases further,

3. Mandatory spending consists of outlays for some federal benefit programs, such as Social Security, Medicare, and Medicaid, and certain other payments to people, businesses, nonprofit institutions, and state and local governments. It is governed by statutory criteria and is not normally controlled by the annual appropriation process.

4. Discretionary spending is controlled by appropriation acts that specify the amounts that are to be provided for a broad array of government activities, including, for example, defense, law enforcement, and transportation.

totaling 6.1 percent in 2032. Since 1946, the deficit has exceeded 6.1 percent of GDP in only six years: from 2009 to 2012 (following the 2007–2009 recession) and in 2020 and 2021 (during the ongoing pandemic). Relative to the size of the economy, outlays increase over the 2023–2032 period, particularly in the second half of the period, but revenues remain relatively stable (see Figure 1-2 on page 9).

In CBO's projections, primary deficits—that is, deficits excluding net outlays for interest—fluctuate over the first half of the projection period, remaining just above 2.0 percent of GDP in most years. They are projected to increase steadily in the second half, equaling 2.9 percent of GDP in 2032. All told, primary deficits average 2.5 percent of GDP over the 10-year period. In the 62 years from 1947 to 2008, those deficits exceeded 2.0 percent of GDP only three times. In the past 13 years, however, they have exceeded that amount 10 times—in large part because of legislation that was enacted in response to the last two recessions.

Net outlays for interest, which equal 1.7 percent of GDP in 2023 in CBO's baseline, increase in each year of the projection period as interest rates and federal debt rise. By 2032, net interest outlays total 3.3 percent of GDP, more than twice what they are this year and 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).

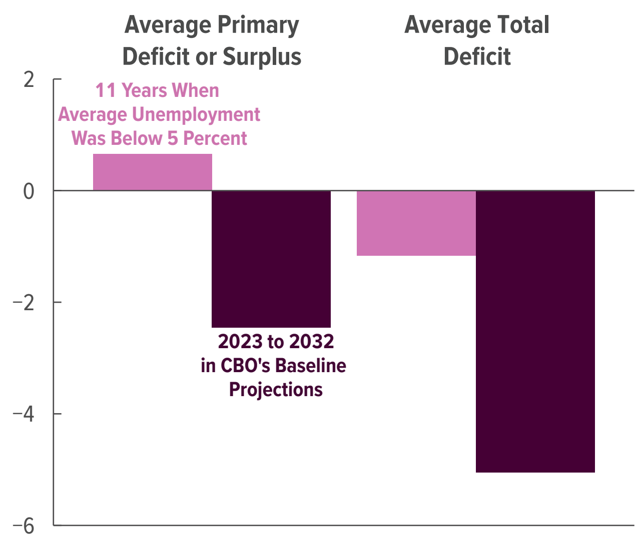
Historically, when unemployment has been low, deficits have been much smaller as a percentage of GDP than the amounts CBO currently projects (see Figure 1-3). Between 2023 and 2032—a period in which the average unemployment rate is projected to remain below 5 percent—deficits in CBO's baseline (adjusted to exclude the effects of timing shifts) are as small as 3.7 percent of GDP and average 5.1 percent of GDP. From 1972 to 2021, the unemployment rate was below 5 percent in 11 years. Deficits averaged 1.2 percent of GDP during those 11 years, and only twice (in 2018 and 2019) did deficits exceed 3.7 percent of GDP. Excluding net interest outlays, the budget, on average, showed a primary surplus of 0.7 percent of GDP during those 11 years; the primary deficit in CBO's baseline averages 2.5 percent of GDP over the projection period.

Revenues. In CBO's projections, revenues fall as a percentage of GDP between 2022 and 2025, when they total 17.6 percent of GDP. Receipts from individual income taxes, which are projected to fall from 10.6 percent of GDP in 2022 to 9.0 percent in 2025, account for most of that decrease. In CBO's estimation, some of the recent strength in those receipts is temporary. In addition, CBO expects that net income of the Federal Reserve System, which is remitted to the Treasury and counted as revenue, will decline because of increases in interest rates and changes in the central bank's portfolio of assets. (As interest rates rise, so does the amount of

Figure 1-3.

A Comparison of Deficits in CBO's Baseline Projections With Deficits and Surpluses at Other Times in the Past 50 Years When Unemployment Was Low

Percentage of GDP



Although the unemployment rate remains below 5 percent from 2023 to 2032 in CBO's projections, deficits in those years are large by historical standards. Total deficits average 5.1 percent of GDP, and primary deficits, 2.5 percent. The average unemployment rate was less than 5 percent in 11 of the past 50 fiscal years. In those 11 years, total deficits averaged 1.2 percent of GDP, and the budget recorded an average primary surplus equal to 0.7 percent of GDP.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Primary deficits or surpluses exclude net outlays for interest.

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.

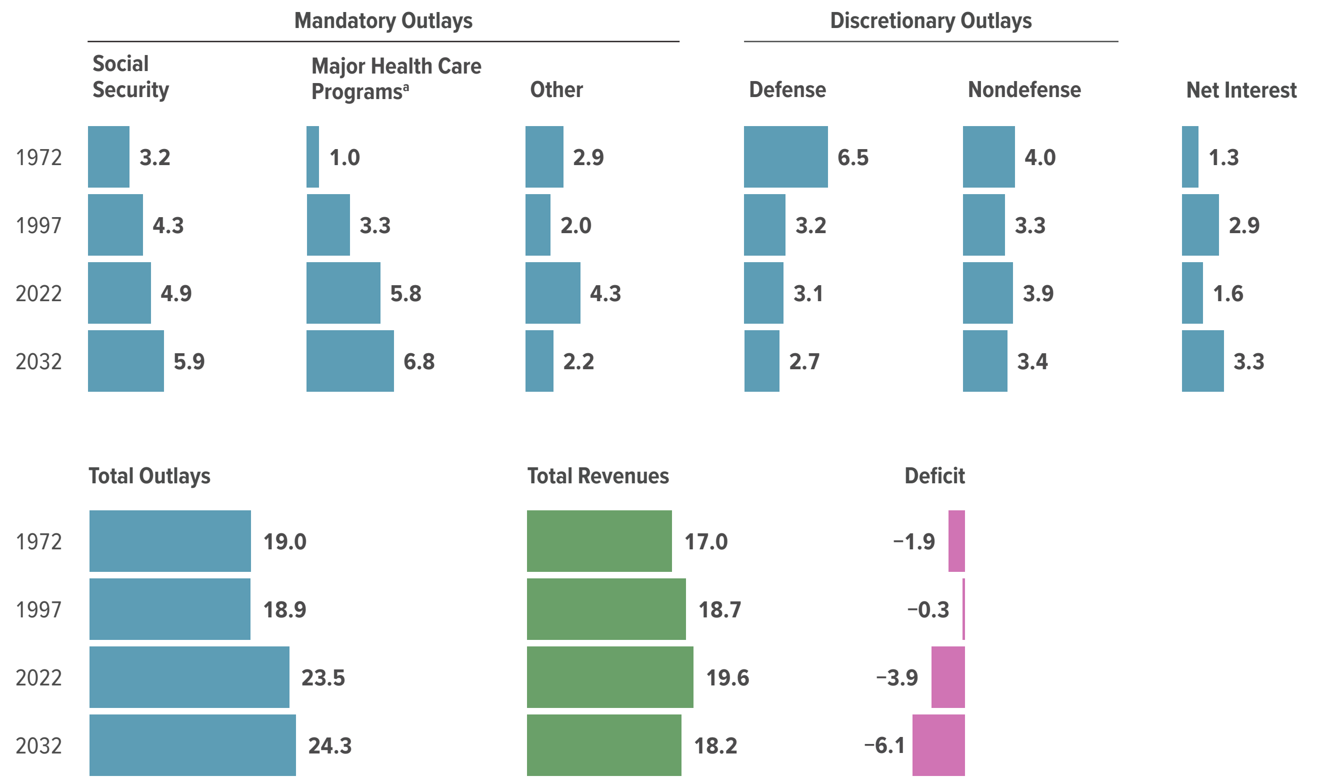
When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. All projections have been adjusted to exclude the effects of those timing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

GDP = gross domestic product.

Figure 1-4.

CBO's Baseline Projections of Outlays and Revenues, Compared With Actual Values 25 and 50 Years Ago

Percentage of Gross Domestic Product



Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

In 2022, October 1 (the first day of fiscal year 2023) falls on a weekend, so certain payments that are due on that date will instead be made in September, thus boosting outlays in fiscal year 2022 and reducing them in 2023. Such shifts affect projections of outlays for the major health care programs, other mandatory outlays, defense discretionary outlays, total outlays, and the deficit. The data have been adjusted to exclude the effects of those timing shifts.

a. 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.

interest paid on the reserves that banks hold with the Federal Reserve, which reduces its net remittances.)

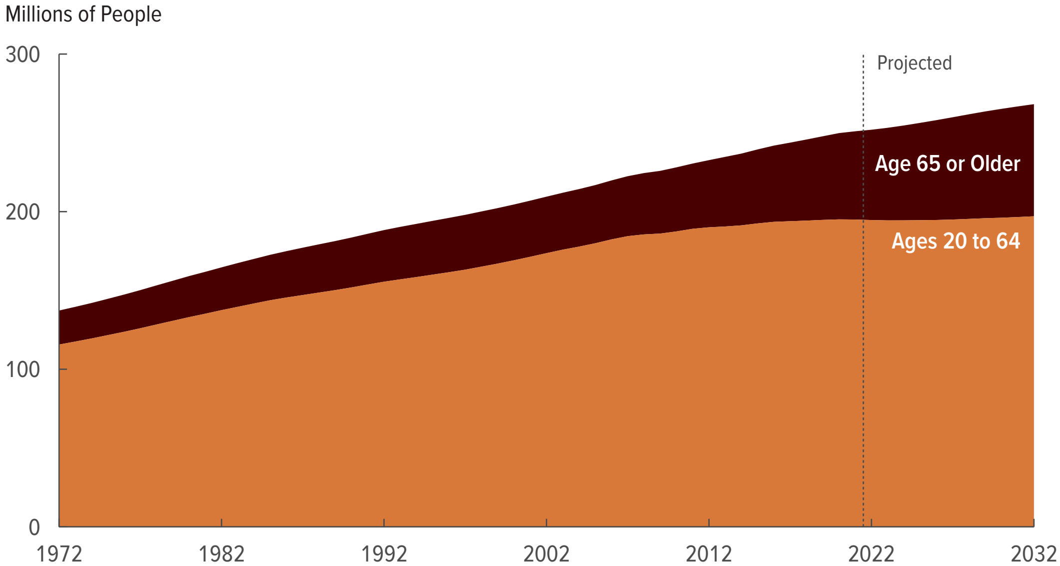
Under the assumption that current laws generally remain unchanged, revenues in CBO's baseline increase to 18.0 percent of GDP in 2026 and to 18.3 percent in 2027 and then remain just under that amount through 2032. Receipts from individual income taxes drive that growth in 2026 and 2027, rising by 0.8 percentage points over those two years, to 9.8 percent of GDP. Most of the increase in individual income taxes results from scheduled changes in tax rules, including the expiration of nearly all the changes made to those taxes by the 2017 tax act. Those expirations cause tax liabilities to rise in calendar year 2026, boosting receipts in 2026 and 2027. (For a more detailed discussion of CBO's revenue projections, see Chapter 4.)

Outlays. In CBO's baseline projections, total outlays relative to the size of the economy remain mostly stable in the first few years of the projection period and then rise over the rest of the decade, boosted by greater spending for interest costs and large benefit programs (see Figure 1-4). In the baseline, outlays (adjusted to exclude shifts in timing) remain just above 22.0 percent of GDP between 2023 and 2025 and then rise thereafter, reaching 24.3 percent in 2032. Since 1946, outlays have reached or exceeded 24 percent only three times: in 2009, during the 2007–2009 recession; and in 2020 and 2021, during the current pandemic. (For a more detailed discussion of CBO's projections of outlays, see Chapter 3.)

Net Interest Outlays. CBO estimates that, if current law remained unchanged, net outlays for interest would

Figure 1-5.

Population, by Age Group



Enrollment in Social Security and Medicare is expected to rise as the number of people age 65 or older grows.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

increase substantially over the projection period. In CBO's projections, interest rates rise through 2024 and net interest outlays increase at an average annual rate of 15 percent between 2022 and 2025. After 2025, growth in net interest outlays slows somewhat but remains robust, averaging increases of 10 percent per year through 2032. That slower rate of increase in later years occurs primarily because interest rates in CBO's economic forecast are relatively flat over the second half of the projection period. (For a more detailed discussion of CBO's economic projections, see Chapter 2.) Nevertheless, increasing federal debt would continue to put upward pressure on federal interest spending. All told, net interest outlays are projected to increase from 1.7 percent of GDP in 2023 to 3.3 percent in 2032, well above the 50-year average of 2.0 percent.

Mandatory Spending. In CBO's projections, outlays for mandatory programs fall relative to the size of the economy through 2025, when they equal 13.6 percent of GDP. They increase steadily over the remainder of the decade, totaling 14.9 percent of GDP in 2032, about the same as the share projected for 2022. By comparison, since 1962, the only other time mandatory outlays have exceeded 14.9 percent of GDP was in 2020 and 2021, during the pandemic. Such outlays averaged nearly 11 percent of GDP between 1972 and 2021.

That pattern occurs mostly because spending related to the pandemic is projected to fall over the next few years, and two underlying factors—the aging of the population and the rapid growth in federal health care costs—put upward pressure on mandatory outlays, particularly for Social Security and Medicare. Those trends are as follows:

- The number of people age 65 or older is now about two and a half times what it was 50 years ago. Over the next decade, as members of the baby-boom generation age and as life expectancy continues to increase, that number is expected to rise by about one-quarter (see Figure 1-5). As a result, the number of participants in Social Security and Medicare is projected to continue growing faster than the overall population.
- Federal health care costs per beneficiary are projected to continue growing faster than GDP per capita.

As a result of those two trends, outlays for Social Security and Medicare are projected to rise in relation to GDP over the 2023–2032 period, increasing from 8.2 percent in 2023 to 10.3 percent in 2032. All other mandatory outlays are projected to fall over that period, from 5.7 percent of GDP in 2023 to 4.6 percent in 2032. That decline results, in part, from falling spending related to the pandemic over the next few years. In addition, benefit amounts for many of those programs are adjusted for inflation each year, and in CBO's economic forecast, inflation is less than the rate of growth of nominal GDP. Beyond the projection period, the rising costs of health care and the aging of the population will continue to put pressure on the federal budget.

Discretionary Spending. In CBO's baseline, discretionary outlays increase at an average annual rate of 2.8 percent over the 2023–2032 period, reflecting the assumption that funding will grow with inflation.[5] Because that rate of growth is slower than the growth rate projected for the economy, such outlays fall as a percentage of GDP. In 2032, discretionary outlays are projected to total 6.2 percent of GDP, 0.8 percentage points below CBO's estimate of such outlays in 2022. By comparison, those outlays have averaged 8.1 percent of GDP over the past 50 years.

Debt

Debt held by the public—a common measure of federal debt—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.[6] The Treasury borrows money from the public by selling securities in the capital markets; that debt is purchased by many entities, including various buyers in the United States, private investors overseas, and central banks of other countries. Of the $22.3 trillion in federal debt held by the public at the end of 2021, two-thirds was held by domestic investors and one-third was held by foreign investors. The largest U.S. holders of federal debt as of September 30, 2021, were the Federal Reserve (24 percent), mutual funds (13 percent), and financial institutions (9 percent). Investors in Japan and China had the largest foreign holdings of Treasury securities, together accounting for 11 percent of U.S. public debt (see Figure 1-6).

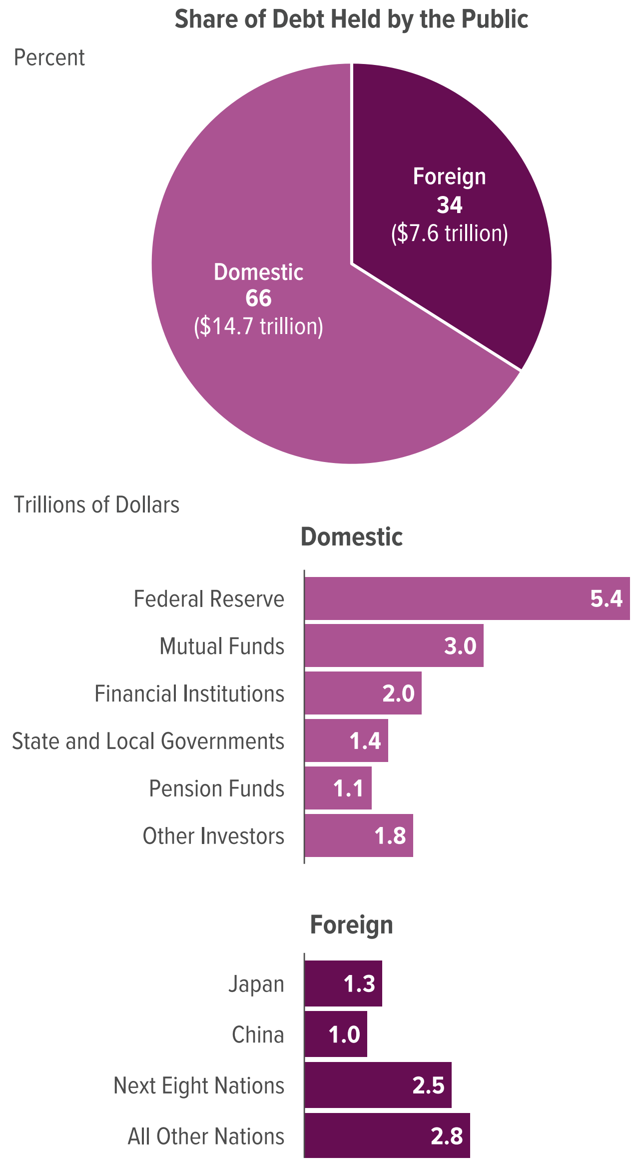
Aside from federal debt held by the public, other measures are sometimes used for various purposes, such as to provide a more comprehensive picture of the government's financial condition or to account for debt held by federal trust funds.

5. In CBO's baseline projections, discretionary funding related to federal personnel is inflated using the employment cost index for wages and salaries of workers in private industry; other discretionary funding is adjusted using the gross domestic product price index.

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

Figure 1-6.

Holders of Federal Debt, 2021



Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#data.

Debt Held by the Public

Under the assumptions that govern CBO's baseline, the federal government is projected to borrow another $18 trillion from the end of 2021 through 2032, boosting debt held by the public to $40 trillion, or 110 percent of GDP, by the end of the projection period (see Table 1-3). That amount of debt relative to the size of the economy would be the greatest in the nation's history and would be more than double the 50-year average of 46 percent.

Table 1-3.

CBO's Baseline Projections of Federal Debt

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Debt Held by the Public at the Beginning of the Year	21,017	22,284	24,173	25,193	26,217	27,561	28,925	30,326	32,105	33,760	35,808	37,949
Changes in Debt Held by the Public												
Deficit	2,775	1,036	984	1,056	1,318	1,364	1,409	1,725	1,651	1,912	2,067	2,253
Other means of financing[a]	-1,508	853	36	-32	26	*	-8	54	4	136	74	10
Total	**1,267**	**1,889**	**1,020**	**1,024**	**1,344**	**1,364**	**1,401**	**1,779**	**1,655**	**2,048**	**2,141**	**2,264**
Debt Held by the Public at the End of the Year												
In billions of dollars	**22,284**	**24,173**	**25,193**	**26,217**	**27,561**	**28,925**	**30,326**	**32,105**	**33,760**	**35,808**	**37,949**	**40,213**
As a percentage of GDP	**99.6**	**97.9**	**96.0**	**96.1**	**97.5**	**98.8**	**100.0**	**102.0**	**103.2**	**105.3**	**107.5**	**109.6**
Memorandum:												
Federal Financial Assets[b]	1,647	2,500	2,536	2,504	2,530	2,530	2,522	2,576	2,580	2,716	2,790	2,800
Debt Net of Financial Assets												
In billions of dollars	20,637	21,673	22,657	23,713	25,031	26,395	27,804	29,529	31,180	33,092	35,160	37,413
As a percentage of GDP	92.3	87.8	86.3	86.9	88.5	90.2	91.7	93.8	95.3	97.3	99.6	102.0
Federal Reserve Holdings of Debt Held by the Public	5,431	5,536	4,636	3,796	3,315	3,540	3,930	4,351	4,772	5,176	5,581	5,986
Debt Net of Financial Assets and Federal Reserve Holdings												
In billions of dollars	15,206	16,136	18,021	19,917	21,716	22,855	23,874	25,179	26,408	27,916	29,578	31,427
As a percentage of GDP	68.0	65.3	68.7	73.0	76.8	78.1	78.7	80.0	80.7	82.1	83.7	85.7
Gross Federal Debt[c]	28,386	30,621	31,761	32,887	34,245	35,597	36,835	38,377	39,849	41,599	43,445	45,350
Debt Subject to Limit[d]	28,401	30,637	31,777	32,903	34,261	35,614	36,852	38,394	39,866	41,617	43,464	45,370
Average Interest Rate on Debt Held by the Public (Percent)	1.8	1.9	2.0	2.2	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.1

Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#data.

GDP = gross domestic product; * = between zero and $500 million.

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.

Such high and rising debt would have significant negative consequences, both for the economy and for the federal budget, including the following:

- As interest rates rise—as they are projected to do in CBO's economic forecast—federal spending on interest payments, including payments to foreign holders of U.S. debt, would increase substantially. More generally, the United States' fiscal position would be more vulnerable to an increase in interest rates because costs to service the debt rise more for a given increase in interest rates when debt is higher than when it is lower.

- That debt path would also increase borrowing costs for the private sector, which would result in lower business investment and slow the growth of economic output over time.[7]
- The likelihood of a fiscal crisis in the United States would increase. Specifically, the risk would rise of investors' losing confidence in the U.S. government's ability to service and repay its debt, causing interest rates to increase abruptly and inflation to spiral upward, or other disruptions.
- The likelihood of less abrupt, but still significant, adverse effects—such as expectations of higher rates of inflation, an erosion of confidence in the U.S. dollar as an international reserve currency, and more difficulty in financing public and private activity in international markets—would increase.
- Policymakers might feel constrained from implementing deficit-financed fiscal policy to respond to unforeseen events or for other purposes, such as to promote economic activity or strengthen national defense.

Other Measures of Debt

Four other measures are sometimes used in reference to federal debt:

- *Debt held by the public minus financial assets* subtracts from debt held by the public the value of the government's financial assets, such as student loans. That measure provides a more comprehensive picture of the government's financial condition than does debt held by the public. Calculating that measure is not straightforward, however, because neither the financial assets that are included nor the methods for evaluating them are clearly defined. In CBO's baseline, that measure varies roughly in line with debt alone, but is 7 percent to 10 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 in addition to financial assets held by the federal government.[8] That measure better reflects the government's overall effect on credit markets. In CBO's projections, that measure increases from $16 trillion (or 65 percent of GDP) in 2022 to $31 trillion (or 86 percent of GDP) in 2032. Federal Reserve holdings are projected to fall as a percentage of debt held by the public, from 23 percent in 2022 to 15 percent in 2032.
- *Gross federal debt* consists of debt held by the public and Treasury securities held by government accounts (for example, the Social Security trust funds). The latter type of debt does not directly affect the economy and has no net effect on the budget. Although debt held by the public increases by $16 trillion between the end of 2022 and the end of 2032 in CBO's baseline projections, debt held by government accounts falls by about $1 trillion, reflecting declines in the balances of many trust funds.[9] (For a more detailed discussion of those trust funds, see Appendix B.) As a result, gross federal debt is projected to rise by $15 trillion over that period and to total $45 trillion at the end of 2032. 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; it 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 measures of gross debt.[10] Currently, the statutory limit on the issuance of new federal debt is set at $31.4 trillion. In CBO's baseline projections, the amount of outstanding debt subject to limit increases from $30.6 trillion at the end of 2022 to about $45 trillion at the end of 2032. (Under the assumptions governing CBO's baseline projections, the Treasury will reach the limit on borrowing sometime in fiscal year 2023; but for the purpose of those projections, CBO assumes that increases in the statutory ceiling will occur as necessary.)

7. When the federal government borrows in financial markets, it competes with other participants for funds. That competition can crowd out private investment, reducing economic output and income in the long term. By contrast, federal debt held by trust funds and other government accounts represents internal transactions of the government and does not directly affect financial markets.

8. Because of its need for flexibility and autonomy in setting monetary policy, the central bank is an independent federal entity. Although it remits earnings to the Treasury (which are recorded as revenues in the federal budget), the Federal Reserve's receipts and expenditures are not included directly in the federal budget, and the debt it holds is considered to be debt held by the public.

9. In keeping with the rules in section 257 of the Deficit Control Act, CBO's baseline incorporates the assumption that scheduled payments will continue to be made in full after a trust fund has been exhausted, even though there is no legal authority to make such payments.

10. 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, and that amount does not count against the debt limit.

Relationship Between Debt and Deficits

The net amount the Treasury borrows by selling securities (the amounts that are sold minus the amounts that have matured) is determined primarily by the annual budget deficit. However, several other factors—collectively labeled "other means of financing" and not directly included in budget totals—also affect the government's need to borrow from the public. Those factors include the cash flows associated with federal credit programs such as student loans (because only the subsidy costs of those programs are reflected in the budget deficit), as well as changes in the government's cash balances.[11] As a result of that additional borrowing, CBO projects, the increase in debt held by the public in 2022 will exceed the deficit this year by about $850 billion, a significantly larger difference than in most years.

The amount of other means of financing this year is affected by the need for cash to finance credit programs, to replenish the Treasury's cash balances, and to repay funds used late in fiscal year 2021 before the debt ceiling was increased. Specifically, the government's need for cash to finance credit programs will, on net, boost debt by about $380 billion this year, primarily as a result of repaying financial institutions for loans made in response to the pandemic that were guaranteed and subsequently forgiven by the Small Business Administration. (The estimated costs of those guarantees had previously been recorded in the budget.) In addition, CBO estimates that the Treasury will boost its cash balance by $350 billion in 2022. That increase does not affect the deficit but results in an increase in debt of the same amount. That balance was drawn down late in fiscal year 2021 after the statutory limit on federal debt was reinstated in August 2021, and the Treasury could not issue net additional debt without breaching the limit.

Also, the Treasury began taking a series of other steps in August 2021—known collectively as extraordinary measures—to avoid breaching the debt limit, including suspending investments of the Thrift Savings Plan's G Fund.[12] Once the debt ceiling was raised in December (early in fiscal year 2022), the G Fund, as required by law, was made whole (with interest), increasing debt by about $120 billion.

Between 2023 and 2032, the government's need for cash to finance new student loans and other credit programs would boost debt, on net, by about $248 billion, CBO projects. The subsidy costs for those credit programs are included in the projected deficit for each year from 2023 to 2032. However, the cash outlays needed to finance those programs each year—for example, the outlays needed to lend students the sums they will gradually repay—are greater than the net subsidy costs. The Treasury needs to borrow funds each year to make up that difference. (For more information on CBO's treatment of credit programs, see the section titled "Other Mandatory Programs" in Chapter 3.)

In addition, CBO projects that the Treasury would boost its cash balances, on net, by about $65 billion between 2023 and 2032. All told, CBO projects that cumulative borrowing would total about $16.0 trillion over the period, $0.3 trillion more than the cumulative deficit.

Uncertainty About the Outlook for Deficits and Debt

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 a host of other factors that affect federal spending and revenues. The current projections are subject to an unusually high degree of uncertainty, which stems from the ongoing pandemic and other world events. The agency develops its projections so that they fall in the middle of the range of likely outcomes, given the baseline assumptions about federal tax and spending policies, while recognizing that actual outcomes will typically differ to some degree from any such projections.

CBO's projections of outlays and revenues, and therefore of deficits and debt, depend in part on the agency's economic projections, which include forecasts for such variables as interest rates, inflation, and the growth in productivity. Discrepancies between those forecasts and actual economic outcomes can cause significant differences between baseline budget projections and budgetary outcomes. The potential for such discrepancies in other inputs to the baseline also contributes to uncertainty about CBO's projections.

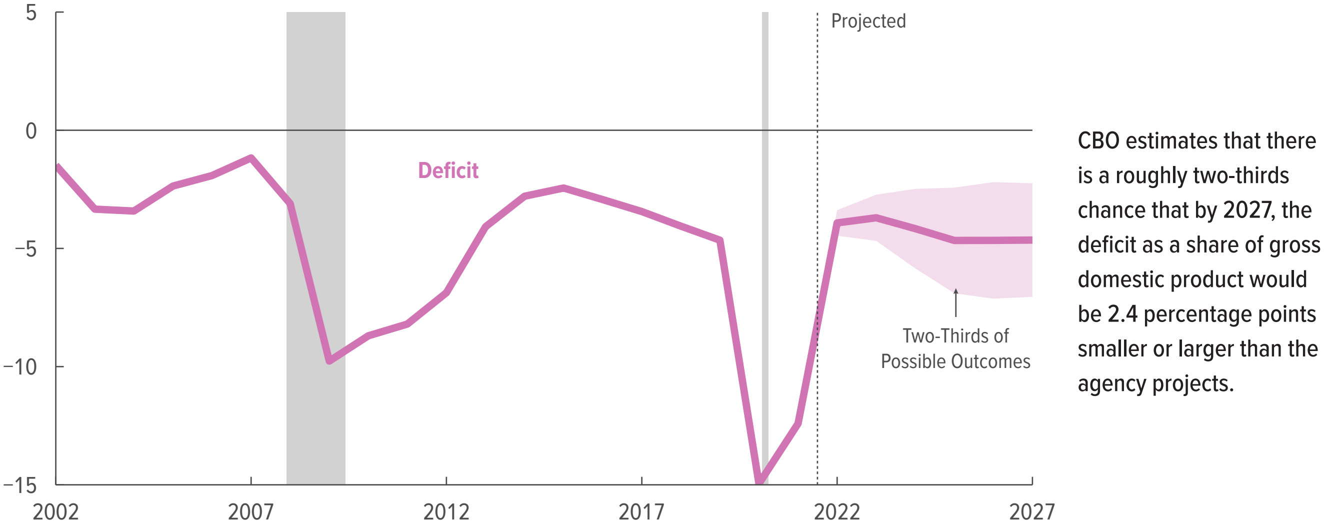
11. For more details on other means of financing and on federal debt more broadly, see Congressional Budget Office, *Federal Debt: A Primer* (March 2020), www.cbo.gov/publication/56165.

12. For more details on extraordinary measures and on the statutory limit on federal debt more broadly, see Congressional Budget Office, *Federal Debt and the Statutory Limit, November 2021* (November 2021), www.cbo.gov/publication/57635.

Figure 1-7.

The Uncertainty of CBO's Baseline Projections of the Budget Deficit

Percentage of Gross Domestic Product



Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

The shaded area around CBO's baseline deficit projection, which encompasses two-thirds of possible outcomes, 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 2021. Actual outcomes will be affected by legislation enacted in future years. The effects of future legislation are not reflected in this figure.

Historical experience gives some indication of the magnitude of the uncertainty of these projections. The average absolute error of CBO's deficit projection for the second year of its baseline (often referred to as the budget year) was 1.1 percent of GDP between 1985 and 2021.[13] If CBO's deficit projection for 2023 had an error equal to that average absolute error, the deficit would be larger or smaller than the agency estimates by about $280 billion. The sixth-year projections of deficits are, as expected, less accurate than the budget-year projections. For CBO's sixth-year projections made for the years 1989 to 2021, the average absolute error was 2.0 percent of GDP. An equivalent error in the current deficit projection of $1.4 trillion for 2027 would cause the deficit in that year to be larger or smaller than what the agency projects by about $620 billion.

To help illustrate the uncertainty of CBO's baseline projections, the agency has calculated a range of possible outcomes for the deficit through 2027, under the assumption that current law does not change (see Figure 1-7). In CBO's baseline, the deficit (adjusted to exclude the effects of timing shifts) equals 3.7 percent of GDP in 2023 and 4.6 percent in 2027. On the basis of an analysis of its past projections, CBO estimates that there is approximately a two-thirds chance that the deficit under current law would be between 2.7 percent and 4.7 percent of GDP in 2023. For 2027, the range is wider: CBO estimates that there is approximately a two-thirds chance that the deficit would be between 2.2 percent and 7.0 percent of GDP.

For CBO's debt projections, estimates for the sixth year of a baseline have been much less accurate than budget-year estimates. Between 1985 and 2021, the average absolute error in budget-year projections of debt held by the public was 1.9 percent of GDP, but the average absolute error in sixth-year projections was 6.9 percent of GDP. Those larger errors occurred because errors in the projections of debt tend to compound over time, thereby increasing the uncertainty of those projections. For example, in CBO's baseline, federal debt is projected to equal 100 percent of GDP in 2027. On the basis of an analysis of its past projections, CBO estimates that there is approximately a two-thirds chance that federal debt under current law would be between 91 percent and 109 percent of GDP in that year.

13. Calculations of CBO's average absolute error exclude the effects of legislation enacted after the agency completed its projections. Calculations used actual GDP recorded for each year. For more information about how CBO calculates those errors, see Congressional Budget Office, *An Evaluation of CBO's Past Deficit and Debt Projections* (September 2019), www.cbo.gov/publication/55234.

Table 1-4.

Key Projections in CBO's Baseline

Percentage of Gross Domestic Product

			Projected Annual Average			
	2022	2023	2024–2027	2028–2032	2033–2042	2043–2052
Revenues						
Individual income taxes	10.6	9.8	9.4	9.7	10.0	10.5
Payroll taxes	5.9	6.0	5.9	5.9	5.8	5.8
Corporate income taxes	1.6	1.7	1.6	1.4	1.4	1.3
Other	1.4	1.1	1.1	1.1	1.2	1.3
Total Revenues	**19.6**	**18.6**	**18.0**	**18.1**	**18.4**	**18.9**
Outlays						
Mandatory						
Social Security	4.9	5.0	5.3	5.8	6.1	6.3
Major health care programs[a]	5.9	5.8	5.8	6.5	7.6	8.6
Other	4.4	3.1	2.6	2.2	2.1	1.9
Subtotal	15.2	14.0	13.7	14.5	15.8	16.8
Discretionary	7.0	6.7	6.6	6.3	6.0	6.0
Net interest	1.6	1.7	2.2	3.0	4.0	6.2
Total Outlays	**23.8**	**22.4**	**22.5**	**23.8**	**25.8**	**28.9**
Deficit	**-4.2**	**-3.8**	**-4.5**	**-5.6**	**-7.4**	**-10.0**
Debt Held by the Public at the End of the Period	**98**	**96**	**100**	**110**	**140**	**185**
Memorandum:						
Social Security						
Revenues[b]	4.5	4.5	4.6	4.6	4.6	4.5
Outlays[c]	4.9	5.0	5.3	5.8	6.1	6.3
Contribution to the Federal Deficit[d]	-0.4	-0.5	-0.8	-1.2	-1.5	-1.8
Medicare						
Revenues[b]	1.5	1.5	1.5	1.6	1.6	1.6
Outlays[c]	4.0	3.9	4.2	4.9	6.1	7.1
Offsetting receipts	-0.9	-0.6	-0.7	-0.9	-1.2	-1.4
Contribution to the Federal Deficit[d]	-1.6	-1.7	-2.0	-2.5	-3.4	-4.1
Gross Domestic Product at the End of the Period (Trillions of dollars)	24.7	26.2	30.3	36.7	52.6	74.5

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#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 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.

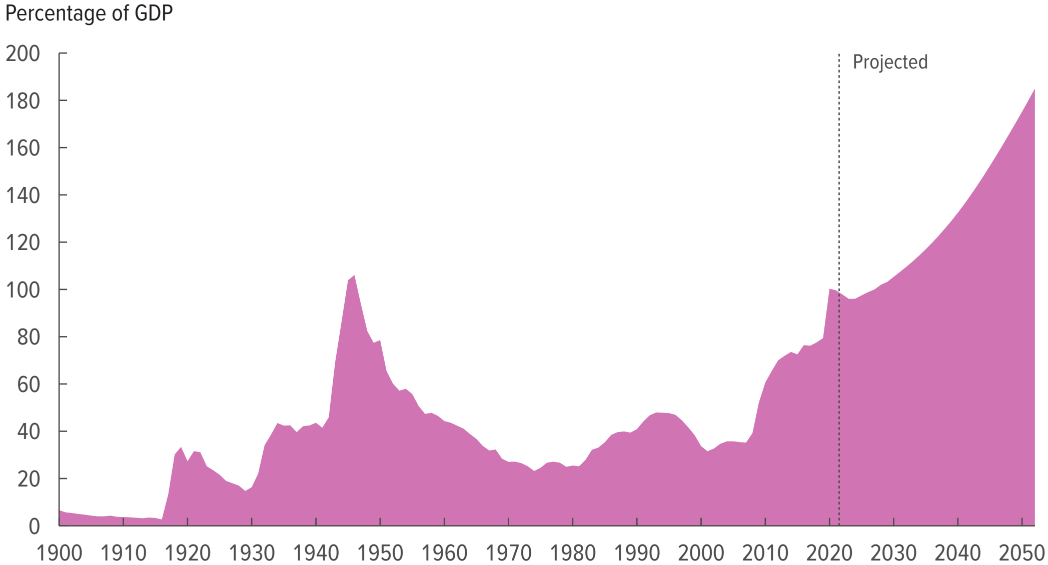
b. Includes payroll taxes other than those paid by the federal government on behalf of its employees; those payments are intragovernmental transactions. Also includes income taxes paid on Social Security benefits, which are credited to the trust funds.

c. 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.

d. 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 1-8.

Federal Debt Held by the Public, 1900 to 2052



Federal debt held by the public is projected to increase in most years in the projection period, reaching 110 percent of GDP in 2032—higher than it has ever been. In the two decades that follow, growing deficits are projected to push federal debt higher still, to 185 percent in 2052.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

GDP = gross domestic product.

The Long-Term Outlook for the Budget

Beyond the coming decade, the fiscal outlook is more challenging. In CBO's current long-term projections, which extend through 2052, budget deficits grow steadily relative to GDP. Those long-term projections follow CBO's 10-year baseline projections for the coming decade and then extend the baseline concept for subsequent years (see Table 1-4 on page 18).[14] Long-term budget projections are highly uncertain. Nevertheless, growing debt and rising interest rates would cause net outlays for interest as a percentage of GDP to rise rapidly through 2052. In addition, growth in per capita spending on health care and the aging of the population would boost federal outlays significantly relative to GDP over that period if current laws generally remained in effect.

Federal revenues also would increase relative to GDP under current law, but they would not keep pace with outlays. As a result, CBO estimates, public debt would reach 185 percent of GDP by 2052, higher than any percentage previously recorded in the United States (see Figure 1-8).

Moreover, debt is on track to grow even larger after 2052. To avoid the negative consequences of large and growing federal debt and to put debt on a sustainable path, lawmakers would have to make significant changes to tax and spending policies—increasing revenues more than they would under current law, reducing spending for large benefit programs below the projected amounts, or adopting some combination of those approaches.[15]

14. Details on the long-term budget projections presented here are included with the supplemental data for this report, available online at www.cbo.gov/publication/57950. CBO expects to publish *The 2022 Long-Term Budget Outlook* in July.

15. For further discussion, see Congressional Budget Office, *The Economic Effects of Waiting to Stabilize Federal Debt* (April 2022), www.cbo.gov/publication/57867.

Chapter 2: The Economic Outlook

Overview

This chapter provides details about the Congressional Budget Office's May 2022 economic projections, which the agency used as the basis for updating its budget projections. Inflation surged in 2021 and persisted at an elevated rate in 2022 as the prices of many goods and services increased sharply and the unemployment rate fell. Over that period, output and employment continued to expand markedly, and robust demand combined with supply disruptions to cause considerable tightness in product and labor markets.

The Economic Outlook for 2022 to 2026

CBO's projections reflect economic developments as of March 2, 2022, and the assumption that current laws governing federal taxes and spending generally remain in place. In those projections, high inflation initially persists as strong demand for products and labor continues and as supply disruptions and energy prices gradually decline:

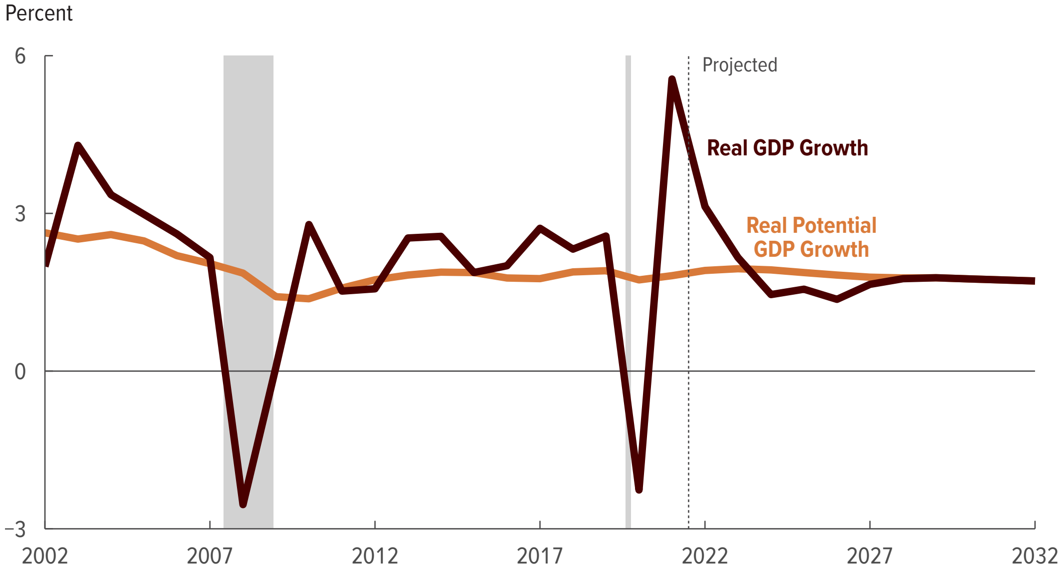
- **Inflation** remains elevated in 2022; its pace since mid-2021 has been the fastest in four decades. In CBO's projections, the price index for personal consumption expenditures (PCE) increases by 4.0 percent in 2022, reflecting a variety of factors that continue to restrain supply in the face of strong demand.[1] In the second half of 2022, supply-side conditions improve, and energy prices decrease. Inflation as measured by the PCE price index falls to 2.3 percent in 2023. From 2024 to 2026, inflation remains near the Federal Reserve's long-run goal of 2 percent.
- **Output** surpasses its potential (maximum sustainable) level in the middle of 2022 as the economy continues to expand following the disruptions caused by the coronavirus pandemic and the recession of early 2020. Real gross domestic product (that is, GDP adjusted to remove the effects of inflation) grows by 3.1 percent in 2022, driven by strong gains in consumer spending on services (see Figure 2-1). After 2022, several factors—including tightening monetary policy and waning fiscal support—combine to slow the growth of output; the annual growth of real GDP averages 1.6 percent from 2023 to 2026.
- **Conditions in the labor market** continue to improve in 2022. Employment grows by 4.1 million jobs and surpasses its prepandemic (February 2020) level in the middle of this year. The average rate of unemployment declines through 2023, reaching 3.5 percent. The annual average has not been lower than that since 1953. The unemployment rate remains below or near 4.0 percent for the next several years (see Table 2-1). The size of the labor force, which, in early 2022, remained roughly one million people below its prepandemic level, is expected to keep increasing, exceeding that level by the end of 2022.[2] CBO expects the labor force to grow more slowly after 2022 as the negative effects of an aging population outweigh the positive effects of an ongoing economic expansion.
- **Interest rates** on Treasury securities rise. To contain inflationary pressures, the Federal Reserve raises the target range for the federal funds rate (the rate that financial institutions charge each other for overnight loans of their monetary reserves); that rate increases to 1.9 percent by the end of 2022 and to 2.6 percent by the end of 2023. The interest rate on 10-year Treasury notes rises from 1.5 percent in the fourth quarter of 2021 to 3.1 percent in the fourth quarter of 2024.

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.

2. The labor force consists of the people age 16 or older in the civilian noninstitutionalized population who have jobs or who are available for work and are actively seeking jobs.

Figure 2-1.

Growth of Real GDP and Real Potential GDP



After 2022, CBO projects, the growth of real GDP will slow because of several factors, including tightening monetary policy and waning fiscal support.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Real values are nominal values that have been adjusted to remove the effects of changes in prices. Potential GDP is CBO's estimate of the maximum sustainable output of the economy. Growth of real GDP and real potential GDP is measured from the fourth quarter of one calendar year to the fourth quarter of the next.

GDP = gross domestic product.

The Economic Outlook for 2027 to 2032

In CBO's forecast, economic output expands less rapidly from 2027 to 2032 than it does over the 2022–2026 period. Real GDP grows by 1.7 percent per year, on average. Real potential GDP grows at a marginally faster rate.[3] The level of real GDP is slightly below the level of real potential GDP from 2027 to 2032, in line with their historical relationship, on average. That negative output gap is projected to relieve upward pressure on prices, helping to keep inflation near the Federal Reserve's long-run goal.

In CBO's projections for the 2027–2032 period, the growth rate of potential output is similar to the average rate of such growth during the most recent business cycle (from 2007 to 2020). However, the growth rate of the potential labor force is slower, and the growth rate of potential labor force productivity is faster, than in that most recent business cycle.[4]

3. Potential GDP is CBO's estimate of the maximum sustainable output of the economy.

4. 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.

Uncertainty About the Economic Outlook

CBO develops its projections so that they fall in the middle of the range of likely outcomes under current law. The agency's projections of economic output and conditions in the labor market are highly uncertain, both in the short run and in the long run. The upward pressure on wages and prices from tight conditions in the labor market could be greater or less than the agency expects.[5] Future monetary policy and the path of financial conditions over the next several years are also highly uncertain. Financial conditions might tighten more rapidly than CBO anticipates, which would result in a sharp decline in the availability of credit to consumers and businesses and might lead to a recession. Another source of uncertainty is the path of interest rates in the long run, which contributes to the uncertainty of the agency's estimates of the impact of larger deficits and debt on the economy. Furthermore, geopolitical events, including Russia's invasion of Ukraine, add to the uncertainty of the economic outlook, notably the outlook for inflation.

5. A tight labor market is one in which the demand for labor exceeds the supply of labor, for example when the number of job vacancies exceeds the number of unemployed workers.

Table 2-1.

CBO's Economic Projections for Calendar Years 2022 to 2032

Percent

	Actual, 2021	2022	2023	2024	Annual Average 2025–2026	Annual Average 2027–2032
			Change From Fourth Quarter to Fourth Quarter			
Gross Domestic Product						
Real[a]	5.5	3.1	2.2	1.5	1.5	1.7
Nominal	11.8	7.4	4.5	3.6	3.6	3.9
Inflation						
PCE price index	5.5	4.0	2.3	2.1	2.0	2.0
Core PCE price index[b]	4.6	3.8	2.5	2.2	2.1	2.1
Consumer price index[c]	6.7	4.7	2.7	2.3	2.3	2.4
Core consumer price index[b]	5.0	4.4	2.9	2.5	2.4	2.4
GDP price index	5.9	4.0	2.3	2.1	2.1	2.1
Employment Cost Index[d]	5.0	5.4	4.1	3.7	3.3	3.1
			Fourth-Quarter Level			
Unemployment Rate	4.2	3.7	3.6	3.8	4.1[e]	4.5[f]
			Change From Year to Year			
Gross Domestic Product						
Real[a]	5.7	3.8	2.8	1.6	1.5	1.7
Nominal	10.1	9.3	5.5	3.8	3.5	3.9
Inflation						
PCE price index	3.9	5.1	2.7	2.2	2.0	2.0
Core PCE price index[b]	3.3	4.5	2.8	2.3	2.1	2.1
Consumer price index[c]	4.7	6.1	3.1	2.4	2.3	2.4
Core consumer price index[b]	3.6	5.1	3.3	2.6	2.4	2.4
GDP price index	4.2	5.2	2.7	2.1	2.1	2.1
Employment Cost Index[d]	4.0	5.6	4.5	3.8	3.4	3.1
			Annual Average			
Unemployment Rate	5.4	3.8	3.5	3.7	3.9	4.5
Payroll Employment (Monthly change, in thousands)[g]	514	345	123	58	41	56
Interest Rates						
3-month Treasury bills	*	0.9	2.0	2.5	2.6	2.3
10-year Treasury notes	1.4	2.4	2.9	3.1	3.3	3.8
Tax Bases (Percentage of GDP)						
Wages and salaries	44.9	44.7	44.2	44.1	44.0	44.0
Domestic corporate profits[h]	10.1	9.7	9.3	8.8	8.4	7.8
Current Account Balance (Percentage of GDP)[i]	-3.6	-3.8	-3.4	-3.0	-2.8	-2.9

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Bureau of Labor Statistics; Federal Reserve. See www.cbo.gov/publication/57950#data.

For economic projections for each year from 2022 to 2032, see Appendix C.

GDP = gross domestic product; PCE = personal consumption expenditures; * = between zero and 0.05 percent.

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

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 2026.

f. Value for the fourth quarter of 2032.

g. The average monthly change, calculated by dividing by 12 the change in payroll employment from the fourth quarter of one calendar year to the fourth quarter of the next.

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

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

Comparison With CBO's Previous Projections

Last July, CBO projected that in 2021 nominal GDP would grow by 10.7 percent, real GDP would grow by 7.4 percent, and the GDP price index would increase by 3.0 percent.[6] Nominal GDP grew by 11.8 percent in 2021—similar to the agency's projection—but the composition of that growth differed from the agency's projections: Real GDP growth was 1.8 percentage points lower than projected, and inflation in the GDP price index was 2.8 percentage points higher than projected.

Compared with what they were last July, the agency's projections of real GDP growth are similar for 2022, stronger for 2023 and 2024, and similar over the remainder of the projection period. The stronger economic growth in 2023 and 2024 is mainly the result of higher growth in three areas: real nonresidential fixed investment in 2023, real PCE in 2024, and real exports in both years. That stronger growth returns real GDP to a level that, at the end of 2026, is similar to what CBO previously projected.

CBO currently projects higher inflation in 2022 and 2023 than it did last July. Prices are increasing more rapidly across many sectors of the economy this year than CBO expected, largely because the combination of strong demand and restrained supply resulted in tighter markets for goods, services, and labor than the agency anticipated. For 2023, the agency's revisions are largely driven by higher inflation in housing services, which tends to be persistent. Inflation was higher in 2021 than CBO forecast it would be last summer, reaching a rate that had not been seen since the early 1980s. As a result, projections of nominal GDP and national income have increased throughout the forecast period, even though real GDP during the initial years of that period is slightly lower than the agency previously projected.

CBO now expects both short- and long-term interest rates over the coming decade to be higher, on average, than in its previous forecast. The upward revision in rates over the 2022–2026 period partly reflects the upward revision to inflation. The agency now expects that, in response to recent inflation that was higher than anticipated, the Federal Reserve will raise the target range for the federal funds rate more rapidly than previously projected. As a result of that expectation, CBO raised its projections of short-term interest rates, on average, over the later years of the forecast period as well. It also raised its projections of long-term rates, which partly reflect the expected path of short-term rates.

6. See Congressional Budget Office, *Additional Information About the Updated Budget and Economic Outlook: 2021 to 2031* (July 2021), www.cbo.gov/publication/57263.

Recent Economic Developments

Inflation surged in 2021 and persisted at an elevated rate in 2022 as unemployment fell sharply over that period. Both were the result of strong demand and disruptions to supply, which combined to cause considerable tightness in product and labor markets. Output and employment recovered from the pandemic-induced recession of early 2020 and then continued to expand. Ongoing pandemic-related disruptions caused the expansion to be unbalanced, however; soaring demand for goods strained domestic and international supply chains, and labor force participation remained below its prepandemic levels. Those factors contributed to the restrained growth of supply in product and labor markets. As a result, the growth rates of consumer prices, producer prices, and nominal wages increased markedly. The Federal Reserve ended purchases of long-term securities and raised interest rates in 2022.

Inflation

Inflation reached a high in 2021 that had not been seen since the early 1980s, and high inflation has persisted in 2022. In 2021, the PCE price index grew by 5.5 percent, and the consumer price index for all urban consumers (CPI-U) grew by 6.7 percent—notably faster than their averages of 1.5 percent and 1.7 percent, respectively, over the decade that preceded the pandemic. The high rates of inflation reflected widespread price increases for many types of goods and services. Some of the categories of goods and services that experienced the largest price increases were durable goods, energy, food, and housing services.

Inflation in the CPI-U substantially outpaced inflation in the PCE price index throughout 2021 and early 2022. An important reason for that difference is that the weights assigned to categories of goods and services differ in the two indexes, and certain categories—such as durable goods (like motor vehicles) and housing services—that weigh more in the CPI-U than in the PCE price index experienced historically high inflation in 2021 and early 2022.[7]

The PCE price index for goods rose by 8.1 percent in 2021; the index for services rose by 4.1 percent. Pronounced increases in the prices of certain products—notably, many durable goods—that were particularly affected by disruptions to supply chains drove the rapid growth in the price index for goods overall. For example, the PCE price index for motor vehicles and parts increased by 20 percent in 2021 as a result of the persistent shortage of semiconductors used in manufacturing new vehicles.

Historically, growth in the prices of services has outpaced that of goods. For example, from 2010 to 2020, the former averaged 2.3 percent, whereas the latter declined at an average annual rate of 0.1 percent. During the pandemic, however, growth in the prices of goods has outpaced that of services because of supply disruptions and an elevated demand for goods, particularly durable goods.

Energy and food prices also increased rapidly in 2021 and continued to rise sharply in 2022 because the supply of energy goods did not keep up with the demand for them as the economy rebounded. Energy prices grew by 30 percent in 2021. Food prices, which are particularly sensitive to fluctuations in transportation costs and other supply disruptions, grew by 5.3 percent that year.

Supply problems were compounded by effects of the invasion of Ukraine, which contributed to energy prices' surging by 43 percent (at an annualized rate) in the first quarter of 2022. Food prices surged as well. Prices in the PCE category "food purchased for off-premises consumption" grew by 13 percent (at an annualized rate) in the first quarter of 2022—the result of increased transportation costs and the disruption of Ukraine's role as a major exporter of wheat, corn, and sunflower seeds. Energy and food prices are historically more volatile than other prices; the inflation seen in those categories in 2021 was historically high.

In the second half of 2021, the price of housing services began rising quickly, following a rapid appreciation of home values that occurred over the previous 12 months.[8] By the end of 2021, inflation in housing services reached 3.4 percent (it was 2.4 percent in 2020, the category's lowest growth rate since 2012). Housing services are a large and persistent component of inflation, constituting roughly 16 percent of the PCE market basket of goods and services and 30 percent of the CPI-U basket. During 2021, inflation in the CPI-U category "rent of primary residence" (part of housing services) was 3.0 percent (as measured from the fourth quarter of 2020 to the fourth quarter of 2021). Growth in the price of housing services accelerated in the first quarter of 2022; inflation in the "rent of primary residence" category was 6.0 percent (as measured by the annualized quarterly growth rate).

Output and the Labor Market

Economic output expanded at its fastest rate in more than three decades in 2021, following the pandemic-induced recession of early 2020; real GDP grew by 5.6 percent (as measured from the fourth quarter of 2020 to the fourth quarter of 2021). Real household consumption rose sharply during the first half of 2021 as people received federal payments in accordance with legislation enacted in late 2020 and early 2021. As the effects of those payments on consumer spending faded, real household consumption grew more slowly in the second half of 2021. In addition, disruptions to the supply of goods and the erosion of households' purchasing power because of higher inflation increasingly restrained real household consumption throughout the year. As a result, the growth of real GDP slowed from 6.5 percent in the first half of 2021 to 4.6 percent in the second half (at an annual rate).

In the first quarter of 2022, real household consumption continued to grow at about the same pace it grew during the second half of 2021; but a surge in imports suggests that a large share of that growth in consumption was of products produced abroad (and so would not imply greater domestic production). In addition, although businesses continued to restock inventories in the first

7. There are several other reasons that measures of inflation in the PCE price index and the CPI-U differ. The two indexes are developed using different formulas, and the scope of items included in each index is different. Other, smaller factors, such as seasonal adjustments, price differences, and residual differences, contribute to the two indexes' different measures of inflation. For more detailed information, see Bureau of Economic Analysis, "What Accounts for the Differences in the PCE Price Index and the Consumer Price Index?" (accessed May 6, 2022), www.bea.gov/help/faq/555.

8. Housing services is the measure of the value of the services that housing provides, reflecting the rental value of housing occupied by tenants and the imputed rental value of owner-occupied housing.

quarter of 2022, the pace was not as strong as in the prior quarter. As a result, real GDP declined in the first quarter of 2022.

Because waves of COVID-19 infections dampened the growth of demand for many services in 2021, fiscal measures meant to support overall economic activity—especially direct cash transfers to households—mainly boosted demand for goods. The pandemic continued to hinder certain in-person activities, such as air travel, trips to amusement parks, and haircuts. Although demand for consumer services grew rapidly in the middle of 2021, it remained below its prepandemic level throughout the year. In contrast, demand for consumer goods grew sharply. Real personal consumption of goods exceeded its prepandemic level in the second half of 2020 and continued to exhibit strong growth thereafter. From the fourth quarter of 2019 to the fourth quarter of 2021, real personal consumption of durable goods increased at an average annual rate of 10.0 percent; real personal consumption of nondurable goods grew at an average annual rate of 6.2 percent.

In 2021, the surge in demand for goods strained domestic and international supply chains, leading to delayed deliveries and shortages of many products. Those disruptions included shortages of semiconductors (key components in automobiles and consumer electronics) and shipping containers. Despite strong demand, domestic production of automobiles declined during the year, falling further below its prepandemic level because of shortages of semiconductors and other supply-side disruptions. Backlogs formed as key U.S. ports struggled to keep up with the elevated volume of imported goods. The lack of availability of construction materials also limited the growth of the supply of new housing and nonresidential structures. Moreover, a shortage of workers in transportation and warehousing compounded those problems with supply chains.

Supported by the expansion of economic activity, conditions in labor markets were marked by rising employment and labor force participation, declining unemployment, and elevated job vacancies in 2021 and early 2022. Nonfarm payroll employment, which increased by an average of nearly 562,000 jobs per month in 2021, ended the year at roughly 3.3 million jobs (or 2.1 percent) below its prepandemic peak (it was 14.4 percent below that peak in April 2020). Growth in payroll employment continued in early 2022; job gains averaged 549,000 per month over the first three months of the year. The unemployment rate was 6.4 percent in January 2021 and declined to 3.6 percent by April 2022—slightly above the prepandemic low of 3.5 percent in February 2020. Job vacancies (an indicator of demand for labor) increased to an all-time high in 2021.

At the same time, growth in the labor force was modest and did not keep up with the increase in the demand for labor. Various factors continued to inhibit growth in the labor force during 2021 and early 2022, including lingering pandemic-related health concerns and issues related to providing child care and other in-home care. Supplemental unemployment insurance payments and direct cash transfers to households might also have slowed the recovery of labor force participation in 2021. Moreover, rising asset prices boosted household wealth, which enabled older workers to retire earlier than previously expected. As of early 2022, the labor force was roughly two million people smaller than CBO had projected for that time in its last forecast before the pandemic, and it was roughly one million people smaller than the agency's estimate of the potential labor force. The extent of the labor market's recovery from the 2020 recession differed between women and men and among other demographic groups (see Box 2-1).

Nominal compensation grew markedly in 2021 and early 2022. The demand for workers, as measured by the number of job openings, increased faster than the number of available workers in 2021. The shortfall of available workers relative to the demand for them contributed to an increase in the growth of compensation.

Overall growth in nominal wages and salaries as measured by the employment cost index was 5.0 percent from the first quarter of 2021 to the first quarter of 2022—the largest annual increase since the early 1980s. But prices rose more—by 6.3 percent over that period as measured by the PCE price index—so overall real wages and salaries decreased. Although the employment cost index accounts for changes in the composition of employment over time (that is, changes in workers' occupations and the industries they work in), it is unclear how such changes over the past year have affected that index's measure of wages and salaries. But compared to an earlier period when the composition of employment was less affected by pandemic-related disruptions, overall real wages and salaries increased; from the fourth quarter of 2019 (before the pandemic) to the first quarter of

2022, nominal wages and salaries grew by 9.2 percent, and prices grew by 8.6 percent.

Nominal wage growth was strongest for low-wage workers, reflecting differences among industries in the imbalance between the supply and demand for labor. The average growth of median hourly wages for the year ending in March 2022 was 6.1 percent among the bottom quartile (or fourth) of wage earners and 3.3 percent among the top quartile.[9]

Interest Rates and Monetary Policy

In late 2021 and early 2022, the Federal Reserve began to adjust the stance of monetary policy as inflation substantially exceeded its long-run goal of 2 percent. In responding to the pandemic-induced recession of early 2020, the Federal Reserve provided monetary accommodation to support the economy by, among other actions, lowering the target for the federal funds rate to a range of zero to 0.25 percent and purchasing large quantities of assets, including Treasury securities and agency mortgage-backed securities (MBSs).[10] In November 2021, the Federal Reserve began reducing its monthly purchases of assets; it further reduced those purchases over the following months. In 2022, the Federal Reserve raised the target for the federal funds rate by 0.25 percentage points in March and by 0.5 percentage points in May—moves aimed at reducing inflationary pressures in the economy.

Interest rates on Treasury securities increased in the second half of 2021 and early 2022 as participants in financial markets observed higher-than-expected inflation and anticipated a further tightening of monetary conditions. The interest rate on 3-month Treasury bills increased from slightly above zero in June 2021 to 0.8 percent in April 2022. The interest rate on 10-year Treasury notes increased from 1.5 percent to 2.8 percent over that period. The rise in interest rates on Treasury securities with maturities between 3 months and 10 years was even greater because participants in financial markets expected monetary conditions to tighten and inflation to be higher, on average, over that time horizon.

9. See Federal Reserve Bank of Atlanta, "Wage Growth Tracker" (accessed April 26, 2022), www.atlantafed.org/chcs/wage-growth-tracker.

10. Monetary accommodation refers to a central bank—in this case the Federal Reserve—setting low interest rates in an attempt to boost economic growth, thereby reducing unemployment or preventing its increase.

Fiscal and Monetary Policies

CBO's current-law projections reflect the laws enacted and the policy measures taken through March 2, 2022. Those projections reflect the effects on the overall economy from changes in federal fiscal policies—that is, policies governing taxes and spending—including the Infrastructure Investment and Jobs Act (IIJA, Public Law 117-58), enacted in November 2021; supplemental appropriations provided to several federal agencies for the current fiscal year; and a preliminary estimate of the effects of the Consolidated Appropriations Act, 2022 (P.L. 117-103), which became law on March 15, 2022. The agency's projections also reflect the expectation that the Federal Reserve will take actions to tighten monetary policy. Those actions include further raising the target range for the federal funds rate and reducing the size of the Federal Reserve's balance sheet.

Fiscal Policy

Since CBO prepared its March 2020 budget projections (the final set of projections before most laws enacted in response to the pandemic took effect), legislation has increased the agency's estimates of the federal budget deficit, excluding the costs of servicing the debt, by $0.5 trillion in 2022 and by $0.2 trillion in 2023, mostly by increasing federal spending.[11] The effects of legislative changes on the deficit will be considerably smaller in 2022 and 2023 than in 2020 ($2.3 trillion) and 2021 ($2.6 trillion) because several provisions of pandemic-related legislation will expire or wind down (see Figure 2-2 on page 30). In CBO's assessment, diminishing fiscal support in 2022 and 2023 will provide a smaller boost to the overall demand for goods and services than the significant boost provided by fiscal policy in 2020 and 2021.

Changes in fiscal policy will also affect the economy in the longer term. CBO estimates that the IIJA will

11. See Appendix A in this report, and see Congressional Budget Office, "Table A-1. Changes in CBO's Baseline Projections of the Deficit Since February 2021" (supplemental material for *Additional Information About the Updated Budget and Economic Outlook: 2021 to 2031*, July 2021), https://go.usa.gov/xuDU9, "Table 1-6. Changes in CBO's Baseline Projections of the Deficit Since September 2020" (supplemental material for *The Budget and Economic Outlook: 2021 to 2031*, February 2021), https://go.usa.gov/xuDP3, and "Table A-1. Changes in CBO's Baseline Projections Since March 6, 2020" (supplemental material for *An Update to the Budget Outlook: 2020 to 2030*, September 2020), https://go.usa.gov/xuDPZ.

Box 2-1.

Effects of the Coronavirus Pandemic on the Employment and Wages of Different Demographic Groups

The effects of the coronavirus pandemic on employment and wages varied considerably for workers with different demographic characteristics (see the figure and table below).

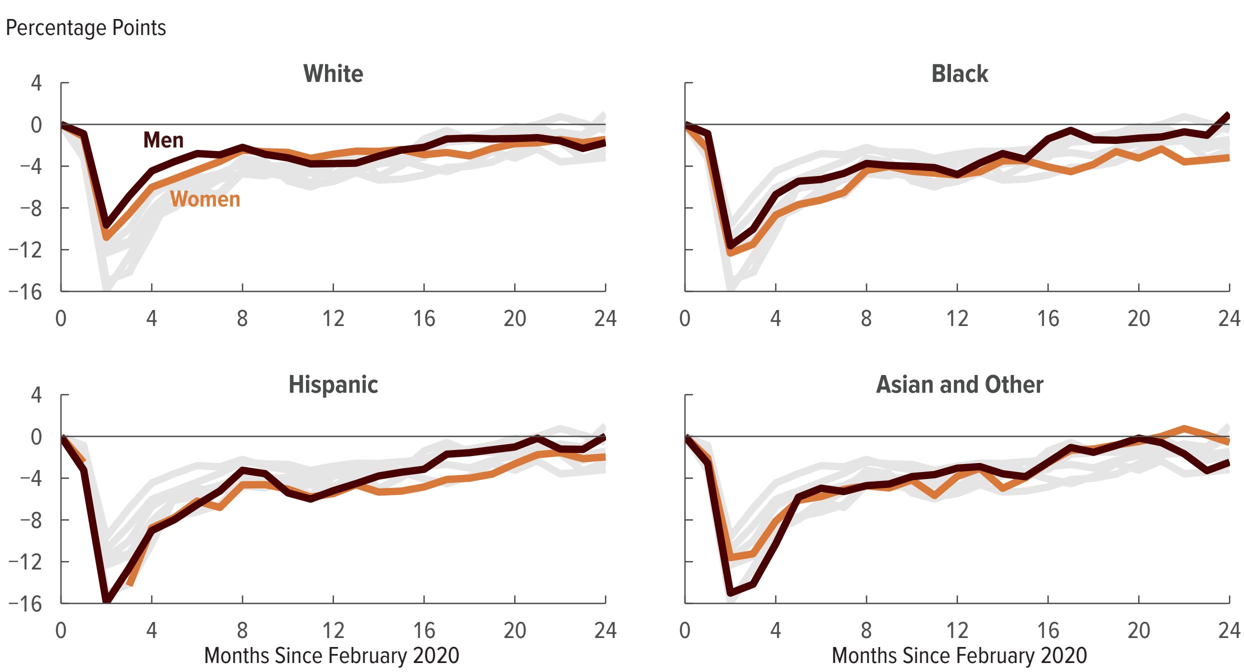
Effects on the Employment of Different Demographic Groups

Between February and April 2020, the employment-to-population ratio declined by 11 percentage points for men and 12 percentage points for women.[1] In line with that overall result, the decline in that ratio was similar for men and women in the White, Black, and Hispanic groups. By contrast, the decline for Asian and Other men was about 3 percentage points larger than for women in that group. (That pattern contrasts with the experience during the previous recession. In the 2007–2009 recession, the employment-to-population ratio for men fell more than that for women in each of the four race-ethnicity groups, and those declines occurred over a nearly two-year period.)

By February 2022, the employment-to-population ratio had rebounded substantially for each group, but it was still slightly below its prepandemic level for six of the eight groups. That ratio was farther below its prepandemic level for Black women and Asian and Other men than for the other groups. For men

1. Because a smaller share of women than men were employed in February 2020, a similar percentage-point decline in the employment-to-population ratio was associated with a greater percentage decline in employment: 21 percent for women (12 percentage points from their 56 percent employment-to-population ratio), compared with 17 percent for men (11 percentage points from their 66 percent employment-to-population ratio). The Congressional Budget Office's calculation of employment-to-population ratios is based on data from the Current Population Survey (CPS). The Bureau of Labor Statistics, which publishes employment, unemployment, and other labor statistics using the CPS each month, noted that, starting in March 2020, many workers who should have been classified as "unemployed on temporary layoff" were probably misclassified as "employed absent from work" in the CPS, causing the employment statistics to understate the magnitude of the decline in employment during the pandemic-induced recession. In calculating the employment-to-population ratio, CBO reclassified people "employed absent from work for other reasons, unpaid" as unemployed. Without that reclassification, the share of the population employed in April and May 2020 would have been 2.4 percentage points and 1.7 percentage points higher, respectively.

Change in the Employment-to-Population Ratio Since February 2020, by Demographic Group



Data source: Congressional Budget Office, using Current Population Survey data from IPUMS-CPS. See www.cbo.gov/publication/57950#data.

The gray lines in each panel show the patterns of the other population groups for comparison. Data are not seasonally adjusted and are shown with final, not composite, weights. CBO reclassified people "employed, absent from work for other reasons, unpaid" as unemployed.

Continued

Box 2-1. Continued

Effects of the Coronavirus Pandemic on the Employment and Wages of Different Demographic Groups

and women in the White group and Hispanic women, that ratio was 1 to 2 percentage points below its prepandemic level.[2]

Effects on the Wages of Different Demographic Groups

To understand how the pandemic affected the wages of different demographic groups, the Congressional Budget Office estimated the change in average hourly wages among those groups during the two years after the pandemic began (from February 2020 to February 2022) and the two years before its onset (from February 2018 to February 2020).

To estimate the change in wages, CBO calculated the various groups' average hourly wage rates for the same six months—September to February—during three different periods: one recent period (September 2021 to February 2022), another just before the onset of the pandemic (September 2019 to February 2020), and a third well in advance of it (September 2017 to February 2018). The agency then compared the hourly wage rates for the 2021–2022 period with the rates for the 2019–2020 period, and it compared the rates for the 2019–2020 period with the rates for the 2017–2018 period.[3]

On the basis of those comparisons, CBO estimates that average hourly nominal wages grew more during the two years after the pandemic began than during the two years before its onset—increases of about 11 percent and 9 percent, respectively. That was the case for seven of the eight demographic groups; for one group, Black women, the increase was less than before. Moreover, the amount of the increase during the most recent two-year period varied among the groups. The average hourly nominal wage rate of Asian and Other men and of Hispanic women increased the most—by about 15 percent and 14 percent, respectively, CBO estimates. Black women's average nominal hourly wage rate increased the least during that period—by about 9 percent.

2. CBO used race and ethnicity to define four race-ethnicity categories—Hispanic, Black, White, and Asian and Other—through the following steps. Respondents who identified their ethnicity as Hispanic were classified as Hispanic, regardless of the race or races they identified. Of respondents not already classified as Hispanic, those who identified their race as African American were classified as Black, regardless of whether they identified other races as well. Of respondents not already classified as Hispanic or Black, those who identified a race other than White were classified as Asian and Other. Finally, respondents not classified as Hispanic, Black, or Asian and Other were classified as White.

3. CBO calculated average wage rates over six-month periods to compensate for the small sample sizes of some demographic groups in any single month. To best estimate the change in wage rates over the two-year course of the pandemic, the agency chose the six months just before the pandemic's onset as one reference period; and likewise, the six months from September 2017 to February 2018 served as the reference period for the two years before the pandemic began.

Change in Average Hourly Wages, by Demographic Group

Group		Average Hourly Wage (Dollars)			Change (Percent)	
Race-Ethnicity	Sex	Sep. 2017–Feb. 2018	Sep. 2019–Feb. 2020	Sep. 2021–Feb. 2022	Prepandemic Period	Pandemic Period
All	Both	23.50	25.50	28.40	8.5	11.3
White	Men	28.40	30.70	33.70	8.1	9.6
Black	Men	19.50	21.40	23.60	9.7	10.1
Hispanic	Men	19.40	21.20	23.70	9.2	11.8
Asian and Other	Men	31.40	34.60	39.70	10.1	14.8
White	Women	22.60	24.30	27.20	7.8	11.8
Black	Women	17.70	20.10	21.80	13.2	8.7
Hispanic	Women	16.70	18.30	21.00	10.0	14.4
Asian and Other	Women	24.20	27.40	31.30	13.5	14.1

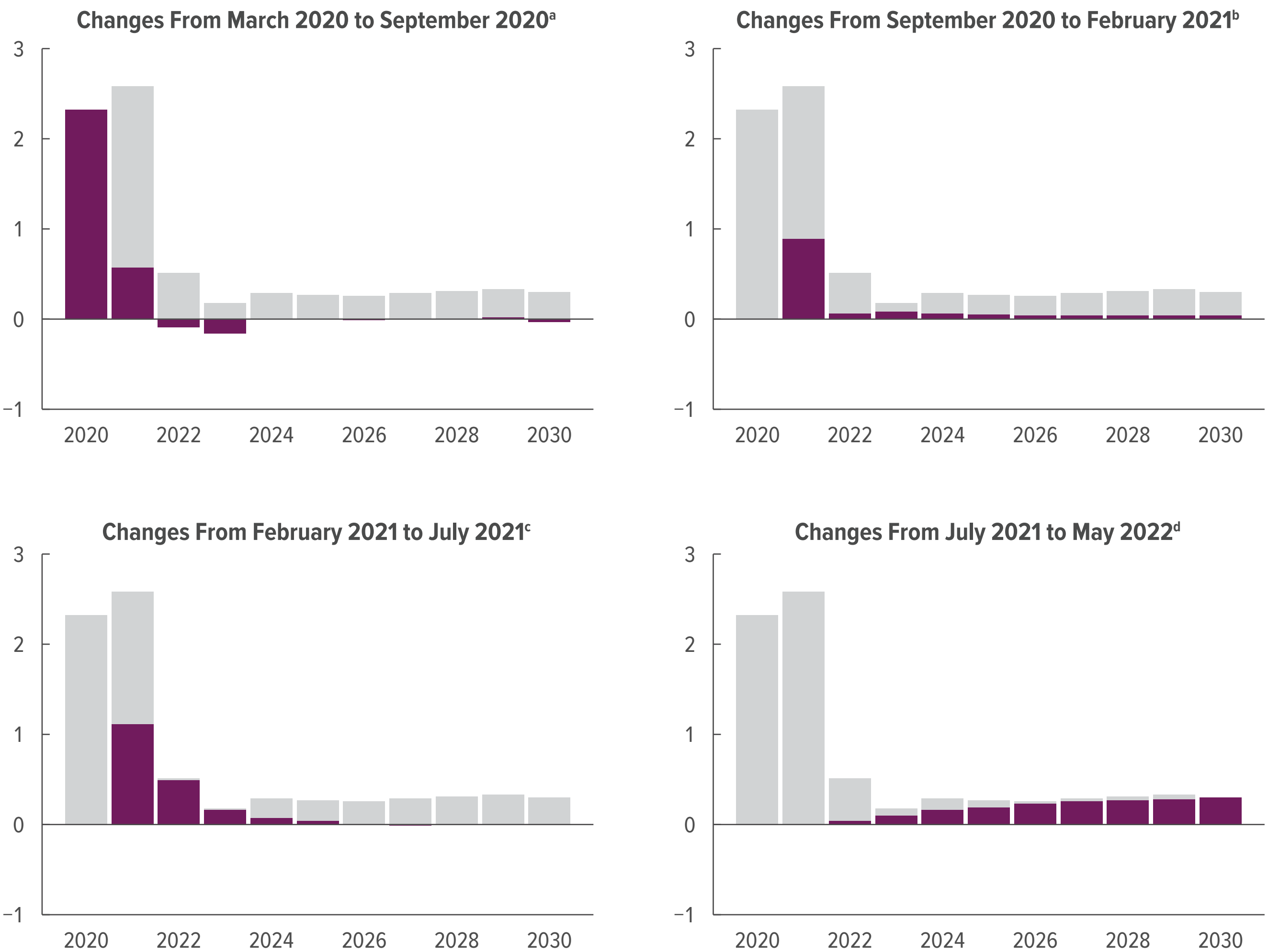
Data source: Congressional Budget Office, using Current Population Survey data from IPUMS-CPS. See www.cbo.gov/publication/57950#data.

The change over the pandemic period is the change in the average hourly wage rate between the six-month period before the onset of the pandemic (September 2019–February 2020) and the most recent six-month period analyzed (September 2021–February 2022). The change during the prepandemic period is the change in the average hourly wage rate between the six-month period two years before the pandemic (September 2017–February 2018) and the six-month period just before its onset.

Figure 2-2.

Deficit Effects of Legislative Changes Made Since March 6, 2020

Trillions of Dollars



In early March 2020, CBO prepared the last set of budget projections that it published before most laws enacted in response to the coronavirus pandemic took effect. CBO estimates that legislation enacted since then had much larger effects on the federal budget deficit in fiscal years 2020 and 2021 than it will have from 2022 to 2030.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

The amounts shown are the result of legislative changes that CBO has made to its baseline budget projections since March 2020. For more information, see Congressional Budget Office, *An Update to the Budget Outlook: 2020 to 2030* (September 2020), Table A-1, www.cbo.gov/publication/56517, *Additional Information About the Budget Outlook: 2021 to 2031* (March 2021), Table 2, www.cbo.gov/publication/56996, and *Additional Information About the Updated Budget and Economic Outlook: 2021 to 2031* (July 2021), Table A-1, www.cbo.gov/publication/57263. Also see Table A-1 in Appendix A of this report.

The purple bars show the effects of legislative changes in the given period; the gray bars show the net effect of the changes in all four periods.

The effects of legislative changes on deficits are shown in fiscal years and do not include costs of servicing the debt.

a. Consist mostly of the effects of the Coronavirus Aid, Relief, and Economic Security Act (Public Law 116-136).

b. Consist mostly of the effects of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

c. Consist mostly of the effects of the American Rescue Plan Act of 2021 (P.L. 117-2).

d. Consist mostly of the effects of the Infrastructure Investment and Jobs Act (P.L. 117-58) and the Consolidated Appropriations Act, 2022 (P.L. 117-103).

Box 2-2.

Economic Effects of the Infrastructure Investment and Jobs Act

In the Congressional Budget Office's assessment, the Infrastructure Investment and Jobs Act (IIJA, Public Law 117-58) will increase real gross domestic product (GDP), employment, prices, and interest rates over the next decade. CBO estimates that the act will boost the level of real GDP (that is, GDP adjusted to remove the effects of inflation) by an average of 0.1 percent during the 2022–2032 period; its effect on output will peak in 2026 and then lessen before increasing again in 2029.[1]

CBO's estimates of the economic effects of the IIJA are based on the agency's analysis of the act's effects on private-sector productivity and potential GDP (CBO's estimate of the maximum sustainable output of the economy). By providing federal funding for physical infrastructure, training, and research, the act will increase private-sector productivity and boost potential GDP. Because investment projects take time to complete and the benefits that result from those investments will take time to accrue, the increase in potential GDP will occur gradually. Moreover, the increase in federal borrowing that results from increased spending will reduce the amount of funds available for private investment—a phenomenon called crowding out. Crowding out of private investment will cause the stock of private capital and potential GDP to be lower than they would be otherwise. CBO estimates that the positive effects on potential GDP resulting from the increase in productivity will be larger than the negative effects from the crowding out of private investment over the 2022–2032 period.

1. For more information about CBO's methods for analyzing federal investment and infrastructure spending, see Congressional Budget Office, *Effects of Physical Infrastructure Spending on the Economy and the Budget Under Two Illustrative Scenarios* (August 2021), www.cbo.gov/publication/57327, and *The Macroeconomic and Budgetary Effects of Federal Investment* (June 2016), www.cbo.gov/publication/51628.

The increase in government spending will also add to overall demand for goods and services and boost real GDP in relation to real potential GDP over the next several years, CBO estimates. Increased overall demand will in turn boost businesses' demand for labor and cause employment to increase. Greater demand will also put upward pressure on the prices of goods and services, causing inflation to be higher than it would otherwise be for several years. As a result, CBO estimates, the GDP price index will increase by 0.1 percent by 2026. In CBO's assessment, the effect on the inflation rate will dissipate in the later years of the 2022–2032 period because the Federal Reserve will raise the target range for 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.

The act will cause interest rates to be higher than they otherwise would be through three channels. First, increased productivity of the private sector will boost the return on private investment. That higher return will then raise the return on investments in financial assets of other types that compete for investors' money. Second, because increased federal borrowing reduces the amount of funds available for private investment, the stock of private capital will be smaller. As a result, the number of workers per unit of physical capital will increase, thereby boosting the productivity of capital and thus the return on private investment and other financial assets. Third, the Federal Reserve will raise the target range for the federal funds rate, offsetting the upward pressure on inflation. CBO estimates that, all told, the interest rate on 10-year Treasury notes will be about 0.1 percentage point higher, on average, from 2023 through 2032 than it would have been without the IIJA.

gradually boost real GDP by 0.1 percent by calendar year 2026 (see Box 2-2). Because provisions in the IIJA are expected to boost the economy's productivity over time, thus increasing potential GDP, the legislation will also increase real GDP in later years. Some of that increase will be offset because accumulated debt resulting from the legislation will raise interest rates, increase borrowing costs, and crowd out private investment, reducing the level of real GDP in later years. All told, the IIJA will increase both real GDP and real potential GDP by 0.1 percent by calendar year 2032, CBO estimates.

CBO projects that high and rising levels of federal borrowing would reduce private investment activity in later years. In addition, the expiration of the temporary provisions of the 2017 tax act (P.L. 115-97, originally called the Tax Cuts and Jobs Act)—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 temporarily slow economic growth. (For details about those expiring provisions, see Chapter 4.)

Monetary Policy

CBO projects that, to contain inflationary pressures in the economy, the Federal Reserve will raise the target range for the federal funds rate. That rate will increase to 1.9 percent by the end of 2022 and to 2.6 percent by the end of 2023, the agency estimates. (CBO's projections reflect economic developments as of March 2, 2022.) Over the 2024–2032 period, the federal funds rate averages 2.5 percent, a level that the agency estimates is consistent with the Federal Reserve's long-run goal of 2 percent for inflation.

CBO projects that the Federal Reserve will begin reducing the size of its balance sheet in the middle of 2022. Specifically, the agency expects that the Federal Reserve will reinvest only a portion of the principal proceeds from maturing Treasury securities and agency MBSs, thus allowing slightly less than $100 billion worth of assets to drop off its balance sheet each month. The balance sheet will thus shrink until 2026, at which point the Federal Reserve is expected to purchase enough Treasury securities to keep reserves, measured as a share of GDP, at a constant value consistent with their prepandemic levels.

CBO projects that the Federal Reserve's policy actions will eventually slow the growth of overall demand—reducing inflationary pressures in the economy—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 large purchases (especially houses and motor vehicles) and will reduce the growth of business investment by making it more costly to borrow money to expand productive capacity. In CBO's projections, real interest rates in the United States that are higher than the rates of major trading partners also increase the value of the dollar in foreign exchange markets, reducing the competitiveness of U.S. exports in global markets.

Moreover, the Federal Reserve's policy actions signal to market participants its commitment to stabilize the growth of prices in the long run, which keeps expected future inflation from spiraling upward. Interest rates on long-term bonds depend in part on the path of future short-term interest rates. Raising the target range for the federal funds rate therefore results in higher interest rates for securities with longer maturities. The agency also estimates that reducing the size of the Federal Reserve's balance sheet will boost long-term interest rates by removing downward pressure on the premium paid to bondholders for the extra risk associated with holding longer-maturity bonds.

The Economic Outlook for 2022 to 2026

In CBO's projections, the current economic expansion continues, and economic output grows rapidly over the next year. Consumer spending increases, driven by strong gains in spending on services. To fulfill the elevated demand for goods and services, businesses increase both investment and hiring, although supply disruptions hinder that growth in 2022. The growth of payroll employment is projected to continue at a rapid pace through 2022. In 2023, the growth of economic output slows as financial conditions tighten and fiscal support wanes further.

Elevated inflation persists in 2022 as both strong demand and disruptions to supply in product and labor markets continue to add upward pressure on many prices and wages. As product markets adjust, and as factors that discourage labor supply dissipate, those disruptions fade by the end of the year, in CBO's projections. As a result, the inflation rate falls in 2023 but remains above the Federal Reserve's long-run goal of 2 percent.

The agency expects short-term interest rates to increase rapidly in 2022. Long-term interest rates, which remained historically low at the end of 2021, are also expected to rise substantially in 2022. CBO expects both short- and long-term interest rates to rise less rapidly after 2022.

After 2023, in CBO's projections, tightening monetary policy and several other factors combine to slow the growth of demand, slowing output growth and further reducing inflationary pressures.

Gross Domestic Product

Under the assumption that current laws governing federal taxes and spending generally remain unchanged, CBO projects that real GDP will grow by 3.1 percent in 2022 (as measured from the fourth quarter of 2021 to the fourth quarter of 2022). That expansion is driven by strong growth in consumer spending and real business

Table 2-2.

Projected Growth of Real GDP and Its Components

	Actual, 2021	2022	2023	2024	Annual Average 2025–2026	Annual Average 2027–2032
	Change From Fourth Quarter to Fourth Quarter (Percent)					
Real GDP	5.5	3.1	2.2	1.5	1.5	1.7
Components of Real GDP						
Personal consumption expenditures	6.9	2.9	2.1	1.6	1.5	2.0
Business investment[a]	13.8	5.3	1.2	0.5	2.5	3.0
Business fixed investment[b]	6.6	6.6	3.3	2.1	2.4	2.9
Residential fixed investment	-1.5	3.3	-1.3	-0.9	-0.3	-0.9
Purchases by federal, state, and local governments[c]	0.1	1.3	1.1	0.8	0.7	0.5
Federal	-1.1	0.5	1.3	0.9	0.3	0.2
State and local	0.8	1.8	1.0	0.7	0.9	0.6
Exports	4.9	7.4	4.9	2.4	2.0	1.8
Imports	9.6	5.5	0.9	0.6	1.6	2.2
	Contributions to the Growth of Real GDP (Percentage points)					
Components of Real GDP						
Personal consumption expenditures	4.6	2.0	1.4	1.1	1.0	1.4
Business investment[a]	1.8	0.7	0.2	0.1	0.3	0.4
Business fixed investment[b]	0.9	0.9	0.4	0.3	0.3	0.4
Residential fixed investment	-0.1	0.2	-0.1	*	*	*
Purchases by federal, state, and local governments[c]	*	0.2	0.2	0.1	0.1	0.1
Federal	-0.1	*	0.1	0.1	*	*
State and local	0.1	0.2	0.1	0.1	0.1	0.1
Exports	0.5	0.8	0.6	0.3	0.2	0.2
Imports	-1.4	-0.8	-0.1	-0.1	-0.2	-0.3

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Real values are nominal values that have been adjusted to remove 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.

Data and definitions are based on the national income and products accounts.

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

a. Business fixed investment and investment in inventories.

b. Nonresidential structures, equipment, and intellectual property products.

c. Government spending on consumption of goods, services, and investment.

investment and by a shrinking U.S. trade deficit (see Table 2-2). The growth of real GDP declines steadily through 2024, led by slower growth in consumer spending and investment, before remaining almost constant through 2026. In the agency's projections, real GDP grows at an average annual rate of 1.6 percent from the beginning of 2023 through 2026.

Consumer Spending. Real consumer spending has rebounded rapidly since its trough near the beginning of the pandemic and is expected to grow at a more moderate pace over the projection period. In CBO's projections, real consumer spending grows by 2.9 percent in 2022 and then grows at an average annual rate of 1.7 percent from 2023 to 2026. Spending on services drives overall spending growth in 2022 and 2023 as expenditures on in-person services continue to increase. Spending on goods declines from its elevated level as people return to their prepandemic patterns of consumption; by 2024, consumer spending returns to its prepandemic composition of goods and services.

In CBO's projections, large amounts of accumulated savings and elevated household net worth support consumer spending going forward. Personal saving rose to high levels during the pandemic, both because financial support provided by the government to many households more than offset declines in employment income and because many households cut back on expenditures. Large liquid balances, such as deposits in checking or money market accounts, suggest that some households plan to spend much of those accumulated savings over a relatively short period. CBO expects households to spend about half of accumulated savings by the end of 2026. Overall, the agency expects household balance sheets to remain healthy and consumers to continue to support economic growth.

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 6.6 percent from the fourth quarter of 2021 to the fourth quarter of 2022, building on a 6.6 percent gain in 2021. Each of the three major categories of business fixed investment is expected to post solid growth. That increase is projected to occur primarily in response to the strong growth of demand, since 2020, for the goods and services that businesses produce. Although stock prices fell early in 2022, they remain well above their prepandemic levels, providing another aid to the growth of investment. CBO anticipates that elevated prices for crude oil and natural gas will encourage drilling activity. High costs and shortages of labor and materials are headwinds, however. Further improvement in demand for businesses' output is expected to boost real business fixed investment by an average of 2.6 percent per year from 2023 to 2026.

Businesses accumulated real inventories (finished goods, work in process, and materials and supplies) at an unusually strong annual rate of $193 billion in the fourth quarter of 2021, contributing 0.9 percentage points to GDP growth that year. Despite that surge, inventory investment for 2021 as a whole was negative. A combination of rising demand for goods and shortages of labor and certain commodities (notably semiconductors) kept the ratio of inventories to sales in December near its lowest level in the past 10 years. CBO expects shortages to ease during 2022 and 2023, allowing businesses to rebuild inventories to a level more commensurate with sales. Even so, inventory investment is unlikely to match the strong rate seen at the end of 2021. Rates of inventory investment lower than that in the fourth quarter of 2021 mean that inventories will be a modest drag on GDP growth during the 2022–2026 period, CBO estimates.

Residential Investment. After increasing by 15.7 percent from the fourth quarter of 2019 to the fourth quarter of 2020 because of a variety of factors—including low mortgage rates, households' desire for more and updated living space, and a dearth of existing homes for sale—real residential investment decreased by 1.5 percent during 2021 because of shortages of labor and building materials. CBO expects real residential investment to increase by 3.3 percent in 2022 as shortages ease. Real residential investment is expected to shrink slightly, on average, from 2023 to 2026 as mortgage rates rise over that period and an increased supply of new homes reduces the imbalance between supply and demand.

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 11.1 percent in 2020 and by 17.5 percent in 2021. With demand remaining strong and new supply restrained by shortages of materials and construction workers, CBO expects prices to rise by another 7.2 percent in 2022. As the supply of newly built homes increases, price growth will slow to an average of 2.8 percent from 2023 to 2026, CBO projects.

Government Purchases. Real government purchases of goods and services—such as public educational services, highways, and military equipment—grew by 0.1 percent in 2021. Although state and local governments increased their purchases as many public schools returned to in-person instruction last year, a decline in federal purchases largely offset increased 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 1.3 percent in 2022 as schools continue to return to more regular instruction and as strong state and local tax receipts and federal aid continue to support spending by state and local governments.

In CBO's projections, real government purchases grow by an average of 0.8 percent per year from 2023 to 2026. In particular, real purchases by state and local governments increase by an average of 0.9 percent per year during that period, as economic activity further bolsters those governments' tax revenues and as they spend funds, over a prolonged period, from federal fiscal support, including grants from the Coronavirus State and Local Fiscal Recovery Funds program and education grants, both provided by the American Rescue Plan Act of 2021 (P.L. 117-2), and transportation grants provided by the IIJA. Real federal government purchases grow by an average of 0.7 percent per year over that same period, supported by higher discretionary spending as a result of the Consolidated Appropriations Act, 2022.[12]

Exports and Imports. CBO projects that, after remaining roughly stable during 2021, the U.S. trade deficit will rise in 2022 before shrinking between 2023 and 2026. In 2022, the projected larger trade deficit is driven by strong growth in imports. That increase in the trade deficit will reverse, CBO projects, starting in the beginning of 2023 as exports rise by 6.0 percent (at an annualized rate) but imports rise by only 1.6 percent over that year. CBO expects growth in exports to outpace growth in imports because economic conditions among major U.S. trading partners are expected to be stronger than economic conditions in the United States, and because the agency expects the recovery in services trade (a sector for which the United States runs a trade surplus) to continue. As a result, the trade deficit is projected to shrink from 4.3 percent of GDP at the beginning of 2022 to 2.8 percent of GDP in early 2026 (it was 2.8 percent of GDP in 2019) as the growth of exports continues to increase, driven by the increased trade in services.

CBO projects that the problems with supply chains that impeded U.S trade flows in 2021 peaked late in that year and will continue to ease in 2022. In 2021, strong global demand for goods strained international supply chains, leading to delayed deliveries and shortages of some imported products and hindering the assembly and delivery of some U.S. exports. Those disruptions included shortages of semiconductors (key components in automobiles and consumer electronics) and shipping containers, logjams at key U.S. ports, and labor shortages in the trucking industry. Those developments also resulted in higher import and export prices; the price indexes for imported goods and exported goods rose by 11 percent and 17 percent, respectively, in 2021. CBO expects that those pressures on global supply chains will ease in the coming year as consumer demand continues to shift back to services and away from goods and as labor shortages in the U.S. transportation industry begin to subside.

Exports. Real exports are expected to continue to rebound in 2022, increasing by 7.4 percent. One factor contributing to that rebound is the improvement in economic conditions abroad, which will boost international demand for U.S. goods and services. CBO projects that the real economic output of major U.S. trading partners will rise by 3.7 percent in 2022, having increased by 3.7 percent in 2021. In addition, as the global effects of the pandemic continue to wane and international travel restrictions are lifted, exports of services (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 slightly in early 2023 before slowing thereafter.

Imports. CBO projects that strong domestic demand for goods and services in 2022 will continue to bolster real imports, which are expected to rise by 5.5 percent this year. In CBO's projections, imports remain strong because demand for goods continues to be elevated (compared with such demand before the pandemic), disruptions to supply chains ease, and the recovery in domestic inventories boosts the demand for imports. As with exports of services, imports of services continue to rebound as global demand for international travel rises. CBO projects that the growth rate of real imports will decline in 2023 and 2024 as growth in domestic demand for goods slows.

Value of the Dollar. After increasing by 1.0 percent in 2021, the international exchange value of the dollar is projected to rise by 1.2 percent in 2022 before stabilizing in later years.[13] CBO projects that the dollar will strengthen in 2022 because interest rates in the United States will rise by more than those of most of its trading partners, which will tend to increase the demand for the dollar and dollar-denominated assets in international markets. Beyond 2022, CBO's projection of a stable dollar reflects the agency's expectation that changes in economic performance and monetary policies will cause the value of the dollar to appreciate against

12. CBO's economic projections reflect a preliminary estimate of the budgetary effects of that act. For fiscal year 2023 and beyond, as specified in law, the agency projected discretionary funding under the assumption that appropriations for future years will match those for 2022, with adjustments for inflation. For more information about those procedures, see Chapter 3.

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

advanced-economy currencies but depreciate against emerging-market currencies in a way that is roughly offsetting.

The Labor Market

The labor market is expected to continue its recovery through 2022. That trend reflects the ongoing expansion of the economy as well as the easing of constraints associated with the pandemic and social distancing. In CBO's projections, through the middle of 2023, the unemployment rate continues to decline, the rate of labor force participation gradually increases, employment continues to increase relative to its potential level, and the growth of wages and salaries remains elevated (see Figure 2-3). Thereafter, through 2026, the projections reflect the labor market's gradual return to its long-run average relationship to potential performance; employment growth slows, the unemployment rate rises gradually, and wage growth moderates.

Employment. Growth of payroll employment is projected to continue at a relatively rapid pace through 2022. Thereafter, that pace is expected to slow through 2026. In CBO's projections, nonfarm payroll employment increases by an average of 345,000 jobs per month in 2022. At that rate, nonfarm payroll employment is projected to reach its prepandemic level by the second half of 2022. Reflecting the increases in employment, the employment-to-population ratio continues to rise this year. After 2022, gains in payroll jobs are projected to gradually slow from an average of 123,000 per month in 2023 to less than 36,000 per month in 2026. That projected slowdown is mostly attributable to slower growth in economic output. Reflecting the increases in employment and a rise in the labor force participation rate, the employment-to-population ratio continues to rise through the middle of 2023 but then gradually declines through 2026.

Unemployment. The unemployment rate and the number of unemployed people are projected to decline gradually through the first half of 2023, reflecting the continued growth of the economy. In CBO's projections, the overall unemployment rate falls from 3.9 percent in the first quarter of 2022 to 3.5 percent by mid-2023, averaging 3.5 percent for all of 2023. That projected unemployment rate is very low by historical standards: The unemployment rate has not been lower than that for any year since 1953. The number of unemployed people falls to 5.8 million by early 2023.

Labor Force Participation. CBO expects continued strong demand for labor and rising wages to result in an increase in the labor force participation rate through the middle of 2023. The agency expects that increase to be more gradual than in past recoveries because of several factors related to the pandemic, including the increase in early retirements and the decrease in participation among women, who have disproportionally dropped out of the labor force to provide child care and other care at home during the pandemic. In CBO's projections, the labor force participation rate rises from 61.8 percent in the fourth quarter of 2021 to 62.4 percent by the middle of 2023, below its prepandemic peak of 63.4 percent in February 2020. Thereafter, it gradually declines as the effects of the aging of the population (which dampen the overall labor force participation rate) become more prominent in relation to the short-term effects of the expanding economy.

Hourly Wages and Salaries. The increase in the demand for labor is expected to continue to outpace the increase in the supply of labor, resulting in continued upward pressure on the growth of wages. In CBO's projections, the employment cost index for wages and salaries of workers in private industry—a measure of the hourly price of labor—is 5.9 percent higher in the second quarter of 2022 than it was in the second quarter of 2021; its annual growth rate in recent years (and before the pandemic began) was about 3.0 percent. Wage growth is projected to ease gradually but remain above its prepandemic average for the next few years. CBO expects wage growth to decline from 4.1 percent in 2023 to 3.2 percent in 2026.

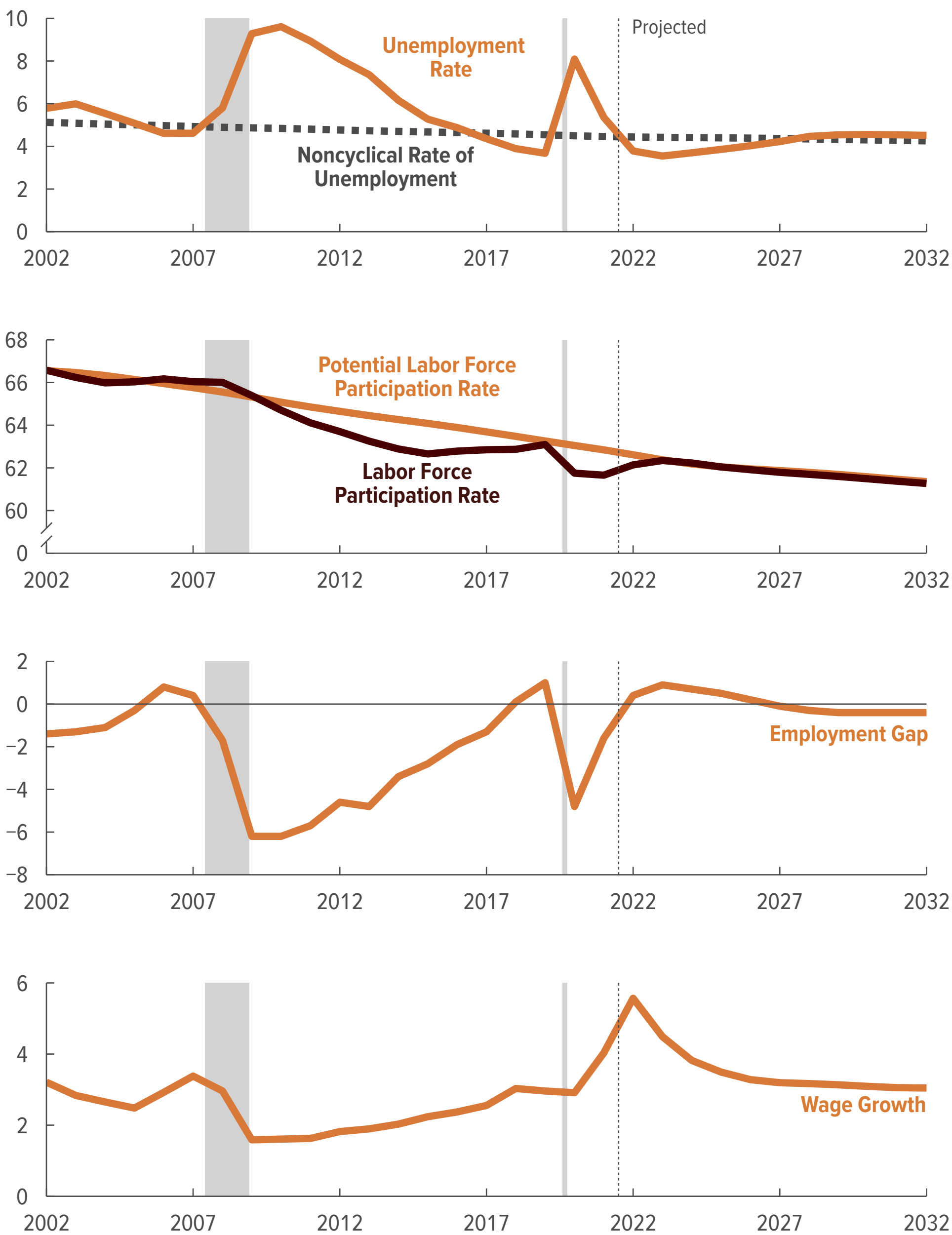
Inflation and Interest Rates

In CBO's projections, inflation remains elevated in 2022 as a variety of factors continue to cause supply to grow more slowly than demand in both product markets and labor markets. Inflation will continue to substantially exceed the Federal Reserve's 2 percent long-run goal in 2023, CBO projects, before nearing that level the following year. The agency expects short-term interest rates to increase rapidly in 2022. Long-term interest rates, which remained historically low at the end of 2021, are also expected to rise substantially in 2022. CBO expects both short- and long-term interest rates to rise less rapidly after 2022.

Inflation. In CBO's projections, high inflation persists in 2022 (see Figure 2-4 on page 39, top panel).

Figure 2-3.

Unemployment, Labor Force Participation, the Employment Gap, and Wage Growth



In CBO's projections, the unemployment rate falls over the next year because of the ongoing expansion of the economy.

The labor force participation rate rises through early 2023. The rate then begins to decline as the negative effects of the aging population begin to offset the positive effects of the ongoing economic expansion.

CBO projects that employment will exceed its estimated potential in 2022. After 2023, the projection of the employment gap reflects the labor market's gradual return to a rough balance between labor supply and labor demand.

Nominal wage growth is projected to ease gradually but remain above its prepandemic average for the next few years as growth in the demand for labor continues to outpace growth in the supply of labor.

Data sources: Congressional Budget Office; Bureau of Labor Statistics. See www.cbo.gov/publication/57950#data.

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 and actively seeking work. 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.

The employment gap is the difference between employment and potential employment (that is, the number of people who would be employed in the absence of fluctuations in the overall demand for goods and services), expressed as a percentage of potential employment.

Wages are measured using the employment cost index for wages and salaries of workers in private industry. Growth in wages is measured as average annual growth. For the unemployment rate and labor force participation rate, data are annual averages.

The growth rate of the PCE price index—the Federal Reserve's preferred measure of inflation—was well above the Federal Reserve's long-run goal of 2 percent in 2021. That annual rate (as measured from the fourth quarter of 2020 to the fourth quarter of 2021) reached 5.5 percent in 2021, a value significantly higher than the 1.2 percent rate in 2020. CBO projects that inflation in the PCE price index will be 4.0 percent in 2022, thus remaining elevated. Growth in the core PCE price index, which excludes food and energy prices (because they tend to be volatile), rose from 1.4 percent in 2020 to 4.6 percent in 2021. The agency projects that the core PCE price index will grow by 3.8 percent in 2022.

CBO expects that many of the current 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 cause inflation to remain high in the first half of 2022; but those effects will fade by the middle of the year. In the agency's projections, quarterly inflation—as measured from one quarter to the next—peaks in the first quarter of 2022 and then declines during the rest of the year and throughout 2023. CBO expects the core PCE price index to grow by 2.5 percent in 2023 before nearing the Federal Reserve's long-run goal of 2 percent in 2024.

The agency expects that the gap between the PCE price index and the CPI-U will narrow to its historical average at the end of 2023. In CBO's projections (completed on March 2, 2022), the core consumer price index for all urban consumers (which excludes food and energy prices) grows by 4.4 percent in 2022 and by 2.9 percent in 2023. That narrowing of the gap between inflation in the core CPI-U and inflation in the core PCE price index is largely driven by categories of goods and services that are assigned comparatively more weight in the calculation of the CPI-U. CBO projects that inflation in the prices of motor vehicles and housing services, two such categories, will decline as those prices approach their long-run average growth rates in 2023.

Since CBO completed its economic forecast on March 2, 2022, two additional months' worth of data about inflation have accrued. Those data indicate that inflation was higher than the agency projected it would be during March and April and that inflation may end up being higher than projected in 2022 as a whole. CBO had two main reasons for projecting a decline in inflation throughout 2022. First, it expected problems with supply chains to abate in mid-to-late 2022. (However, the agency completed its projections before the effect of the invasion of Ukraine on supply chains could be fully reflected in them.) Having fewer problems with supply chains would slow the growth of prices for durable goods, particularly motor vehicles. In fact, CBO estimated that prices of motor vehicles would decrease in 2022. The second reason CBO projected slowing inflation in 2022 was a shift in consumer spending away from durable goods and toward services as consumers become more comfortable with in-person economic activities. That shift in consumer spending would cause the growth in the prices of durable goods to decline sharply (see Figure 2-5). The agency projected that in 2022, stronger demand for services would not cause enough growth in the prices of services to offset the sharp decline in the growth in the prices of durable goods, because historically the prices of services are slower to respond to changes in demand.

Although CBO projects that inflation will decline among many categories of goods and services, the agency expects inflation in housing services to remain high in 2022. As the measure of the value of the services that housing provides, housing services are a large component of both the PCE price index and the CPI-U, constituting 16 percent of the PCE market basket of goods and services and roughly 30 percent of the CPI-U basket. CBO projects that, in 2022, increased prices for housing services will raise inflation in the CPI-U by 1.5 percentage points and inflation in the PCE price index by 0.7 percentage points. The aggregate inflation index most sensitive to an increase in the price of housing services is the core CPI-U; CBO projects that growth in the price of housing services will raise that measure by 1.9 percentage points in 2022.

Over the 2023–2024 period, inflation declines gradually but stays above the Federal Reserve's long-run goal of 2 percent in CBO's projections. That decline is attributable to reduced supply disruptions, to slower growth in the prices of goods that more than offsets increasing growth in the prices of services, and to the actions the Federal Reserve has already begun to take to rein in inflation by reducing monetary accommodation. Those factors outweigh the upward pressure on prices resulting from tight conditions in the labor market.

Interest Rates. In CBO's projections, interest rates on short-term Treasury securities rise in concert with the increases in the target range for the federal funds rate carried out by the Federal Reserve. In 2022 and 2023, the Federal Reserve rapidly increases the target range for the federal funds rate to reduce inflationary pressures in

Figure 2-4.

Inflation and Interest Rates

In CBO's projections, inflation remains high in 2022. It then declines over the next few years, nearing the Federal Reserve's long-run goal of 2 percent in 2024.

CBO expects the Federal Reserve to rapidly increase the target range for the federal funds rate in 2022 and 2023. In CBO's projections, the interest rate on 3-month Treasury bills rises in concert with that increase. The interest rate on 10-year Treasury notes is expected to increase through 2028, in part because short-term interest rates are expected to rise.

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Federal Reserve. See www.cbo.gov/publication/57950#data.

The inflation rate is based on the price index for personal consumption expenditures; the core 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.

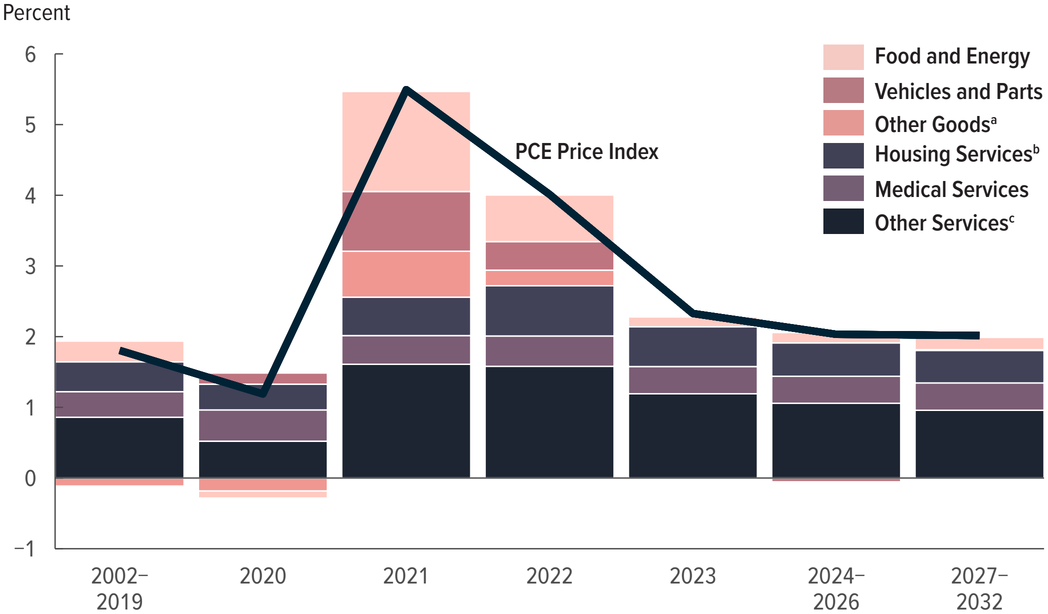
The federal funds rate is the interest rate that financial institutions charge each other for overnight loans of their monetary reserves.

PCE = personal consumption expenditures.

the economy. In CBO's projections, the interest rate on 3-month Treasury bills follows a similar path, rising to 1.4 percent by the fourth quarter of 2022, 2.3 percent by the fourth quarter of 2023, and 2.6 percent by the fourth quarter of 2024 (see Figure 2-4, bottom panel). The Federal Reserve reduces the target range for the federal funds rate in 2025 to counteract the drag on economic growth stemming from the higher individual income tax rates that take effect at the beginning of 2026 under current law. Accordingly, in CBO's projections, the 3-month Treasury bill rate falls to 2.4 percent by the fourth quarter of 2026.

Figure 2-5.

Contributions to Overall Inflation



Prices of food, energy, and motor vehicles surged in 2021, contributing a total of 2.3 percentage points to the 5.5 percent rate of inflation in the PCE price index that year. CBO projects that those categories will also contribute significantly to inflation in 2022 but that their effects will taper off from 2023 onward.

Data sources: Congressional Budget Office; Bureau of Economic Analysis. See www.cbo.gov/publication/57950#data.

The overall inflation rate is the rate of growth in the PCE price index. The figure uses annual growth rates calculated from the fourth quarter of the year immediately preceding each period to the fourth quarter at the end of that period. Averages across multiple periods use compound annual growth rates over the specified period.

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.

PCE = personal consumption expenditures.

a. Includes core durable and non-durable goods (other than vehicles and parts), including electronics, home furnishings, and apparel.

b. Measures the value of the services that housing provides, reflecting the rental value of housing occupied by tenants and the imputed rental value of owner-occupied housing.

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

Interest rates on long-term Treasury securities are expected to increase through 2026, partly because short-term rates are expected to rise. Long-term interest rates are partially determined by investors' expectations about the future path of short-term interest rates. 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 rises, the yield on long-term bonds rises to ensure that there are enough buyers for all the long-term bonds currently for sale. In CBO's projections (which reflect economic developments as of March 2, 2022), the interest rate on 10-year Treasury notes rises from 1.5 percent in the fourth quarter of 2021 to 2.7 percent in the fourth quarter of 2022 as the Federal Reserve tightens monetary policy, signaling a higher future path for short-term interest rates. After 2022, the interest rate on 10-year Treasury notes rises more gradually, increasing to 2.9 percent in the fourth quarter of 2023 and 3.1 percent in the fourth quarter of 2024.

Part of the increase in interest rates on long-term Treasury securities through 2026 is attributable to 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 years that preceded the pandemic, including investors' heightened concern about relatively weak global economic growth and the increased demand for long-term Treasury securities as a hedge against unexpected declines in inflation. CBO expects those factors to dissipate, thus increasing term premiums.

CBO expects that the reduction in the Federal Reserve's portfolio of long-term assets will also boost interest rates on long-term Treasury securities, for two reasons: First, reducing the size of its balance sheet signals to investors that the Federal Reserve is committed to tightening monetary policy and is therefore likely to continue raising the target range for the federal funds rate, thus raising investors' expectations about the future path of short-term interest rates. Second, the Federal Reserve's method for reducing the size of its balance sheet tends to decrease the demand for long-term bonds more than it decreases the demand for short-term ones. All else being equal, that method leads to lower prices and higher yields for long-term bonds.

The Economic Outlook for 2027 to 2032

CBO's projections of GDP, unemployment, inflation, and interest rates for the later years of the forecast period are based mainly on the agency's projections of the underlying trends in the factors that determine those key variables and take into account the effects of federal tax and spending policies embodied in current law. In some cases, those fiscal policies, as well as monetary policy, may influence not only the demand for goods and services—and, therefore, the gap between actual output and potential output—but also potential output itself.

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 latter 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.

In CBO's projections, growth of real potential GDP slows from an annual average of nearly 1.9 percent over the 2022–2026 period to less than 1.8 percent, on average, over the 2027–2032 period—a rate roughly equal to the average during the most recent business cycle (see Table 2-3). Annual growth of the potential labor force accelerates from an average of about 0.3 percent in the first period to nearly 0.4 percent in the second, whereas growth of potential labor force productivity decreases from an average of nearly 1.6 percent to less than 1.4 percent (see Figure 2-6).

Potential output is an estimate of the economy's maximum sustainable level of production and indicates high rates of use of labor and capital, but it is not a strict constraint: Actual output can exceed potential output for a time, creating a positive output gap. Over an extended period, however, a positive output gap puts upward pressure on wages and prices, ultimately leading monetary authorities to take steps to relieve inflationary pressures. In response, the growth of output slows, bringing it closer in line with potential output.

That process is reflected in CBO's projection of a gradually narrowing positive output gap after mid-2023. As monetary policy continues to restrain demand, the growth of actual output slows and then gradually converges with that of potential output, averaging more than 1.7 percent per year over the 2027–2032 period. The output gap narrows to zero by early 2026 and decreases to −0.5 percent by early 2028; it remains at that level thereafter, consistent with the long-term relationship between actual and potential output.

Over the 2027–2032 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 year. About 1.1 percentage points of that growth are attributable to growth of potential total factor productivity (the average real output per unit of combined labor and capital services, excluding the effects of business cycles) in that 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 2027–2032 period primarily reflect the agency's assessment of the overall performance of the economy and the effects of long-term demographic trends, which will strongly influence the size and composition of the workforce in the coming decades.

Over the 2027–2032 period, the growth of employment is projected to moderate, and the growth of labor compensation is expected to increase, as compared with the first five years of the projection period. Nonfarm payroll employment increases by an average of about 53,000 jobs per month during the 2027–2032 period, in CBO's projections. The projected increase in employment is smaller than the average increase over

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	2008–2021	Overall, 1950–2021	2022–2026	2027–2032	Overall, 2022–2032
Overall Economy										
Real Potential GDP	4.0	3.2	3.2	3.2	2.4	1.7	3.1	1.9	1.8	1.8
Potential Labor Force	1.6	2.5	1.6	1.2	1.0	0.5	1.4	0.3	0.4	0.4
Potential Labor Force Productivity[a]	2.3	0.7	1.6	2.0	1.4	1.2	1.7	1.6	1.4	1.5
Nonfarm Business Sector										
Real Potential Output	4.1	3.5	3.5	3.7	2.6	2.0	3.4	2.2	2.1	2.1
Potential Hours Worked	1.4	2.3	1.7	1.2	0.3	0.6	1.3	0.3	0.4	0.4
Capital Services[b]	3.8	3.7	3.5	3.9	2.8	2.3	3.4	2.6	2.2	2.4
Potential Total Factor Productivity[c]	1.9	0.8	1.1	1.5	1.5	0.8	1.4	1.1	1.1	1.1
Contributions to the Growth of Real Potential Output (Percentage points)										
Potential hours worked	0.9	1.5	1.1	0.8	0.2	0.4	0.8	0.2	0.3	0.2
Capital services[b]	1.2	1.2	1.1	1.3	0.9	0.8	1.1	0.9	0.7	0.8
Potential total factor productivity	1.9	0.8	1.1	1.5	1.5	0.8	1.4	1.1	1.1	1.1
Total Contributions	**4.0**	**3.5**	**3.4**	**3.6**	**2.6**	**2.0**	**3.3**	**2.2**	**2.1**	**2.1**
Potential Labor Productivity[d]	2.6	1.2	1.7	2.4	2.4	1.4	2.1	1.9	1.7	1.8

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Real values are nominal values that have been adjusted to remove 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.

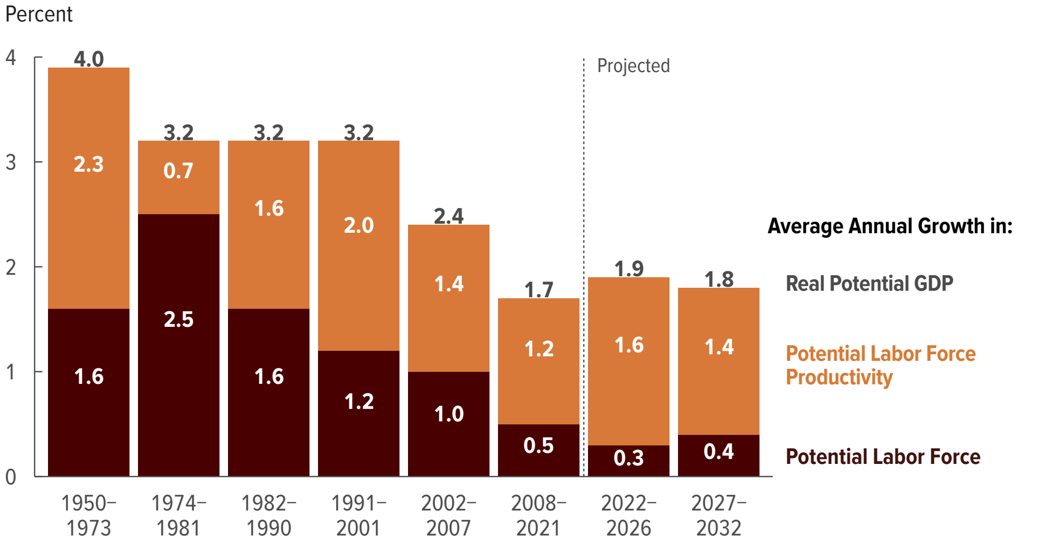
the previous two decades because of the aging of the U.S. population, which CBO expects to result in slower growth of the labor force over the 2027–2032 period than during the previous two decades. Real compensation per hour in the nonfarm business sector, a measure of labor costs that is a useful gauge of longer-term trends, grows at an average annual rate of 1.8 percent over the 2027–2032 period—close to the projected average growth in labor productivity in that sector.

In CBO's projections, the unemployment rate rises from 2027 to 2030 as output returns to its historical relationship with potential output. After peaking at nearly 4.6 percent at the end of 2030, the unemployment rate declines slowly through 2032. CBO expects the noncyclical rate of unemployment to decline slowly over the projection period, from 4.4 percent in 2022 to 4.3 percent by 2032.[14] That decline reflects the continuing shifts 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 rates of unemployment.

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

Figure 2-6.

Composition of the Growth of Real Potential GDP



In CBO's projections, real potential GDP grows faster over the next five years than it has since the 2007–2009 recession because potential labor force productivity is expected to grow more quickly. However, growth in the potential labor force is slower than in previous periods, largely because of the aging of the population.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

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

CBO expects the labor force participation rate to fall during the second part of the 11-year projection period—from 62.0 percent at the beginning of 2026 to 61.2 percent by the end of 2032. That decline is mostly driven by the aging of the population and, in particular, the continued retirement of baby boomers. That rate in 2032 is close to the agency's estimate of the potential labor force participation rate, which falls from 62.6 percent in 2022 to 62.0 percent in 2026 and to 61.4 percent in 2032.

Inflation and Interest Rates

Over the 2027–2032 period, CBO expects conditions in labor and product markets to relieve upward pressure on prices, keeping inflation close to its projected long-run average. CBO expects interest rates on Treasury securities to be higher, on average, than they were over the first five years of the projection period.

Inflation. In CBO's forecast, inflation remains at its projected long-run average rate over the 2027–2032 period. The agency expects the growth rate of the PCE price index to average 2.0 percent (the Federal Reserve's long-run goal for inflation) over that period. Similarly, inflation in the CPI-U is projected to grow at an average annual rate of 2.3 percent, that index's long-run average.

Interest Rates and Federal Reserve Policy. CBO expects interest rates on short- and long-term Treasury securities to be higher over the 2027–2032 period than over the 2022–2026 period but to remain below their historical average. Larger federal debt in relation to GDP and a reduction in the Federal Reserve's holdings of Treasury securities contribute to the higher level of short- and long-term interest rates. Nevertheless, projected interest rates remain below their average over the past four decades for several reasons, including lower average expected inflation, slower growth of the labor force, and slower growth of productivity.[15]

15. 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 2022 to 2032

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 corporate 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 fell by less than GDP did in the pandemic-induced recession of early 2020; as a result, labor income as a share of GDP rose sharply that year. In CBO's projections, that share decreases to 57.9 percent in 2025, which is slightly above its prepandemic value (in the fourth quarter of 2019) of 57.8 percent. Strong demand for goods and services drives further gains in employment and compensation, resulting in a modest uptick in labor income as a share of GDP after 2025. Labor income as a share of GDP averages 58.2 percent from 2026 through 2032. Nevertheless, CBO's forecast of labor income as a share of GDP remains below 60 percent, the average from 1947 to 2000.

Wages and salaries as a share of GDP also rose sharply in 2020. In CBO's projections, that share falls through 2023 and then remains roughly stable from 2024 to 2032. The agency projects that wages and salaries as a share of GDP will average 44.2 percent over the 2022–2025 period and 44.0 percent over the 2026–2032 period.

Corporate Profits

Projections of domestic corporate profits as a share of GDP decrease over the 11-year projection period. At 10.1 percent, domestic profits as a share of GDP were elevated in 2021 because of the federal subsidies that flowed to businesses as part of pandemic-related support. In CBO's projections, that share drops to 9.7 percent in 2022 as those subsidies end. The share then decreases steadily, reaching 7.7 percent by 2032, as businesses' interest payments increase with rising interest rates.

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, both in the short term, when the pandemic's continued effects on overall demand for services, supply chains, and participation in the labor market could be larger or smaller than expected, and in the longer term, when the pace of growth in 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 pressure on wages and prices from strong conditions in the labor market 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 impact of higher deficits and debt on the economy. Furthermore, geopolitical events, including Russia's invasion of Ukraine, add to the uncertainty of the economic outlook, notably the outlook for inflation.

CBO's baseline projections reflect the assumption that current laws governing federal taxes and spending generally remain in place. Although new laws could be enacted that significantly alter federal taxes and spending, the following discussion is restricted to uncertainty stemming from other sources.

Output and the Labor Market During the Pandemic and Its Aftermath

The speed at which disruptions to supply chains will ease is uncertain. If consumers and businesses return to prepandemic patterns of spending and production quickly, then such disruptions will abate more quickly, and price pressures will ease more quickly, than they otherwise would. But if that transition takes longer than CBO expects, the pressure on those strained supply chains will persist, dampening and delaying consumption and investment and increasing inflationary pressures. If governments abroad relax measures aimed at mitigating the spread of the virus more quickly than the agency expects, then the strain on global supply chains might ease more rapidly. But if governments abroad pursue more aggressive mitigation measures than CBO anticipates, that might further exacerbate disruptions in global supply chains, and production might increase less rapidly than it otherwise would.

The uncertainty of the labor market's recovery in the near term is particularly great. Labor demand and supply will be affected by several factors, including the future course of the pandemic, the pace of economic expansion, and various government policies supporting households, workers, and businesses. If, for example, labor force participation rates rise less, or consumer demand increases less, than CBO currently expects, then the labor market's overall recovery will be slower than anticipated in CBO's projections. However, if the factors currently dampening the supply of labor diminish faster than CBO currently projects, then the labor force participation rate and labor markets overall could rebound more strongly than projected.

As the fitful effects of the pandemic on certain in-person activities linger—both domestically and abroad—CBO's projections of the overall demand for services are subject to significant uncertainty. In particular, the path of the pandemic is unknown. Over time, the virus will continue to evolve in ways that make it either more or less contagious, make its symptoms either more or less severe, and make it more or less resistant to vaccines. Medical science will also continue to evolve, and more effective vaccines and treatments may be available in the future. If, in response to any of those developments, people become more likely to avoid certain in-person activities, the overall demand for services could be less than expected. But if people become less likely to avoid those activities, then the overall demand for services could be greater than expected.

In the agency's projections, the magnitude of inflationary pressure resulting from historically low levels of slack in the labor market is highly uncertain. Few periods over the past 50 years have had less slack in the labor market than the agency is projecting for the next few years, making historical comparison more difficult. Little slack in the labor market could cause wages to increase more rapidly than the agency projects, which might lead businesses to raise prices more than expected.

CBO's estimates of the economic effects of pandemic-related legislation represent the middle of the range of likely outcomes. Still, those estimates are subject to considerable uncertainty. Some important sources of that uncertainty are how consumers, businesses, and state and local governments may respond to various policy changes included in the legislation; how the timing, scale, and breadth of the legislation may affect prices in labor and product markets; how responses to policy changes may be altered by the ongoing pandemic; how quickly disruptions to the supply of labor are resolved; and what the aftermath of the pandemic may be.

In addition, how the IIJA will affect the private sector's productivity is highly uncertain. As a result, that legislation's effect on potential GDP in the longer term could be greater or less than the agency estimates.

In the longer term, the effects of the pandemic on the growth rate of potential total factor productivity in the nonfarm business sector 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. The swift adaptation to remote work by existing businesses and households could create many opportunities for new businesses and new jobs and could spur sectoral and geographic reallocations that help improve both productivity and social and economic welfare. Innovations associated with remote work could lead to substantial reductions in costs and improvements in productivity. If, in evolving and quickly expanding parts of the economy, more businesses are formed and more jobs are created than CBO expects, then the recovery of the labor market could be faster and stronger than the agency projects. 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.

Furthermore, the longer workers remain out of the labor force, the more likely it is that they will experience unfavorable long-term outcomes in the labor market—including reduced future employment rates and earnings. Workers who are particularly vulnerable to such unfavorable outcomes, which could last a decade or more, include those who experience long periods of unemployment, young people who enter the labor market in a weak economy, and women, who have disproportionally dropped out of the labor force to provide child care and other care at home during the pandemic.

Disruptions to the education system could have lasting effects on the future productivity of workers: Students whose schooling has been disrupted during the pandemic could face long-term adverse consequences, and the potential harm is skewed toward those who have already been most disadvantaged. For many students graduating from school during the pandemic, the recession and social distancing made it much more difficult to gain work experience that would benefit them in the future.

Finally, long-term health risks—including potential long-term effects of COVID-19 infections, exacerbation of the opioid crisis by the pandemic, and the toll 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 rate at which wages and consumer prices will grow. The projected path of wages is highly uncertain and is related to uncertainty about the increase in the labor force, the effect of that increase on wage growth, and the degree to which the increase in inflation will feed into wages in the future. To some extent, the uncertainty about the path of wages is related to the uncertainty about the continuation of the pandemic. Further outbreaks could slow or even reverse the recent increase in the labor force, which could result in a more persistent increase in wage growth than CBO projects. But if the labor force returns to its potential level faster than CBO expects, and past inflation does not create additional upward pressure on wages, then the growth of wages could be slower than the agency anticipates. If wage growth is faster than CBO projects, businesses could pass through those higher wages in the form of higher consumer prices, especially in the prices for services, which might result in higher inflation than the agency expects.

Supply-side issues were a key determinant of inflation in 2021. Those issues remain a large source of uncertainty in 2022, as businesses continue to face difficulties restocking many goods and hiring workers. If supply-side issues persist throughout the year, the result could be higher inflation than CBO projects, particularly in key categories such as durable goods, energy, food, and housing services. But if, in response to strong incentives, businesses soon overcome a variety of supply disruptions, the result could be lower inflation than CBO projects.

Additionally, overall measures of inflation are affected by volatility in energy and food markets. One potential source of uncertainty in CBO's forecast for energy and food prices is the duration and severity of the war in Ukraine (and the sanctions levied on Russia). Supply disruptions and further sanctions on Russia, a major exporter of petroleum and natural gas, could further drive up energy prices in the United States. In addition, because Russia and Ukraine account for a large portion of the world's wheat exports, the conflict is likely to affect food prices. Higher energy prices would further strain global supply chains by increasing transportation costs for merchandise trade. On net, CBO projects that the conflict will lead to higher inflation in the short term, but the magnitude of that effect depends on how long the conflict lasts and how disruptive it is to global markets—two factors that remain highly uncertain.

Finally, CBO's long-term projections of inflation depend on people's expectations about inflation, which, in the agency's estimation, are not very responsive to changes in actual inflation. The agency expects that, for the most part, consumers and businesses will view recent price increases as temporary and as having little effect on future inflation in the long run. However, if price increases prove longer lasting, then inflation expectations could rise more materially, and inflation could be higher than CBO projects. Alternatively, if actual inflation turns out to be less than expected inflation over the next several years, expectations of future inflation could be lower as consumers revise their inflation expectations downward.

The Financial Sector and Asset Prices

High inflation and rising interest rates could lead to a sharp decrease in asset prices if investors' appetite for risk changes quickly. Lower prices for stocks and corporate debt would reduce business investment. Moreover, demand for housing grew rapidly over the past year, and inventories decreased over that period, leading to a large increase in home prices. A sudden drop in asset values, coupled with the increase in mortgage rates that has occurred, could cause spending on housing to stall.

The path of financial conditions over the next several years and its impact on the overall economy are highly uncertain. Financial conditions might tighten more rapidly than CBO anticipates, which would result in a sharp decline in the availability of credit to consumers and businesses and might lead to a recession. Alternatively, the Federal Reserve's tightening of monetary policy might not lead to as significant a change in financial conditions as CBO anticipates, which could lead to higher inflation in the coming years than CBO projects. In addition, any disruptions to financial markets in Europe resulting from the war in Ukraine might have negative spillover effects on financial conditions in the United States, and the interaction of such spillover effects with the impact of the Federal Reserve's domestic policy actions is also highly uncertain.

Interest Rates and Monetary Policy

The path of monetary policy is uncertain as well. The Federal Reserve raised the target range for the federal funds rate in March and May 2022 and thus began to tighten monetary conditions in the economy. In CBO's projections, the pace of the increase in the federal funds rate and the terminal level of that policy rate 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 increase the policy rate more quickly, and interest rates on Treasury securities will probably be higher than CBO projects. But if the improvement in the labor market falters significantly at some point during the next few years, the Federal Reserve may pause or even reverse policy rate hikes, 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. If term premiums increase more rapidly than the agency expects, interest rates on longer-term Treasury securities will be higher than projected. But if term premiums do not increase as much as the agency expects, then interest rates on those securities will be lower 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 and uncertainty about the effect that such a reduction will have on interest rates.

The path of monetary policy is uncertain in the longer term as well. In the fall of 2020, the Federal Reserve's Federal Open Market Committee adopted a new asymmetric policy framework that focuses more on the downward risks to its long-run goals (that is, risks of employment or inflation being lower than desired) than on the upward risks (that is, risks of employment or inflation being higher than desired). The committee did so because it judged that the downward risks to employment and inflation have increased in recent decades.[16] Because that framework is new, it is uncertain how it will be implemented in practice. If inflation returns to a level that is persistently below the Federal Reserve's long-run goal of 2 percent, the implementation of the new asymmetric policy framework could cause interest rates to be lower, on average, than CBO expects. But the recent bout of high inflation could cause the Federal Reserve to return to a more symmetric framework going forward, which would result in interest rates that are higher, on average, than the agency projects.

Another source of long-term uncertainty is the global economy's longer-term response to the substantial increases in budget 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. A significant increase in the extent to which national governments, financial institutions, and other entities hold other nations' debt can raise the risk that financial stress in one country will affect the financial stability of other countries. In addition, changes in foreign demand for U.S. assets or the international role of the dollar would affect interest rates. If, for example, foreign demand for U.S. Treasury securities is weaker than CBO projects, U.S. 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 impact of higher federal deficits and debt on the economy. 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 is highly uncertain.

Quantifying the Uncertainty in CBO's Projections

CBO's forecast of the economy, especially its projection of nominal GDP, is a primary input into the agency's baseline budget projections. As a result, the uncertainty of the GDP forecast contributes to some of the uncertainty of the baseline budget projections.

16. For a description of the Federal Reserve's new framework, see Board of Governors of the Federal Reserve System, "2020 Statement on Longer-Run Goals and Monetary Policy Strategy" (January 14, 2021), https://go.usa.gov/x6BKv.

Table 2-4.

A 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 percent	1	8	9	7	15	7
3 to 3.9 percent	74	46	53	37	35	36
4 to 4.9 percent	16	31	16	38	19	37
5 to 5.9 percent	7	10	12	14	16	15
6 percent or more	2	4	9	4	16	5

Data sources: Congressional Budget Office; Federal Reserve Bank of Philadelphia, "Probability Variables: Survey of Professional Forecasters" (May 13, 2022), https://tinyurl.com/ycx7evnr. See www.cbo.gov/publication/57950#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.

SPF = Survey of Professional Forecasters.

To quantify the uncertainty of its projections for the next five years, CBO analyzed its past forecasts of several key macroeconomic variables. On the basis of that analysis, the agency estimates that—if the errors in its current economic forecast are similar to those in its previous forecasts, and if the agency's economic forecast balances the risks of such errors, on average, so that outcomes could differ from the forecast in either direction—there is approximately a two-thirds chance that the average annual rate of real GDP growth (on a calendar year basis) will be between 0.9 percent and 3.5 percent over the next five years.[17] In 2023, there is roughly a three-quarters chance that the unemployment rate will be between 3.0 percent and 3.9 percent, CBO estimates (see Table 2-4).

In addition, the agency expects that there is a two-thirds chance that the average annual rate of nominal GDP growth will be between 3.8 percent and 6.4 percent over the next five years. That is, there is a two-thirds chance that GDP in 2026 will be within roughly $1.9 trillion of the projected value of $29.5 trillion (see Figure 2-7).

17. Some of those historical differences are associated with turning points in the business cycle, which are difficult to anticipate. For more information, see Congressional Budget Office, *CBO's Economic Forecasting Record: 2021 Update* (December 2021), www.cbo.gov/publication/57579.

Comparison With CBO's July 2021 Economic Projections

CBO's current projections can be usefully compared with its most recent projections, which were published in July 2021 (see Table 2-5). The comparison illuminates aspects of the current projections and highlights the kinds of uncertainty that affect all such projections.

Inflation

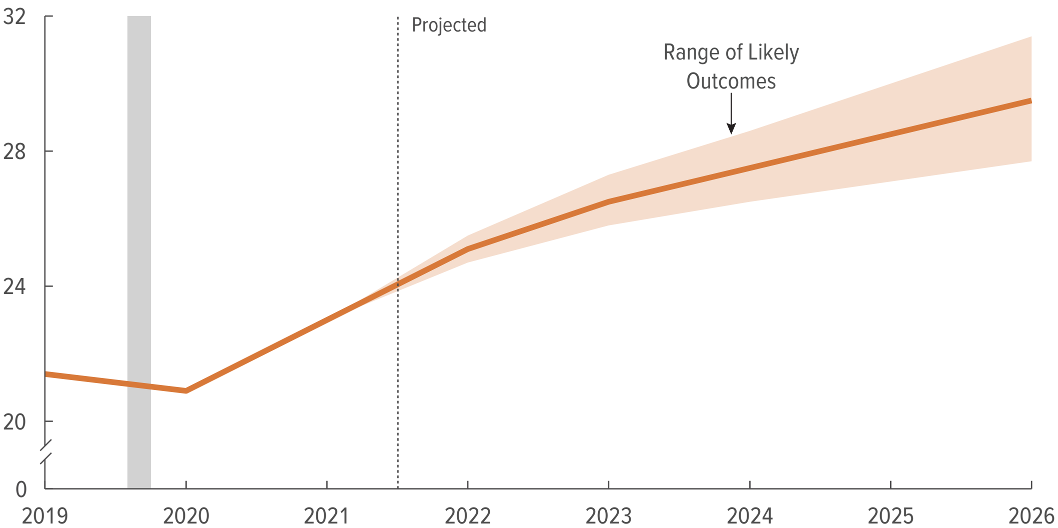
The agency's current projection of inflation for 2022 is substantially higher than last summer's projection. In July 2021, CBO expected that inflation in the PCE price index would be 2.0 percent in 2022, whereas the current projection is 4.0 percent. Similarly, the agency forecast in July that inflation in the CPI-U would be 2.3 percent in 2022, whereas the current projection is 4.7 percent.

Those large upward revisions are the result of data that now show prices increasing more rapidly across many sectors of the economy than CBO expected, largely because the combination of strong demand and restrained supply resulted in tighter markets for goods, services, and labor than the agency anticipated. CBO expects that supply-side issues will continue to put pressure on prices in 2022 and will gradually resolve midway through the year. In current projections, price increases for most goods and services are larger than the agency expected them to be last July; in fact, increases for several

Figure 2-7.

Uncertainty of CBO's Projections of GDP

Trillions of Dollars



CBO estimates that if the errors in its current economic forecast are similar to those in its previous forecasts, there is approximately a two-thirds chance that GDP in 2026 will be between $27.7 trillion and $31.4 trillion.

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Federal Reserve. See www.cbo.gov/publication/57950#data.

The shaded areas around CBO's baseline projections of nominal GDP illustrate the uncertainty of those projections. The area is based on the root mean square of the forecast errors in CBO's one-, two-, three-, four-, and five-year projections of the average annual growth rate of GDP for calendar years 1976 through 2021.

GDP = gross domestic product.

components of the PCE price index and the CPI-U, including housing services and motor vehicles, are now projected to be larger than at any point over the past several decades.

CBO's projection of inflation for 2023 is now higher than it was last July. At that time, the agency forecast that inflation in the PCE price index would be 2.1 percent in 2023, whereas the current projection of inflation in that index for 2023 is 2.3 percent. Likewise, the projection of inflation in the CPI-U for 2023 was 2.3 percent in July's forecast, whereas the current projection of inflation in that index for 2023 is 2.7 percent. A large driver of the agency's revisions is inflation in housing services, which tends to be persistent. CBO's projection of inflation in residential rents (one component of the housing services category) for 2023 has also been revised upward, from 3.5 percent to 4.1 percent.

CBO's current projections of inflation after 2023 are similar over the remainder of the projection period to what the agency forecast last summer. 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.

Actual Output, Potential Output, and Income

The agency's projections of real GDP growth for 2022 are similar to what they were last summer; projections of such growth for 2023 and 2024 are now higher than they were. In the projections for 2022, stronger growth in both real nonresidential fixed investment and real residential fixed investment offsets weaker growth in real PCE and stronger growth in real imports (which subtract from the growth of real GDP). The revision to real GDP growth for 2023 results largely from two sources. First, growth in real nonresidential fixed investment is projected to be stronger as businesses expand capacity in response to strong demand for their products. Second, CBO now projects faster growth in real exports in those years as a result of an upward revision to the rate of projected economic growth among major U.S. trading partners and stronger projected growth in exports of services. The revision to real GDP growth for 2024 results largely from faster projected growth in real PCE, in addition to continuing higher projected growth in real exports.

Real GDP is forecast to be about the same from 2027 to 2031 as the agency expected last July. The level of real GDP was lower at the end of 2021 than previously forecast because real GDP grew more slowly over the second

Table 2-5.

CBO's Current and Previous Economic Projections for Calendar Years 2021 to 2031

Percent

	2021	2022	2023	Annual Average 2021–2025	Annual Average 2026–2031	Annual Average Overall, 2021–2031
	Change From Fourth Quarter to Fourth Quarter					
Real GDP[a]						
May 2022	5.5	3.1	2.2	2.8	1.7	2.2
July 2021	7.4	3.1	1.1	2.8	1.6	2.1
Nominal GDP						
May 2022	11.8	7.4	4.5	6.1	3.8	4.9
July 2021	10.7	5.3	3.3	5.2	3.7	4.4
PCE Price Index						
May 2022	5.5	4.0	2.3	3.2	2.0	2.5
July 2021	2.8	2.0	2.1	2.2	2.1	2.1
Core PCE Price Index[b]						
May 2022	4.6	3.8	2.5	3.0	2.1	2.5
July 2021	2.4	2.0	2.2	2.2	2.1	2.1
Consumer Price Index[c]						
May 2022	6.7	4.7	2.7	3.7	2.4	3.0
July 2021	3.4	2.3	2.3	2.6	2.4	2.5
Core Consumer Price Index[b]						
May 2022	5.0	4.4	2.9	3.4	2.4	2.8
July 2021	2.7	2.4	2.5	2.5	2.4	2.5
GDP Price Index						
May 2022	5.9	4.0	2.3	3.2	2.1	2.6
July 2021	3.0	2.1	2.2	2.3	2.1	2.2
Employment Cost Index[d]						
May 2022	5.0	5.4	4.1	4.3	3.1	3.7
July 2021	3.7	3.3	3.6	3.5	3.1	3.3
Real Potential GDP[a]						
May 2022	1.8	1.9	1.9	1.9	1.8	1.8
July 2021	2.0	2.1	2.0	2.0	1.7	1.8

Continued

half of that year than the agency expected. However, CBO's upward revision to the projected growth of real GDP in 2023 and 2024 returns real GDP to a level that is similar at the end of 2026 to what the agency projected last July. The agency's forecast of real GDP growth after 2026 is about 0.1 percentage point higher over the remainder of the projection period than the agency previously projected.

The projected level of real consumer spending is 1 percent lower, on average, over the 2022–2031period than in CBO's July forecast, partly because of revisions to historical spending data and partly because of a delayed recovery of spending on services. Downward revisions made by the Bureau of Economic Analysis to historical spending data for the 2015–2021 period lowered the level of real consumer spending at the outset of the projection period.

In July, CBO forecast that widespread vaccinations would bring about strong growth in spending on services in 2021 and early 2022, as people rapidly returned to their prepandemic consumption habits. Real spending on services did indeed accelerate in 2021, but by less than was projected. In the current forecast, real spending on services nearly returns to its prepandemic trend in 2024, two years later than CBO projected in July.

Updates to data caused revisions to potential output in recent history. Revised data from the Census Bureau indicate that the number of people age 16 and older in the civilian noninstitutionalized population (the number that underlies the calculation of the potential labor force) has been larger than previously reported; a larger population results in a larger projected potential labor force in the near term. That upward revision more than offset

Table 2-5. Continued

CBO's Current and Previous Economic Projections for Calendar Years 2021 to 2031

Percent

				Annual Average		
	2021	2022	2023	2021–2025	2026–2031	Overall, 2021–2031
			Annual Average			
Unemployment Rate						
May 2022	5.4	3.8	3.5	4.0	4.4	4.2
July 2021	5.5	3.8	3.7	4.2	4.4	4.3
Interest Rates						
3-month Treasury bills						
May 2022	*	0.9	2.0	1.6	2.3	2.0
July 2021	*	0.1	0.2	0.3	1.9	1.2
10-year Treasury notes						
May 2022	1.4	2.4	2.9	2.6	3.7	3.2
July 2021	1.6	1.9	2.0	2.1	3.2	2.7
Tax Bases (Percentage of GDP)						
Wages and salaries						
May 2022	44.9	44.7	44.2	44.4	44.0	44.2
July 2021	43.7	43.3	43.4	43.5	43.7	43.6
Domestic corporate profits[e]						
May 2022	10.1	9.7	9.3	9.3	7.9	8.5
July 2021	9.9	9.8	9.1	9.2	7.8	8.4

Data sources: Congressional Budget Office; Bureau of Labor Statistics; Federal Reserve. See www.cbo.gov/publication/57950#data.

GDP = gross domestic product; PCE = personal consumption expenditures; * = between zero and 0.05 percent.

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

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 distortions in depreciation allowances caused by tax rules and to exclude the effects of changes in prices on the value of inventories.

two important downward revisions. One was a revision by the Bureau of Economic Analysis to the output of the nonfarm business sector, which resulted in a smaller estimate of potential total factor productivity in that sector. The second was a revision to the output of the household sector (largely the estimated services provided by owner-occupied housing), which yielded a smaller estimate of potential output in that sector as well. Altogether, CBO now estimates that actual output was about 1.3 percent less in 2021—but potential output was about 0.2 percent greater—than the agency expected last July.

In terms of underlying trends that contribute to growth of real potential GDP over the 2022–2031 period, revisions are very modest, and the average annual growth rate over the period, slightly greater than 1.8 percent, is practically unchanged. In nominal terms, however, the agency's projections of output and income are higher throughout the projection period because projected inflation over the next several years is above the rates anticipated in July. Nominal GDP is 4.9 percent higher, and national income is 3.9 percent higher, in 2031 than CBO projected last summer.

The Labor Market

CBO currently projects the unemployment rate to be slightly lower and the labor force participation rate to be slightly higher over the 2022–2031 period than in the agency's July 2021 forecast. CBO's current projection of the average unemployment rate over the 2022–2026 period is slightly lower than it was in that earlier forecast—now 3.8 percent, down from 4.0 percent. The current projection of the labor force participation rate is also lower—now 62.1 percent instead of

62.4 percent. CBO has also revised its projection of the average unemployment rate over the 2027–2031 period, which is 4.5 percent, up from 4.4 percent. The agency made that upward revision because it now expects output to return to its historical relationship with potential output sooner than was projected in July. Thus, the unemployment rate is also projected to rise sooner as it returns to its historical relationship with the noncyclical rate of unemployment sooner as well.

CBO also made an upward revision to its projection of the labor force participation rate over the 2027–2031 period—now an average of 61.6 percent over that period, up from 61.2 percent in July's projections. That revision is mainly attributable to an upward revision to CBO's projection of the share of the population ages 25 to 54 in response to newly released data.[18] 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.

Interest Rates

CBO now expects both short- and long-term interest rates over the coming decade to be higher, on average, than it forecast in July. The upward revision in rates over the 2022–2026 period partly reflects the upward revision to inflation. The agency now anticipates that, in response to recent inflation that was higher than expected, the Federal Reserve will raise the target range for the federal funds rate more rapidly than previously projected.

CBO raised its forecasts of both short- and long-term interest rates, on average, over the later years of the projection period as well. The more aggressive tightening of monetary conditions means that short-term rates are projected to be higher, on average, over the 2027–2031 period than the agency expected in July. It also means that long-term rates, which partly reflect the expected path of short-term rates, will be higher, on average. The agency also expects that the IIJA will cause a slight increase, on average, in long-term interest rates for several reasons, including a higher level of debt relative to GDP and a slightly higher growth rate of total factor productivity.

Comparison With Other Economic Projections

CBO's economic projections for 2022 and 2023 can be usefully compared with the consensus (that is, the average) of the forecasts of about 50 private-sector economists published in the May 2022 *Blue Chip Economic Indicators* (see Figure 2-8).[19] The agency's projections of real GDP growth for those years are higher than most of the *Blue Chip* forecasts. CBO's projections of inflation, both in GDP prices (as measured by the GDP price index) and in consumer prices (as measured by the CPI-U), are lower than the consensus of *Blue Chip* forecasts in 2022 and are within the middle two-thirds of those forecasts for 2023. The agency's projections of interest rates on 3-month Treasury bills for those two years are lower than the consensus of *Blue Chip* forecasts, and its projections of rates on 10-year Treasury notes are near the bottom of the middle two-thirds of the ranges of *Blue Chip* forecasts.

CBO's economic projections can also be compared—over more years—with the projections of 34 forecasters participating in the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters (SPF).[20] CBO's projections of real GDP growth for the second half of 2022 and for 2023 are, respectively, above and near the top of the middle two-thirds of the ranges of SPF forecasts (see Figure 2-9). After 2023, the agency's projections of real GDP growth are generally weaker than those in the SPF. CBO projects that the probabilities of unemployment rates being less than 3 percent or more than 6 percent in the years 2024 and 2025 are greater than the average probabilities for those ranges in the SPF (see Table 2-4 on page 48). CBO's projections of inflation in consumer prices (as measured by both the

18. See Bureau of Labor Statistics, *Adjustments to Household Survey Population Estimates in January 2022* (February 2022), https://go.usa.gov/xuDH6 (PDF, 73 KB).

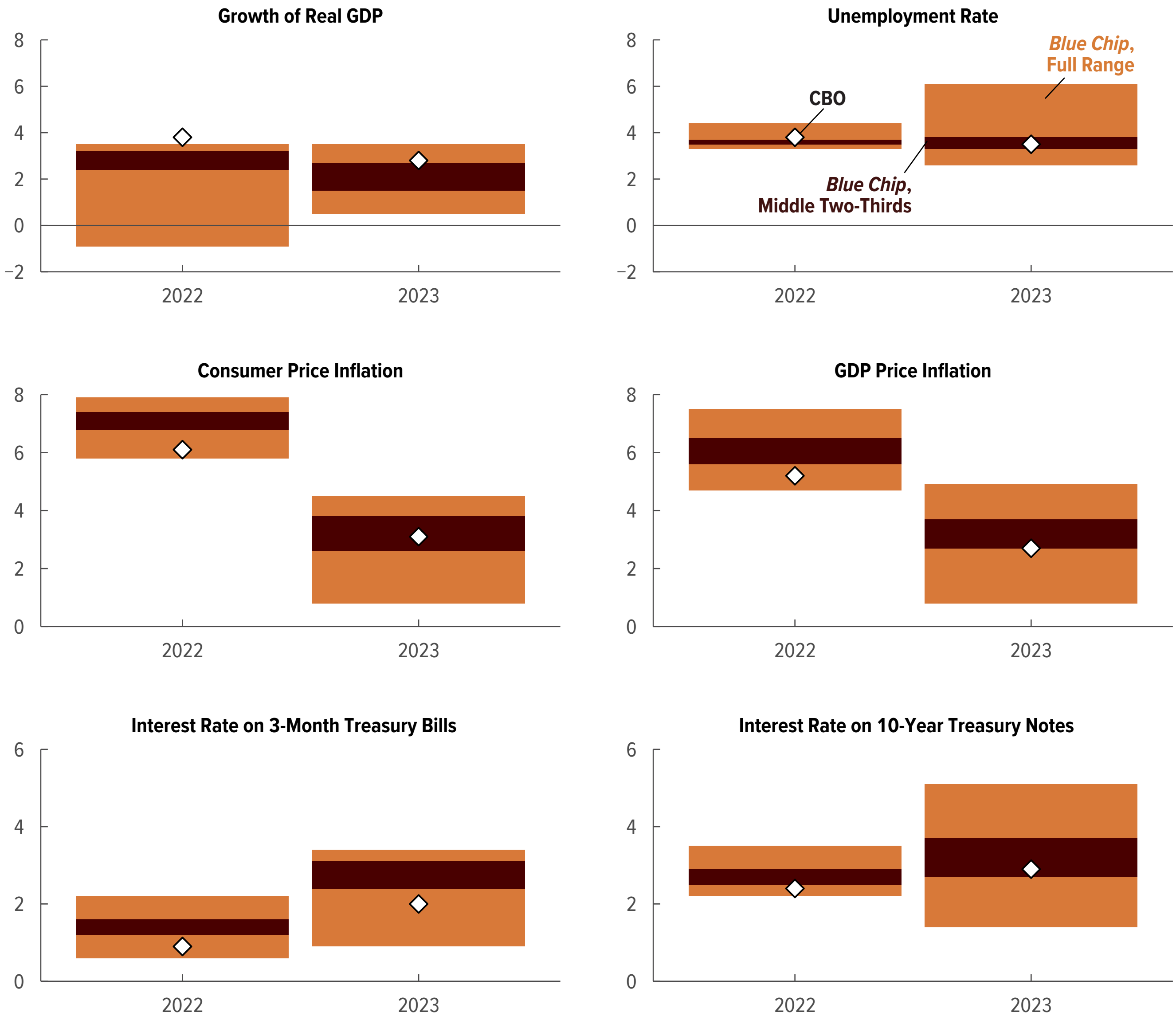
19. See Wolters Kluwer, *Blue Chip Economic Indicators*, vol. 47, no. 5 (May 10, 2022). For comparisons with *Blue Chip* forecasts from March 2022, which were published at about the same time that CBO's forecast was prepared and which extend beyond two years, see the supplemental data for this analysis (www.cbo.gov/publication/57950#data).

20. See Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters: Second Quarter 2022* (May 13, 2022), https://tinyurl.com/2p87bj3y.

Figure 2-8.

A 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. 47, no. 5 (May 10, 2022). See www.cbo.gov/publication/57950#data.

The full range of forecasts from the *Blue Chip* survey is based on the highest and lowest of the roughly 50 forecasts. 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 changes in prices. 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.

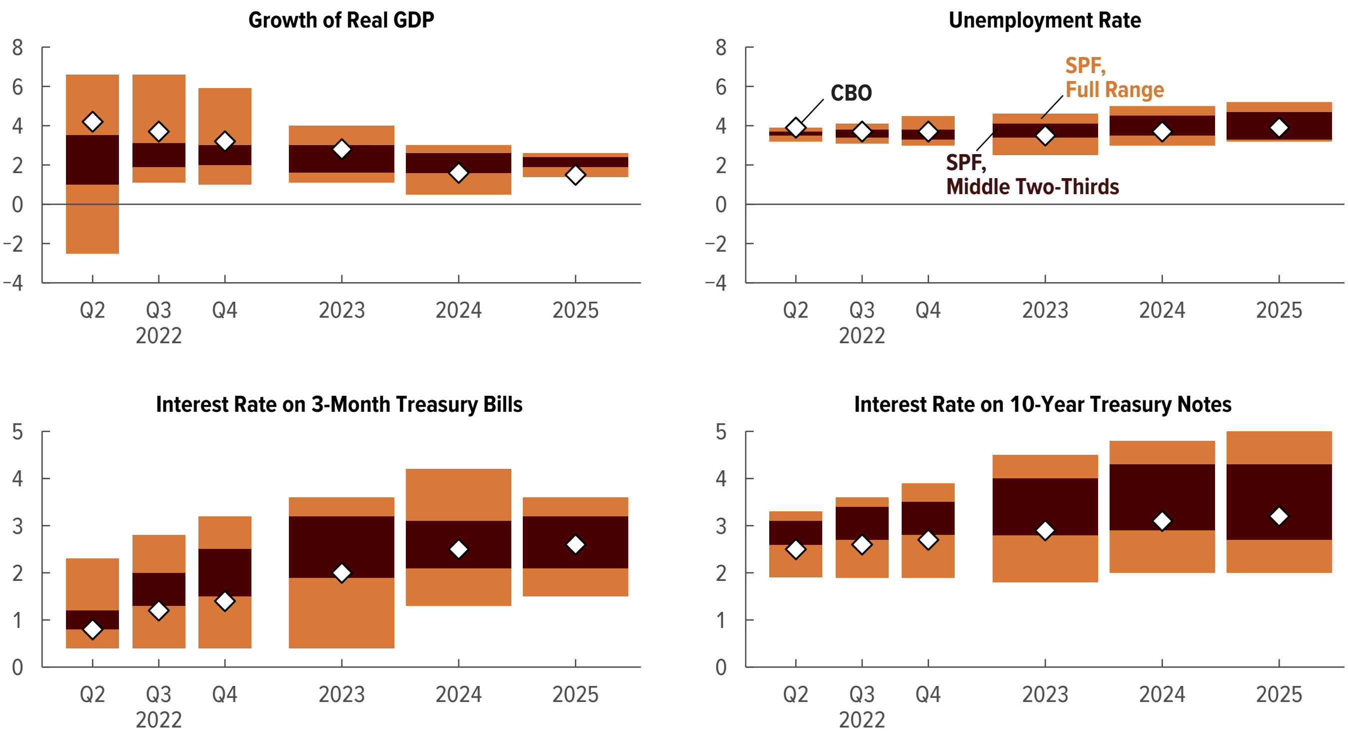
The unemployment rate is the number of people not working who are available for work and are either seeking work or expecting to be recalled from a temporary layoff, expressed as a percentage of the labor force. The unemployment rate and interest rates are calendar year averages.

GDP = gross domestic product.

Figure 2-9.

A 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: Second Quarter 2022* (May 13, 2022), https://tinyurl.com/2p87bj3y. See www.cbo.gov/publication/57950#data.

The full range of forecasts from the Survey of Professional Forecasters is based on the highest and lowest of the roughly 30 forecasts. 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 changes in prices. 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.

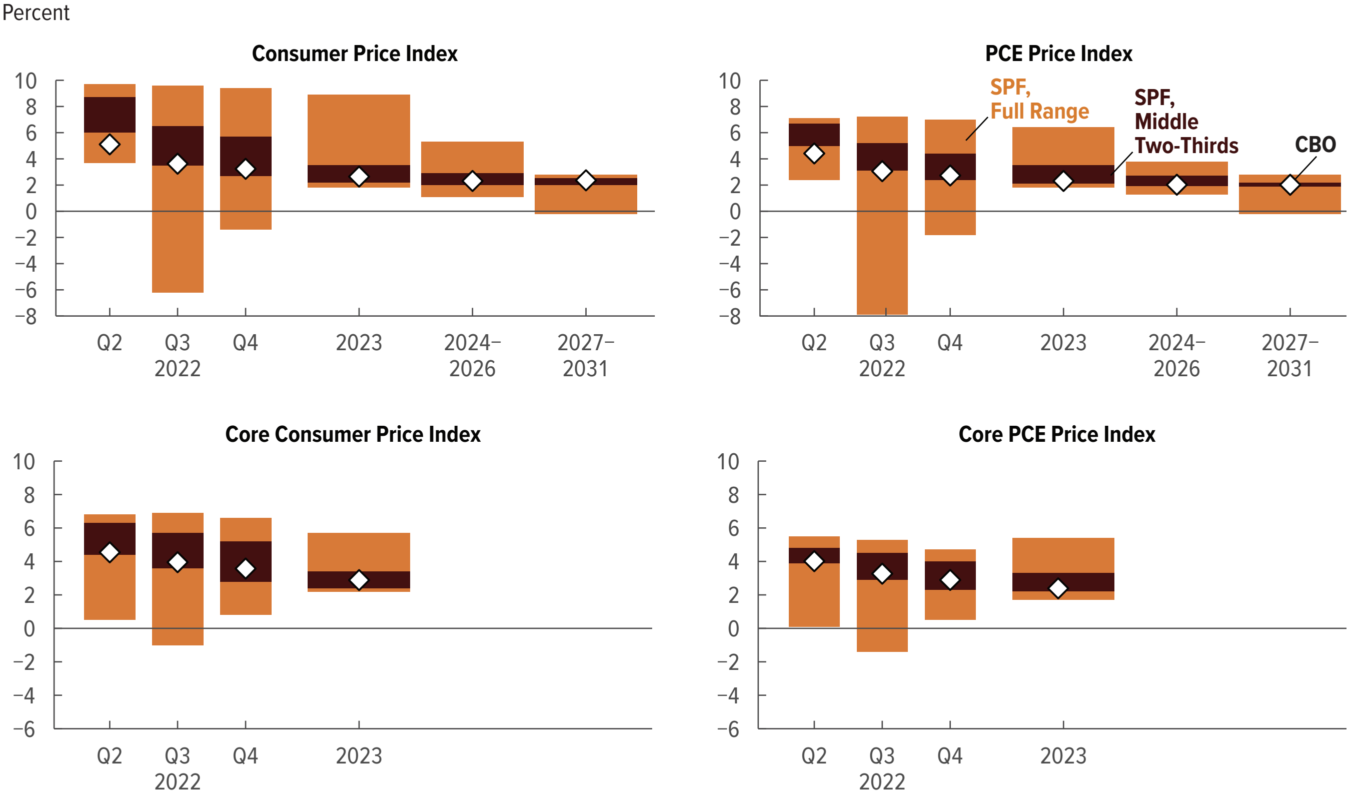
CPI-U and the PCE price index) are near or below the bottom of the middle two-thirds of the ranges of SPF forecasts for 2022 but are within the middle two-thirds of the ranges for 2023 through 2031 (see Figure 2-10).

CBO's projections of real GDP growth and the unemployment rate in 2022 are slightly above the central tendency in the Federal Reserve's most recent *Summary of Economic Projections* (see Figure 2-11).[21] The agency's projection of inflation in the PCE price index for 2022 is slightly below the central tendency in the Federal Reserve's forecast. For 2023, CBO's projections of real GDP growth, the unemployment rate, and inflation (as measured by the growth rate of the PCE price index) are all within the central tendency in the Federal Reserve's forecast. For 2024 and the longer term, the agency's

21. See Board of Governors of the Federal Reserve System, "Table 1. Economic Projections of Federal Reserve Board Members and Federal Reserve Bank Presidents, Under Their Individual Assumptions of Projected Appropriate Monetary Policy, March 2022" (March 16, 2022), p. 2, https://go.usa.gov/xupxX (PDF, 1.5 MB). 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.

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



Data sources: Congressional Budget Office; Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters: Second Quarter 2022* (May 13, 2022), https://tinyurl.com/2p87bj3y. See www.cbo.gov/publication/57950#data.

The full range of forecasts from the Survey of Professional Forecasters is based on the highest and lowest of the roughly 30 forecasts. 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 2023.

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

projections of the economy are, on balance, generally weaker than those by the Federal Reserve.

Part of the diference 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. Moreover, 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.

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 range of likely 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 his or her individual assessment of appropriate monetary policy, and the Federal Reserve reports ranges of those modal values. As with other forecasters (and unlike CBO), officials may assume in their individual forecasts that additional legislation will be enacted.

Figure 2-11.

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

Data sources: Congressional Budget Office; Board of Governors of the Federal Reserve System, "Table 1. Economic Projections of Federal Reserve Board Members and Federal Reserve Bank Presidents, Under Their Individual Assumptions of Projected Appropriate Monetary Policy, March 2022" (March 16, 2022), p. 2, https://go.usa.gov/xukq8 (PDF, 1.5 MB). See www.cbo.gov/publication/57950#data.

The full range of forecasts from the Federal Reserve is based on the highest and lowest of the 16 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 speaking, 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 March 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.

For CBO, longer-term projections are values for the last quarter of 2032. 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.

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

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

Chapter 3: The Spending Outlook

Overview

Excluding the effects of any legislation enacted after April 8, 2022, federal outlays this year will amount to $5.9 trillion, the Congressional Budget Office estimates, 14 percent less than last year's total, as federal spending in response to the coronavirus pandemic wanes. In the agency's baseline projections, outlays increase after 2022, reaching $8.9 trillion in 2032, or 24.3 percent of gross domestic product (GDP), up from 23.8 percent in 2022; Social Security, Medicare, and net interest costs are the largest contributors to that growth (see Table 3-1).[1]

Decline in Pandemic-Related Spending Drives Change in Outlays for 2022

In CBO's projections, total federal outlays decrease by $1.0 trillion in 2022. (That amount excludes shifts in the timing of some outlays; the discussion of CBO's projections that follows reflects adjustments to remove the effects of timing shifts.[2]) The decline in 2022 is dominated by a $1.1 trillion drop in estimated mandatory spending—the result of sharply lower pandemic-related spending—to $3.7 trillion this year. That large decrease is partially offset by much smaller increases in discretionary outlays and net interest costs. Assuming no changes to current law, discretionary outlays are projected to increase by $81 billion (or 5 percent) and reach $1.7 trillion this year; the government's net interest costs are projected to increase by $47 billion (or 13 percent), to $0.4 trillion. (See Box 3-1 on page 60 for descriptions of the three major categories of federal outlays.)

CBO now estimates total outlays for 2022 to be $0.3 trillion more than the agency estimated in July 2021. That change is the net result of several increases and decreases in outlays. For example, spending for some pandemic-related programs occurred more slowly than CBO anticipated, so some outlays originally estimated to occur in 2021 are now anticipated to occur this year. (For more information on the changes in CBO's baseline projections, see Appendix A.)

Relative to the size of the economy, and excluding shifts in the timing of some outlays, total federal outlays in 2022 are projected to equal 23.5 percent of GDP, above the 50-year average of 20.6 percent but 7 percentage points below the 30.5 percent of GDP that federal outlays totaled last year. Mandatory spending (net of the offsetting receipts that are credited against such spending) is expected to equal 14.9 percent of GDP in 2022, down from 21.6 percent in 2021 but still higher than the 10.7 percent it averaged over the 1972–2021 period. As a share of GDP, the other major components of federal spending are estimated to be below their 50-year averages: In CBO's projections, discretionary outlays equal 7.0 percent of GDP this year, compared with their 8.1 percent average over the past 50 years, and net outlays for interest equal 1.6 percent of GDP, compared with their 50-year average of 2.0 percent (see Figure 3-1 on page 61).

Outlays Are Projected to Rise Relative to GDP After 2024

In CBO's baseline projections, spending related to the pandemic continues to decline over the next few years, pushing total outlays lower relative to the size of the economy. In 2023 and 2024, projected outlays decrease by 1.2 percent of GDP and 0.1 percent, respectively, reflecting declines in mandatory and discretionary spending, on net, that are partially offset by rising net interest costs.

From 2025 to 2032, total outlays as a percentage of GDP are projected to increase by an average of 0.3 percentage points per year. Mandatory spending follows a path similar to that of total outlays, and net interest costs are also projected to rise, but at a much faster rate. In contrast, discretionary outlays are projected to decline

1. This chapter describes updates to CBO's spending projections, which were last updated in July 2021. For more information about those projections, see Congressional Budget Office, *An Update to the Budget and Economic Outlook: 2021 to 2031* (July 2021), www.cbo.gov/publication/57218.

2. Outlays in some years are affected by shifts in the timing of certain federal payments: When October 1—the first day of a fiscal year—falls on a weekend, certain payments that are due on that date are made at the end of September and, as a result, are recorded in the previous fiscal year. Timing shifts affect mandatory outlays and, to a much lesser degree, discretionary outlays. Net interest outlays are not affected. CBO estimates that $68 billion in outlays ($63 billion of which is mandatory) will shift from 2023 into 2022, $80 billion ($75 billion of which is mandatory) will shift from 2024 into 2023, and $113 billion ($107 billion of which is mandatory) will shift from 2029 into 2028.

Table 3-1.

CBO's Baseline Projections of Outlays

													Total	
	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2023–2027	2023–2032
							In Billions of Dollars							
Mandatory														
Social Security	1,129	1,212	1,320	1,409	1,491	1,577	1,665	1,760	1,860	1,963	2,068	2,175	7,463	17,288
Medicare[a]	868	983	1,019	1,034	1,165	1,262	1,360	1,541	1,480	1,672	1,782	1,929	5,840	14,245
Medicaid	521	589	601	545	547	578	608	639	672	708	749	789	2,880	6,437
Other spending	2,650	1,433	1,084	1,018	1,004	1,010	991	1,041	1,019	1,067	1,091	1,115	5,107	10,440
Offsetting receipts	-333	-466	-350	-350	-374	-395	-419	-441	-466	-499	-529	-548	-1,888	-4,370
Subtotal	4,834	3,751	3,674	3,656	3,834	4,032	4,206	4,542	4,564	4,911	5,162	5,461	19,401	44,041
Discretionary														
Defense	742	760	795	814	842	863	885	914	924	953	976	998	4,199	8,964
Nondefense	895	962	963	984	1,020	1,067	1,111	1,144	1,172	1,202	1,233	1,262	5,145	11,158
Subtotal	1,636	1,722	1,758	1,798	1,862	1,930	1,996	2,057	2,096	2,155	2,209	2,261	9,344	20,122
Net Interest	352	399	442	525	604	681	756	842	925	1,007	1,099	1,194	3,009	8,075
Total	**6,822**	**5,872**	**5,874**	**5,980**	**6,300**	**6,643**	**6,958**	**7,441**	**7,585**	**8,074**	**8,469**	**8,915**	**31,754**	**72,238**
On-budget	5,819	4,794	4,688	4,705	4,942	5,208	5,436	5,826	5,872	6,258	6,546	6,887	24,979	56,368
Off-budget[b]	1,004	1,077	1,186	1,275	1,358	1,436	1,521	1,614	1,713	1,816	1,923	2,029	6,775	15,870
Memorandum:														
Outlays Adjusted to Exclude Timing Shifts[c]														
Mandatory outlays	4,834	3,688	3,662	3,731	3,834	4,032	4,206	4,435	4,671	4,911	5,162	5,461	19,464	44,104
Discretionary outlays	1,636	1,717	1,757	1,803	1,862	1,930	1,996	2,051	2,102	2,155	2,209	2,261	9,349	20,127
Total Outlays	**6,822**	**5,804**	**5,861**	**6,060**	**6,300**	**6,643**	**6,958**	**7,328**	**7,698**	**8,074**	**8,469**	**8,915**	**31,822**	**72,306**
Gross Domestic Product	22,365	24,694	26,240	27,291	28,271	29,266	30,332	31,487	32,716	33,996	35,318	36,680	141,400	311,596

Continued

relative to GDP. In CBO's projections, between 2022 and 2032:

- Mandatory outlays as a share of GDP fall from 2022 to 2025, as pandemic-related spending continues to decline. After that, outlays rise through 2032. All told, mandatory outlays fall from 14.9 percent of GDP this year to 13.6 percent of GDP in 2025 before rising back to 14.9 percent in 2032.
- Discretionary outlays fall from 7.0 percent of GDP this year to 6.2 percent in 2032. That decline reflects waning pandemic-related spending in addition to the assumption (required by law) that discretionary funding will grow at the rate of inflation—which is slower than projected growth in nominal GDP.
- Net outlays for interest climb steadily as interest rates rise and debt continues to accumulate, roughly doubling from 1.6 percent of GDP in 2022 to 3.3 percent by 2032.

Among mandatory programs, outlays for Social Security and for the major health care programs—Medicare, Medicaid, subsidies offered through the health insurance marketplaces established under the Affordable Care Act and related spending, and the Children's Health Insurance Program (CHIP)—rise relative to GDP; outlays for all other mandatory programs, on net, decline relative to GDP (see Figure 3-2 on page 62). In particular, outlays for mandatory programs as a share of GDP change in the following ways:

- Outlays for the largest federal spending program, Social Security, rise from 4.9 percent of GDP in 2022 to 5.9 percent in 2032.
- Federal outlays for the major health care programs grow from 5.8 percent of GDP in 2022 to 6.8 percent in 2032, mostly because of growth in spending for Medicare.[3]

3. Spending for Medicare is presented net of premium payments and other offsetting receipts, unless otherwise noted.

Table 3-1. Continued

CBO's Baseline Projections of Outlays

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
	As a Percentage of Gross Domestic Product													
Mandatory														
Social Security	5.0	4.9	5.0	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	5.9	5.3	5.5
Medicare[a]	3.9	4.0	3.9	3.8	4.1	4.3	4.5	4.9	4.5	4.9	5.0	5.3	4.1	4.6
Medicaid	2.3	2.4	2.3	2.0	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.0	2.1
Other spending	11.8	5.8	4.1	3.7	3.6	3.5	3.3	3.3	3.1	3.1	3.1	3.0	3.6	3.4
Offsetting receipts	-1.5	-1.9	-1.3	-1.3	-1.3	-1.4	-1.4	-1.4	-1.4	-1.5	-1.5	-1.5	-1.3	-1.4
Subtotal	21.6	15.2	14.0	13.4	13.6	13.8	13.9	14.4	14.0	14.4	14.6	14.9	13.7	14.1
Discretionary														
Defense	3.3	3.1	3.0	3.0	3.0	3.0	2.9	2.9	2.8	2.8	2.8	2.7	3.0	2.9
Nondefense	4.0	3.9	3.7	3.6	3.6	3.6	3.7	3.6	3.6	3.5	3.5	3.4	3.6	3.6
Subtotal	7.3	7.0	6.7	6.6	6.6	6.6	6.6	6.5	6.4	6.3	6.3	6.2	6.6	6.5
Net Interest	1.6	1.6	1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.3	2.1	2.6
Total	**30.5**	**23.8**	**22.4**	**21.9**	**22.3**	**22.7**	**22.9**	**23.6**	**23.2**	**23.7**	**24.0**	**24.3**	**22.5**	**23.2**
On-budget	26.0	19.4	17.9	17.2	17.5	17.8	17.9	18.5	17.9	18.4	18.5	18.8	17.7	18.1
Off-budget[b]	4.5	4.4	4.5	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	4.8	5.1
Memorandum:														
Outlays Adjusted to Exclude Timing Shifts[c]														
Mandatory outlays	21.6	14.9	14.0	13.7	13.6	13.8	13.9	14.1	14.3	14.4	14.6	14.9	13.8	14.2
Discretionary outlays	7.3	7.0	6.7	6.6	6.6	6.6	6.6	6.5	6.4	6.3	6.3	6.2	6.6	6.5
Total Outlays	**30.5**	**23.5**	**22.3**	**22.2**	**22.3**	**22.7**	**22.9**	**23.3**	**23.5**	**23.7**	**24.0**	**24.3**	**22.5**	**23.2**

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

a. Excludes the effects of Medicare premiums and other offsetting receipts.

b. Off-budget outlays stem from transactions related to the Social Security trust funds and the net cash flow of the Postal Service.

c. Consists of all outlays except for net outlays for interest.

- Outlays for all other mandatory programs (net of offsetting receipts) decline from 4.3 percent of GDP in 2022 to 2.2 percent in 2032.

Mandatory Spending

Mandatory—or direct—spending consists of spending for some benefit programs and certain payments to people, businesses, nonprofit institutions, and state and local governments. Mandatory spending is generally governed by statutory criteria and is not normally constrained by the annual appropriation process.[4] Certain types of payments that federal agencies receive from the public and from other government agencies are classified as offsetting receipts and are accounted for in the budget as reductions in mandatory spending. In 2022, mandatory outlays (net of offsetting receipts) are estimated to account for over 60 percent of total federal outlays.

The Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177), referred to here as the Deficit Control Act, requires that CBO's projections

4. 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. Section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985 requires CBO to project outlays for those programs as if they were fully funded, regardless of the amounts actually appropriated.

Box 3-1.

Categories of Federal Outlays

Outlays are the issuance of checks, disbursement of cash, or electronic transfer of funds made to liquidate a federal obligation. (Budget authority, sometimes referred to as funding, is the authority provided by federal law to incur such obligations.) On the basis of their treatment in the budget process, federal outlays can be divided into three broad categories: mandatory, discretionary, and net interest.

Mandatory outlays consist primarily of payments for benefit programs, such as Social Security, Medicare, and Medicaid. The Congress largely determines funding for those programs by setting rules for eligibility, benefit formulas, and other parameters rather than by appropriating specific amounts each year. In making baseline projections, the Congressional Budget Office generally assumes that the existing laws and policies governing those programs will remain unchanged. Mandatory outlays are net of offsetting receipts—fees and other charges that are recorded as negative budget authority and outlays. Offsetting receipts differ from revenues: Revenues are collected through the government's sovereign powers (in the form of income taxes, for example), whereas offsetting receipts are mostly collected from other government accounts or from members of the public for businesslike transactions (in the form of premiums for Medicare or royalties for the drilling of oil on public lands, for example).

Discretionary outlays result from the funding controlled by appropriation acts in which policymakers specify how much money can be obligated for certain government programs in specific years. Appropriations fund a broad array of government activities, including defense, law enforcement, education, and veterans' health programs. They also fund the national park system, disaster relief, and foreign aid. Some of the fees and charges triggered by appropriation acts are classified as offsetting collections and are credited against discretionary budget authority and outlays for the particular accounts affected.

CBO's baseline projections depict the path of funding for individual discretionary accounts as directed by the provisions of the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177). That law states that current appropriations should be assumed to grow with inflation in the future, using specified indexes.[1]

The baseline projections also include discretionary outlays for highway and airport infrastructure programs and public transit programs, all of which receive mandatory budget authority from authorizing legislation. Typically, outlays from mandatory budget authority are also classified as mandatory. However, appropriation acts each year include limits on how much of that mandatory budget authority the Department of Transportation can obligate. For that reason, those obligation limitations are often treated as a measure of discretionary budgetary resources, and the resulting outlays are considered discretionary.[2]

Net interest outlays consist of interest paid on Treasury securities and other interest that the government pays (for example, interest paid on late refunds issued by the Internal Revenue Service) minus the interest that it collects from various sources (for example, from states that pay the interest on advances they received from the federal Unemployment Trust Fund when the balances of their state unemployment accounts were insufficient to pay benefits promptly). Net interest outlays are determined mostly by the size and composition of the government's debt and by market interest rates.

1. In CBO's baseline projections, discretionary funding related to federal personnel is inflated using the employment cost index for wages and salaries of workers in private industry; other discretionary funding is adjusted using the gross domestic product price index.

2. Discretionary budgetary resources include new budget authority, unobligated balances of budget authority provided in previous years, and obligation limitations.

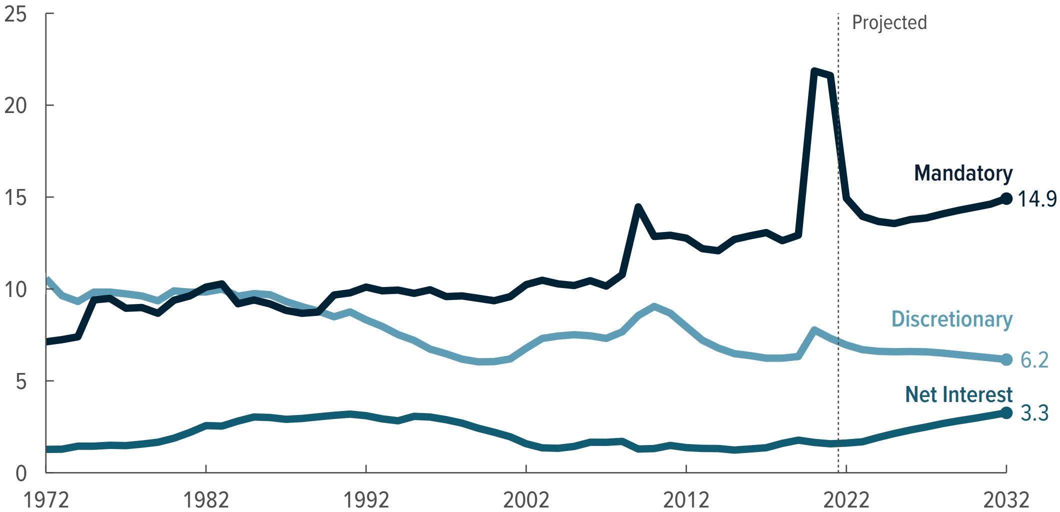
incorporate the assumption that current laws governing mandatory programs generally remain unchanged.[5] Therefore, CBO's baseline projections of mandatory spending reflect the estimated effects on the cost of those programs of economic influences, growth in the number of participants, and other factors, even for some programs that otherwise are set to expire. The projections also incorporate a set of across-the-board reductions

5. Section 257 of the Deficit Control Act also requires CBO to assume that certain mandatory programs will continue beyond their scheduled expiration and that entitlement programs—including Social Security and Medicare, which pay benefits from trust funds—will be fully funded and thus will be able to make all scheduled payments. Other rules that govern the construction of CBO's baseline have been developed by the agency in consultation with the House and Senate Committees on the Budget. For further details, see Congressional Budget Office, *How CBO Prepares Baseline Budget Projections* (February 2018), www.cbo.gov/publication/53532.

Figure 3-1.

Outlays, by Category of Spending

Percentage of GDP



Under current law, mandatory outlays fall for the next few years before higher spending for Social Security and the major health care programs cause those outlays to rise. Discretionary outlays fall in relation to GDP as funding grows modestly in nominal terms. Net interest outlays increase substantially as interest rates rise and debt mounts.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#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 date 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 shifts.

GDP = gross domestic product.

(known as sequestration) that are required under current law through 2031. (For the effects of sequestration on CBO's projections of spending on certain mandatory programs, see Box 3-2 on page 64.) In the discussion of mandatory spending that follows, all numbers have been adjusted to exclude the effects of timing shifts.

CBO's Baseline Projections of Mandatory Spending for 2022 to 2032

In 2022, if there are no changes in law, total mandatory outlays will amount to $3.7 trillion, or 14.9 percent of GDP, CBO estimates, down from $4.8 trillion, or 21.6 percent of GDP, in 2021. Most of that decrease is attributable to waning spending in response to the pandemic. CBO estimates that outlays for certain refundable tax credits will fall by half a trillion dollars from 2021 to 2022. CBO also anticipates significant declines in pandemic-related outlays for unemployment compensation, the Small Business Administration, the Coronavirus Relief Fund, and higher education.

Mandatory outlays are projected to fall in 2023 and 2024 as pandemic-related spending continues to decline. In CBO's projections, after 2024, outlays grow by about 5 percent per year, on average, reaching $5.5 trillion by 2032. As a share of GDP, mandatory outlays follow a similar path, declining to 13.6 percent in 2025 and then rising steadily to 14.9 percent in 2032. By comparison, those outlays averaged 12.7 percent of GDP over the 2010–2019 period and 10.7 percent over the past 50 years. (Pandemic-related spending pushed total mandatory outlays to historic highs in 2020 and 2021, when they reached 21.9 percent and 21.6 percent of GDP, respectively.)

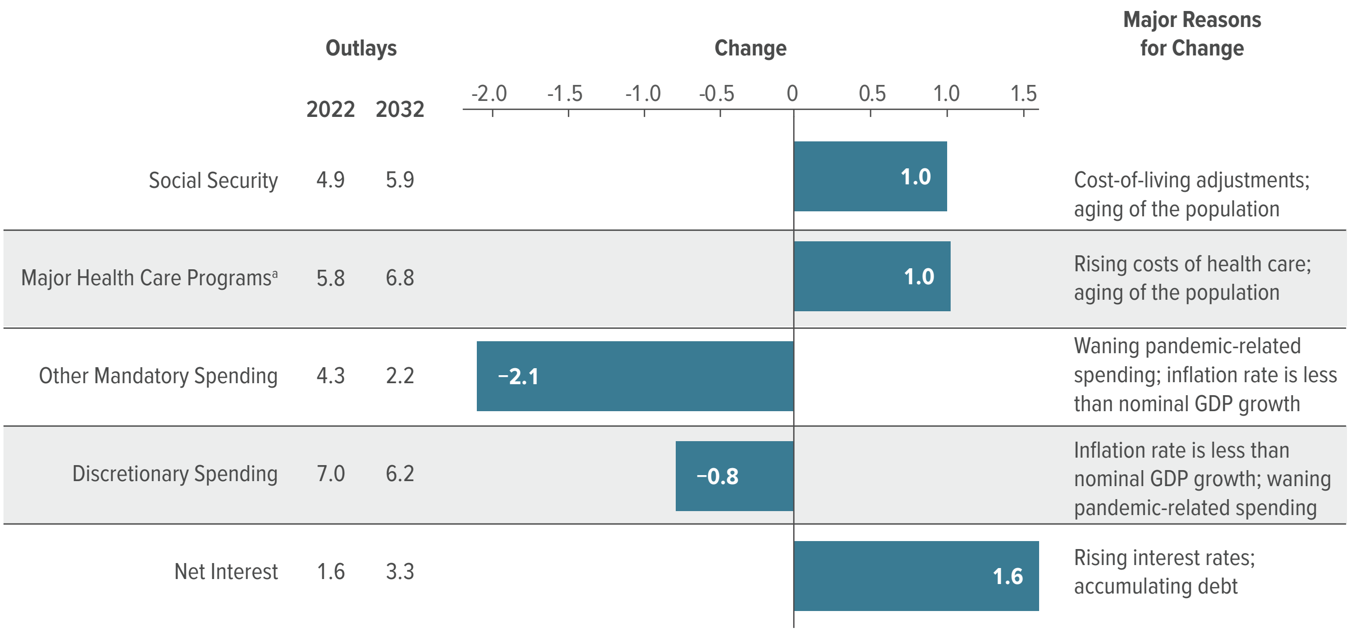
Much of the projected growth in mandatory spending after 2025 is attributable to two factors. First, the number of people age 65 or older has been growing significantly—it is now more than two and a half times what it was 50 years ago—and it is expected to rise by about a quarter by 2032, which will increase caseloads, and therefore outlays, for Social Security and Medicare. Second, the costs of health care (adjusted to account for the aging of the population) are projected to grow faster than the economy over the long term.

Social Security. The largest federal spending program, Social Security provides cash benefits to elderly people, to people with disabilities, and to the dependents and survivors of people covered by the program. Last year,

Figure 3-2.

Major Changes in Projected Outlays From 2022 to 2032

Percentage of GDP



Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#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. Outlays have been adjusted to exclude the effects of those shifts.

GDP = gross domestic product.

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

Social Security outlays totaled $1.1 trillion, or 5.0 percent of GDP (see Table 3-2 on page 66). Under current law, outlays for Social Security are projected to rise by $83 billion (or about 7 percent) in 2022. That rate of increase is greater than it has been in recent years, mostly because Social Security beneficiaries received a cost-of-living adjustment (COLA) of 5.9 percent in January 2022, the largest since 1982.

Spending for Social Security is projected to grow by 9 percent in 2023 and nearly 7 percent in 2024, boosted by estimated COLAs of 6.0 percent for 2023 and 2.9 percent for 2024. For the remainder of the projection period, outlays for Social Security are projected to grow at an average rate of about 6 percent per year, reaching $2.2 trillion—or 5.9 percent of GDP—by 2032. In general, growth over the 2023–2032 period reflects increases in the amount of the average benefit and in the number of beneficiaries. In CBO's projections, average benefits grow by about 4 percent per year, mainly because annual COLAs are projected to average close to 3 percent over this period and because initial benefits are based on average economywide earnings, which tend to increase over time. The number of beneficiaries is anticipated to grow by a little less than 1 percent from 2021 to 2022, and then to grow by an average of 2 percent per year, from 65 million beneficiaries in 2022 to 77 million in 2032.

Medicare, Medicaid, and the Other Major Health Care Programs. In 2021, net federal outlays for Medicare, Medicaid, and the other major programs related to health care totaled $1.3 trillion, or 5.8 percent of GDP (net of offsetting receipts; see Table 3-2 on page 66, memorandum). In CBO's baseline projections, those outlays increase by $124 billion, or 10 percent, in 2022 and by $96 billion, or 7 percent, in 2023; from 2024 to 2032, they increase more slowly, at an average rate of nearly 6 percent per year, reaching almost $2.5 trillion, or 6.8 percent of GDP, by the end of that period.

Medicare. Outlays for Medicare, a program that provides subsidized health insurance to people age 65 or older and to some people with disabilities, account for about 30 percent of the projected rise in outlays for the major health care programs from 2021 to 2022. CBO estimates that Medicare outlays (net of offsetting receipts, which are mostly in the form of premiums paid by beneficiaries) will grow from $689 billion to $726 billion, or about 5 percent, from 2021 to 2022. Projected outlays rise further in 2023, by $113 billion, or 16 percent. The growth in those years is affected by recoupments of accelerated and advance payments to Medicare providers recorded in 2021 and 2022, which decrease net outlays.[6] Without those recoupments, the projected increases in outlays for Medicare would be 7 percent in 2022 and 8 percent in 2023.

In CBO's projections, growth in outlays for Medicare represents about 80 percent of the growth in spending for the major health care programs over the 2023–2032 period. That growth in Medicare spending is driven by increasing enrollment as well as by higher spending per beneficiary. Enrollment is projected to grow from 65 million people in 2023 to 77 million in 2032, or by roughly 2 percent per year. Per capita spending in the program is estimated to grow at an average rate of 5 percent per year over the period. In 2032, projected net outlays for Medicare total $1.6 trillion, or 4.3 percent of GDP. (CBO's projections of Medicare outlays incorporate the assumption that outlays from the Hospital Insurance Trust Fund will continue to be made, even if the balances are exhausted. See Box 3-3 on page 68.)

Medicaid. Outlays for Medicaid, a joint federal-state program that funds medical care for certain low-income, elderly, and disabled people, are estimated to increase by 13 percent to $589 billion in 2022, accounting for about half of the projected rise in outlays for the major health care programs from 2021 to 2022. The higher outlays in 2022 are the result of temporary policies, enacted in 2020 and 2021 in response to the pandemic, that increased federal reimbursement to states and Medicaid participation. In CBO's projections, increased outlays associated with those policies continue into 2023, but overall growth in outlays slows to 2 percent in that year. As those temporary policies wind down, outlays drop by 9 percent in 2024 and then increase slightly in 2025. From 2026 through 2032, outlays grow by about 5 percent per year, reaching $789 billion, or 2.2 percent of GDP, in the final year of the period.

Premium Tax Credits and Related Spending. CBO and staff of the Joint Committee on Taxation (JCT) estimate that premium tax credits—which are federal subsidies for health insurance purchased through the marketplaces established by the Affordable Care Act—and related spending will be $89 billion in 2022, which is $18 billion (or 24 percent) higher than it was in 2021.[7] Related spending consists almost entirely of payments for risk adjustment and the Basic Health Program. The increase in estimated outlays for 2022 is mostly attributable to higher enrollment in policies purchased through the marketplaces.

In CBO's projections, the growth in outlays for health insurance subsidies and related spending varies over the first few years of the 2023–2032 period. In 2023, projected outlays drop by about 30 percent because of the expiration of a temporary policy enacted for 2021 and 2022. That policy extended eligibility for premium tax credits to individuals with income over 400 percent of the federal poverty level and increased subsidies for those made eligible for those credits by the Affordable Care Act. After 2023, outlays are projected to grow as premiums increase: CBO and JCT estimate that, under current law, outlays for health insurance subsidies and related spending would rise by 76 percent over the projection period, increasing from $60 billion in 2023 to $105 billion by 2032.

Children's Health Insurance Program. Financed jointly by the states and the federal government, CHIP provides health insurance coverage to children in families whose income, although modest, is too high for them to qualify for Medicaid. CBO estimates that in 2022, outlays for the program will be about $17 billion, which is $1 billion more than outlays in 2021. In 2023, outlays are projected to increase by about 4 percent and in 2024, to fall by about 3 percent. That decrease in projected outlays reflects CBO's assumption that the public health emergency will end in 2023, thus concluding a temporary

6. As part of the federal government's response to the pandemic, Medicare provided about $100 billion in accelerated and advance payments to providers, beginning in April 2020, to be recouped later through reductions in future claim payments. Recoupment began in 2021 and will be completed by the end of 2022.

7. Federal health subsidies lower the cost of health insurance purchased through the marketplaces by people who meet income and other criteria for eligibility.

Box 3-2.

How Sequestration Affects CBO's Projections of Mandatory Spending

The Budget Control Act of 2011 (Public Law 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.[1] 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. The full-year reductions began in 2014 at 9.8 percent for defense and 7.3 percent for nondefense and steadily declined to reductions of 8.3 percent for defense accounts and of 5.7 percent for most nondefense accounts in 2021.

Subsequent legislation extended the cuts to mandatory funding through 2031 and specified that future reductions would use the same percentages as calculated for 2021. Different rules apply to Medicare, the largest program subject to sequestration. Its funding is reduced by 2 percent in most years.

Which Mandatory Accounts are Subject to Sequestration?

All federal programs are subject to sequestration unless they are explicitly listed as exempt or fall in one of the general categories for exemption detailed in section 255 or section 256 of the Deficit Control Act. Exempted categories include funding for Social Security benefits, veterans' programs, net interest, and certain refundable tax credits.

How Does CBO Apply Sequestration to Its Baseline Projections?

In each account where budgetary resources are subject to sequestration, the Congressional Budget Office includes a separate entry detailing the amount by which that account's resources would be reduced. CBO also estimates how those reductions to funding would affect outlays and therefore deficits. Certain accounts—including revolving funds, trust funds, and special funds—are subject to sequestration, but any amounts made unavailable in one year are restored to those funds the following year. Those accounts are included in the total reductions in funding that result from sequestration, although they have little net effect on the deficit.

How Large is the Effect of Sequestration on CBO's Projections of Deficits?

CBO estimates that, as a result of the sequestration provisions in the Budget Control Act of 2011, as amended, outlays—and therefore deficits—will be $256 billion lower over the 2023–2032 period. Most of that savings ($241 billion) is attributable to reductions in Medicare funding. The overall

1. The law also established caps on discretionary funding for defense and nondefense programs. Those caps expired after fiscal year 2021.

Continued

policy that increased federal reimbursement to states for the duration of that emergency. From 2025 to 2030, outlays for the program are projected to grow by about 3.5 percent per year, on average. In 2031 and 2032, they are projected to fall substantially. CHIP is authorized through 2027 and after that year, consistent with section 257 of the Deficit Control Act, CBO's baseline reflects the assumption that annual funding for the program will continue at a level based on the amount of budget authority currently specified in law for the final half of 2027—an amount that is significantly lower than the level of funding provided in earlier years. That amount of funding ($15 billion per year) eventually would be insufficient to maintain outlays at their previous levels: CBO projects that by 2031, balances from the funding provided in years before the expiration of the program's authorization would be exhausted, resulting in a significant drop in outlays in the final two years of the period.

Income Security Programs. Mandatory spending for income security includes outlays for the Supplemental Nutrition Assistance Program (SNAP), certain refundable tax credits, Supplemental Security Income (SSI), unemployment compensation, and certain programs that support children and families. CBO estimates that outlays for income security will decrease by 60 percent in 2022, to $0.6 trillion, from $1.4 trillion in 2021. CBO projects that, under current law, total mandatory outlays for income security would continue to fall through 2024, as pandemic-related spending continues to wane. Starting in 2025, spending would increase again in most years by an average of about 1.0 percent per year, slower than the rate at which GDP is projected to grow. As a result, such outlays are estimated to shrink as a percentage of GDP from 6.2 percent in 2021 to 2.3 percent in 2022 and to 1.1 percent in 2032.

Supplemental Nutrition Assistance Program. SNAP provides benefits to help people in low-income households purchase food. CBO expects that outlays for the program will increase by 18 percent this year, from $135 billion in 2021 to $159 billion in 2022.

Box 3-2. Continued

How Sequestration Affects CBO's Projections of Mandatory Spending

reductions in 2022 will total $6 billion, CBO estimates, and increase to $19 billion the following year. Reductions this year are smaller than they otherwise would be because of provisions of the Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020 (P.L. 116-136) and subsequent legislation that canceled or modified the sequestration of Medicare funding from May 2020 to June 2022. In CBO's projections, the overall effect of sequestration on deficits steadily increases, equaling $32 billion in 2030. In 2031, sequestration's effect on deficits jumps to $52 billion, largely because of increases in the rate of reduction to Medicare funding.[2]

2. Under current law, the rate of sequestration of Medicare funds varies towards the end of the projection period. In April 2030, reductions to Medicare funding will increase from 2.0 percent to 2.25 percent for six months. In 2031, such funding will be reduced by 3.0 percent in the first half of the year and by 4.0 percent in the second half of the year.

Effects of Sequestration on CBO's Baseline Projections of Mandatory Spending

Billions of Dollars

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Budget Authority													
Medicare	-6	-18	-18	-20	-22	-24	-27	-26	-31	-54	0	-102	-239
Defense	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	*	-5	-10
Other	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2	-4	-6
Total Budget Authority	**-8**	**-20**	**-20**	**-23**	**-24**	**-26**	**-29**	**-28**	**-33**	**-56**	**2**	**-112**	**-256**
Outlays													
Medicare	-5	-17	-18	-20	-22	-23	-26	-26	-30	-50	-8	-101	-241
Defense	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-5	-10
Other	-1	-1	*	*	-1	-1	-1	-1	-1	-1	1	-3	-5
Total Outlays	**-6**	**-19**	**-20**	**-22**	**-24**	**-25**	**-28**	**-28**	**-32**	**-52**	**-7**	**-109**	**-256**

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

* = between -$500 million and $500 million.

SNAP benefit levels are determined by the price of the Thrifty Food Plan (TFP), a basket of foods selected by the Department of Agriculture that would provide a nutritious diet for a household of a particular size. The Department of Agriculture recently reevaluated the TFP, and, largely as a result of that reevaluation, the price of the TFP is about 23 percent higher in 2022 than it was last year; that increase accounts for much of the increase in outlays for SNAP in 2022. (See Figure A-3 on page 121.)[8]

In addition, CBO projects that many SNAP participants will continue to receive emergency allotments as authorized by the Families First Coronavirus Response Act (P.L. 116-127) until the month following the end of the public health emergency. (In CBO's projections, the public health emergency ends in July 2023, and thus the emergency allotments would conclude in August 2023.) CBO also expects that some families will continue to receive benefits through the Pandemic Electronic Benefit Transfer program through 2023. As a result, total benefits are projected to remain relatively high in 2022 and 2023 before declining in 2024 and 2025.

In CBO's projections, SNAP participation rates gradually decrease through 2032. However, because decreased outlays from lower participation are expected to be offset by increases in the cost of food (which SNAP benefits are linked to), projected outlays for the program increase in most years after 2025, by an average of about 1 percent

8. For more information on the reevaluation of the Thrifty Food Plan, see Department of Agriculture, Food and Nutrition Service, "USDA Modernizes the Thrifty Food Plan, Updates SNAP Benefits" (August 16, 2021), https://go.usa.gov/xuGRQ.

Table 3-2.

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

Billions of Dollars

													Total	
	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2023–2027	2023–2032
Social Security														
Old-Age and Survivors Insurance	988	1,070	1,171	1,253	1,328	1,404	1,482	1,572	1,664	1,760	1,858	1,957	6,637	15,448
Disability Insurance	141	142	149	156	163	173	184	189	196	203	210	218	826	1,841
Subtotal	1,129	1,212	1,320	1,409	1,491	1,577	1,665	1,760	1,860	1,963	2,068	2,175	7,463	17,288
Major Health Care Programs														
Medicare[a,b]	868	941	1,009	1,086	1,165	1,262	1,360	1,462	1,559	1,672	1,782	1,929	5,882	14,287
Medicaid	521	589	601	545	547	578	608	639	672	708	749	789	2,880	6,437
Premium tax credits and related spending[c]	72	89	60	65	71	75	77	81	86	90	97	105	348	807
Children's Health Insurance Program	16	17	18	17	18	18	19	20	20	21	17	15	91	184
Subtotal	1,476	1,637	1,688	1,714	1,802	1,933	2,064	2,201	2,338	2,491	2,645	2,839	9,201	21,715
Income Security Programs														
Supplemental Nutrition Assistance Program	135	159	140	110	104	106	105	106	106	108	109	111	565	1,104
Earned income, child, and other tax credits[d]	733	220	88	95	97	97	83	84	85	85	85	86	460	885
Supplemental Security Income[a]	56	56	59	62	65	67	68	70	71	73	74	76	321	685
Unemployment compensation	392	40	30	34	36	39	40	44	47	48	50	51	179	419
Family support and foster care[e]	35	48	43	42	42	37	36	36	36	36	37	37	198	381
Child nutrition	27	38	31	31	33	34	36	37	39	41	42	44	165	368
Subtotal	1,376	561	391	373	376	380	368	376	384	391	398	406	1,888	3,843
Federal Civilian and Military Retirement														
Civilian[f]	111	114	120	125	129	133	136	140	143	146	150	154	644	1,377
Military[a]	63	66	73	77	80	83	85	88	91	94	97	99	398	866
Other	6	47	26	30	2	10	6	6	6	6	6	6	74	103
Subtotal	179	227	218	233	211	225	228	234	240	246	252	259	1,115	2,346
Veterans' Programs														
Income security[a,g]	116	127	138	146	153	158	164	170	176	182	189	195	759	1,670
Other[a,h]	9	18	18	19	19	19	19	18	19	19	21	22	94	193
Subtotal	125	146	157	165	171	177	183	188	195	201	209	217	853	1,863
Other Mandatory Programs														
Agriculture	37	21	21	16	14	16	18	18	18	16	16	16	85	168
MERHCF	11	11	12	13	13	14	15	16	16	17	18	19	67	152
Education Stabilization Fund	9	50	50	32	19	5	0	0	0	0	0	0	106	106
Higher education	143	40	7	6	6	7	8	9	9	9	9	9	33	79
Fannie Mae and Freddie Mac[i]	0	0	4	6	7	6	4	3	3	3	3	4	28	43
Public Health and Social Services Emergency Fund	5	34	26	4	*	*	*	*	0	0	0	0	31	31
Coronavirus Relief Fund	243	115	2	2	0	0	0	0	0	0	0	0	4	4
Emergency Rental Assistance	33	9	2	1	*	0	0	0	0	0	0	0	4	4
Small Business Administration	313	7	1	*	*	*	*	*	*	0	0	0	1	1
Air carrier worker support	31	*	*	*	*	*	*	*	*	*	*	*	*	*
Other	56	84	113	108	95	86	71	70	75	73	73	66	474	831
Subtotal	881	372	238	189	156	134	116	116	121	118	118	112	833	1,418
Total Mandatory Outlays, Excluding the Effects of Offsetting Receipts	**5,167**	**4,154**	**4,012**	**4,082**	**4,207**	**4,427**	**4,624**	**4,875**	**5,137**	**5,410**	**5,690**	**6,009**	**21,352**	**48,473**

Continued

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#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.

Table 3-2. Continued

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

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Offsetting Receipts														
Medicare[j]	-179	-216	-170	-181	-198	-216	-234	-253	-272	-293	-317	-345	-999	-2,478
Federal share of federal employees' retirement														
Civil service retirement and other	-47	-51	-54	-58	-61	-63	-66	-68	-70	-72	-75	-77	-301	-663
Military retirement	-25	-26	-28	-29	-30	-31	-32	-33	-34	-34	-35	-36	-152	-323
Social Security	-20	-22	-23	-23	-24	-25	-26	-27	-28	-29	-31	-32	-122	-269
Subtotal	-92	-99	-105	-111	-115	-120	-124	-128	-132	-136	-140	-145	-575	-1,255
Receipts related to natural resources	-12	-20	-15	-16	-15	-15	-16	-16	-17	-19	-19	-19	-78	-168
MERHCF	-9	-10	-10	-11	-11	-12	-12	-13	-14	-14	-15	-16	-56	-127
Fannie Mae and Freddie Mac	-5	-6	0	0	0	0	0	0	0	0	0	0	0	0
Other	-37	-116	-49	-31	-34	-33	-33	-31	-31	-37	-38	-24	-180	-342
Subtotal[a]	-333	-466	-350	-350	-374	-395	-419	-441	-466	-499	-529	-548	-1,888	-4,370
Total Mandatory Outlays, Net of Offsetting Receipts	**4,834**	**3,688**	**3,662**	**3,731**	**3,834**	**4,032**	**4,206**	**4,435**	**4,671**	**4,911**	**5,162**	**5,461**	**19,464**	**44,104**
Effect That Timing Shifts Have on Mandatory Outlays in CBO's Baseline Projections														
Medicare	0	42	10	-52	0	0	0	80	-80	0	0	0	n.a.	n.a.
Supplemental Security Income	0	4	*	-5	0	0	0	5	-5	0	0	0	n.a.	n.a.
Military retirement	0	5	*	-5	0	0	0	6	-6	0	0	0	n.a.	n.a.
Veterans' income security	0	11	2	-12	0	0	0	15	-15	0	0	0	n.a.	n.a.
Veterans' other	0	1	*	-1	0	0	0	1	-1	0	0	0	n.a.	n.a.
Total	**0**	**63**	**12**	**-75**	**0**	**0**	**0**	**107**	**-107**	**0**	**0**	**0**	**n.a.**	**n.a.**
Total Mandatory Outlays in CBO's Baseline Projections	**4,834**	**3,751**	**3,674**	**3,656**	**3,834**	**4,032**	**4,206**	**4,542**	**4,564**	**4,911**	**5,162**	**5,461**	**19,401**	**44,041**
Memorandum:														
Outlays, Net of Offsetting Receipts														
Medicare	689	726	839	905	967	1,047	1,127	1,209	1,288	1,379	1,465	1,585	4,884	11,809
Major health care programs	1,297	1,421	1,517	1,533	1,604	1,718	1,831	1,948	2,066	2,198	2,328	2,494	8,202	19,237

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 date 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 included in the memorandum section of the table.)

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 refundable tax 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. Primarily education subsidies. (The costs of veterans' health care are classified as discretionary spending and thus are not shown in this table.)

i. Cash payments from Fannie Mae and Freddie Mac to the Treasury are recorded as offsetting receipts in 2021 and 2022. Beginning in 2023, 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.

j. Includes premium payments, recoveries of overpayments made to providers, and amounts paid by states from savings on Medicaid's prescription drug costs.

Box 3-3.

Assumptions About Payments From Trust Funds That Are Scheduled to Continue

In keeping with the rules of section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985 (the Deficit Control Act, Public Law 99-177), the Congressional Budget Office's baseline projections incorporate the assumption that scheduled payments will continue to be made in full after a trust fund has been exhausted, even though there is no legal authority to make such payments. How those payments continued would depend on future legislation.

CBO estimates that mandatory outlays not covered by income credited to trust funds would total $128 billion over the 2022–2032 period. The reason is that without legislative action to address budgetary shortfalls, the balance of Medicare's Hospital Insurance Trust Fund would be exhausted in 2030, CBO projects. Discretionary outlays not covered by income credited to trust funds would total $217 billion over the same period—because the Highway Trust Fund, which is a source of discretionary outlays, would be exhausted in 2027.

Payments That Are Assumed to Continue in CBO's Baseline After Certain Trust Funds Are Exhausted

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total, 2023–2032
Mandatory Outlays													
Hospital Insurance (Part A) Trust Fund	0	0	0	0	0	0	0	0	0	*	53	74	128
Discretionary Outlays													
Highway Trust Fund	0	0	0	0	0	0	7	39	41	42	44	45	217

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

* = between zero and $500 million.

per year. CBO projects that under current law, outlays for SNAP would total $111 billion in 2032.

Earned Income, Child, and Other Tax Credits. Refundable tax credits reduce a filer's income tax liability, and if the credit exceeds the filer's income tax liability, the government pays all or some portion of that excess to the taxpayer.[9] Those payments, and certain advance payments of tax credits, are categorized as outlays.[10]

Outlays for refundable tax credits are projected to drop from $733 billion in 2021 to $220 billion in 2022. As part of the government's pandemic response, several new refundable tax credits were created and some preexisting credits were expanded, which boosted outlays significantly last year and to a much lesser extent this year. The biggest component of the decline in outlays from 2021 to 2022 is the recovery rebates paid to individuals, most of which were paid out last year.[11]

In CBO's updated baseline projections, outlays in 2022 remain higher than usual, mostly because of outlays for three credits: the expanded child tax credit, recovery rebates to individuals, and U.S. Coronavirus Refundable Credits (a group of credits for employers for sick and family leave, employee retention, and

9. For more information, see Congressional Budget Office, *Refundable Tax Credits* (January 2013), www.cbo.gov/publication/43767.

10. In some circumstances, refundable tax credits that have been issued before tax filing season, such as the child tax credit in 2021 and the recovery rebates paid to individuals, have been classified as outlays regardless of whether they reduce a filer's income tax liability.

11. Payments of recovery rebates to individuals totaled $275 billion in 2020 and $570 billion in 2021; CBO estimates that they will total $11 billion in 2022.

continuation of health insurance for certain workers). Of those, the expanded child tax credit has the largest effect. Eligibility for the tax credit and its size were expanded during the pandemic, and advance payments were made between July 2021 and December 2021 (which included the first three months of fiscal year 2022).

After 2022, projected outlays for refundable tax credits drop to $88 billion in 2023, before increasing to about $96 billion a year from 2024 to 2026. In 2027, projected outlays fall to $83 billion, and they then average about $85 billion per year through 2032. The most significant factor reducing outlays for refundable credits is the expiration of many provisions of the 2017 tax act (P.L. 115-97). The scheduled changes in calendar year 2026 would decrease the amount of the child tax credit and increase tax liabilities for most people, which would result in a larger share of the credits' being recorded as reductions in revenues rather than as outlays.

Supplemental Security Income. SSI provides cash benefits to people with low income who are elderly or disabled. CBO estimates that outlays for SSI will rise by less than $1 billion this year. Lower projections of SSI caseloads limit growth in projected outlays, despite relatively high COLAs compared with those in recent years. Over the 2023–2032 period, outlays for the program are projected to grow by 3 percent per year, on average, mainly because of those higher COLAs. By 2032, with no changes to current law, outlays for SSI would reach $76 billion.

Unemployment Compensation. The federal-state unemployment compensation program provides benefits to people who lose their jobs through no fault of their own and who meet other criteria established by the laws in their states. Outlays for unemployment compensation depend on several factors, such as the unemployment rate, labor force participation, and wages and salaries.

In 2021, outlays of unemployment compensation totaled $392 billion, or 1.8 percent of GDP, largely reflecting the continuation of enhanced unemployment benefits provided in response to the pandemic. CBO estimates that in 2022, outlays for unemployment compensation will decline by 90 percent, to $40 billion, primarily because those enhanced benefits expired near the end of fiscal year 2021.

In CBO's projections, outlays for unemployment compensation generally follow the changes in the unemployment rate. CBO expects the unemployment rate to decline over the next two years, to 3.9 percent in 2022 (a drop of 2.1 percentage points from the rate in fiscal year 2021) and to 3.6 percent in fiscal years 2023 and 2024. The unemployment rate is expected to increase in 2025 and 2026 before moderating at an average of about 4.5 percent through 2032. Over the 2023–2032 period, projected outlays follow a similar pattern, declining by 24 percent to $30 billion in 2023 and then increasing annually, reaching $51 billion in 2032. The rise in outlays after 2023 largely reflects higher projections of wages and salaries, which boost average weekly benefits for unemployment compensation.

Family Support and Foster Care Programs. Outlays for other programs that support children and families, such as Temporary Assistance for Needy Families (TANF) and Child Support Enforcement, totaled $35 billion in 2021 but are estimated to increase by 38 percent, to $48 billion in 2022. That increase mostly stems from $39 billion in child care funding provided to states through the Child Care and Development Block Grant in response to the pandemic. CBO estimates that outlays from that funding will total $13.5 billion this year, compared with $1.5 billion in 2021.

In CBO's projections, total spending in this category generally declines from 2023 to 2027, by an average of 6 percent a year—largely because of waning outlays from the pandemic-related funding. Spending then increases by about 1 percent a year through 2032. Outlays for all family support and foster care programs are projected to total $37 billion in 2032.

Child Nutrition. CBO estimates that outlays for child nutrition programs, which include programs such as the National School Lunch Program, the School Breakfast Program, and the Summer Food Service Program, will increase to $38 billion in 2022 (up from $27 billion in 2021). That increase largely results from nationwide pandemic-related waivers that allowed schools to provide free meals under the Seamless Summer Option during the 2021–2022 school year. Because that waiver program is scheduled to end in June 2022, outlays in 2023 decline to $31 billion in CBO's projections. After 2024, outlays increase by about 5 percent a year, on average, reaching $44 billion in 2032, largely because of rising food prices and population growth, which increase outlays for nutrition programs.

Federal Civilian and Military Retirement. Retirement and survivors' benefits for most federal civilian employees are estimated to cost $114 billion in 2022, an increase of $3 billion over the previous year's amount. (That total includes benefits provided through several smaller retirement programs for employees of various government agencies and for retired railroad workers.) The projected growth in federal civil service retirement benefits is attributable primarily to COLAs for retirees and to increases in federal salaries, which boost benefits for people entering retirement. Under current law, outlays would grow by 5 percent in 2023 and 4 percent in 2024, mostly because of the COLAs projected for those years. After 2024, such outlays would grow by an average of about 3 percent annually over the projection period, CBO estimates, reaching $154 billion in 2032.

The federal government also provides annuities to retired military personnel and their survivors. Outlays for those annuities totaled $63 billion in 2021; in 2022, they are projected to rise to $66 billion. Most of the projected annual growth in those outlays over the 2023–2032 period results from COLAs and increases in military basic pay. As in the civilian retirement program, military retirement outlays are projected to increase more rapidly in 2023 and 2024 because of larger COLAs in those years. After 2024, outlays for military retirement benefits are projected to grow by an average of about 3 percent per year, reaching $99 billion in 2032.

Veterans' Programs. Mandatory spending for veterans' benefits includes disability compensation, education and vocational rehabilitation benefits, pensions, insurance, housing assistance, and burial benefits. Outlays for those benefits totaled $125 billion in 2021, about 90 percent of which were for disability compensation. Outlays for veterans' benefits are projected to rise by 17 percent, to $146 billion, in 2022. (That total does not include most federal spending for veterans' health care, which is funded through discretionary appropriations.) The increase is primarily driven by the growth of disability compensation payments, which are rising faster than inflation. Those payments increase with the severity of veterans' service-connected injuries and illnesses. Both the average severity of beneficiaries' disabilities and the number of veterans with service-connected disabilities have been rising in recent years. The increase in estimated outlays for 2022 also reflects a significantly higher COLA for this year than was estimated in CBO's previous baseline. Under current law, mandatory outlays for veterans' benefits are projected to grow by 8 percent in 2023, by 5 percent in 2024, and then by an average of about 4 percent per year through the end of the period; outlays are projected to reach $217 billion in 2032.

Other Mandatory Programs. The remainder of mandatory spending encompasses outlays for a variety of other activities, including some of the largest programs aimed at pandemic relief, agricultural programs, deposit insurance, health care benefits for retirees of the uniformed services and their dependents and surviving spouses, cash transfers to and from Fannie Mae and Freddie Mac, and loans and other programs related to higher education. Together, those outlays are expected to decline by nearly 60 percent, from $881 billion last year to $372 billion this year, largely because of rapid drop-offs in pandemic-related spending.

The largest decreases in pandemic-related outlays from 2021 to 2022 include the following:

- A $306 billion drop in outlays by the Small Business Administration, primarily related to the Paycheck Protection Program;
- A $128 billion decrease in spending from the Coronavirus Relief Fund (which provides grants to state, local, tribal, and territorial governments);
- A $30 billion decline in spending by the Department of the Treasury for payroll support for the aviation industry; and
- A $24 billion decrease in outlays for the Emergency Rental Assistance Program (which provides grants to assist low-income households with paying rent during the pandemic).

Those decreases are partially offset by increases in other pandemic-related programs—including an increase of $41 billion in outlays for emergency grants through the Education Stabilization Fund and an increase of $29 billion in outlays from the Public Health and Social Services Emergency Fund.

Higher education outlays are estimated to drop significantly, from $143 billion in 2021 to $40 billion in 2022. The decrease is mostly the result of a smaller upward revision to the estimated subsidy costs of outstanding federal student loans recorded by the Department of Education in 2022 than in 2021.[12] In 2021, the upward revision was $133 billion, and in 2022, based on information in the President's budget, that amount is currently projected to be $27 billion.[13]

Over the remainder of the projection period, total outlays for the category of other mandatory programs are projected to decrease by more than half, from $238 billion in 2023 to $112 billion in 2032; outlays in the earlier years of the period are boosted by continued, but declining, pandemic-related spending.

Offsetting Receipts. 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 direct spending). Such receipts include Medicare beneficiaries' premiums, intragovernmental payments made by federal agencies for their employees' retirement benefits, royalties and other charges for the production of oil and natural gas on federal lands, proceeds from sales of timber harvested and minerals extracted from federal lands, payments to the Treasury by Fannie Mae and Freddie Mac (shown for 2021 and 2022 only), and various fees paid by users of public property and services.[14]

CBO estimates that offsetting receipts will increase by $133 billion this year, rising from $333 billion in 2021 to $466 billion in 2022. Most of that increase stems from $86 billion in receipts that CBO estimates will be recorded this year from the auction of licenses to use the electromagnetic spectrum. (In 2021, such receipts totaled $9 billion.) Offsetting receipts from all other programs will be $52 billion larger in 2022 than in 2021, driven by increases in Medicare premiums paid by beneficiaries and Medicare's receipts from recoupments of accelerated and advance payments, CBO projects. From 2023 to 2032, offsetting receipts are projected to grow from $350 billion to $548 billion. Receipts from Medicare account for nearly 90 percent of that increase.

Assumptions About Legislation for Expiring Programs Incorporated Into the Baseline

In keeping with the rules established by the Deficit Control Act, CBO's baseline projections incorporate

12. CBO calculates the subsidy costs for student loans following the procedures specified in the Federal Credit Reform Act of 1990 (FCRA). Under FCRA, the discounted present value of expected income from federal student loans issued during the 2022–2032 period is projected to exceed the discounted present value of the government's costs. (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—known as the discount rate—that is used to translate future cash flows into current dollars.) Credit programs that produce net income rather than net outlays are said to have negative subsidy rates, which result in negative outlays. 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 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 additional information about the costs of credit programs, see Congressional Budget Office, "Major Recurring Reports: Estimates of the Cost of Federal Credit Programs" (accessed May 16, 2022), https://go.usa.gov/xuenJ.

13. CBO's projections of the changes in the costs of the outstanding loan portfolio are based on information in the President's budget because those are the costs that CBO expects will be recorded by the Treasury. For fiscal year 2022, supplemental materials to the President's budget (released on April 6, 2022) include the estimated costs of the suspension of loan payments, interest accrual, and involuntary collections on defaulted loans through March 31, 2022. Those supplements do not include costs for the extension of those polices through August 30, 2022, nor do they include the costs of the Administration's policy to expand the type of payments that count toward forgiveness for either the Public Service Loan Forgiveness Program (announced on October 6, 2021) or the Income Based Repayment program (announced on April 19, 2022). When the Office of Management and Budget announces the costs that it plans to record for those changes, CBO will include them in its baseline.

14. Because the government placed Fannie Mae and Freddie Mac into conservatorship in 2008 and now controls their operations, CBO considers their activities governmental and includes the budgetary effects of their activities in its projections as if they were federal agencies. On that basis, for the 10-year period after the current fiscal year, CBO projects the subsidy costs of their new activities using procedures that are similar to those specified in FCRA for determining the costs of federal credit programs, but with adjustments to reflect the associated market risk. The Administration, by contrast, considers Fannie Mae and Freddie Mac to be outside the federal government for budgetary purposes and records cash transactions between those two entities and the Treasury as federal outlays or receipts. In its baseline projections, CBO treats only the current fiscal year in the same manner as the Administration to provide its best estimate of the amount that the Treasury ultimately will report as the federal deficit for 2022. Similarly, to match the Administration's historical budget totals, CBO uses the Administration's treatment for past years.

Table 3-3.

Costs for Mandatory Programs That Continue Beyond Their Current Expiration Date in CBO's Baseline Projections

Billions of Dollars

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Supplemental Nutrition Assistance Program													
Budget authority	0	0	103	104	104	105	105	106	108	109	111	416	956
Outlays	0	0	110	104	106	105	105	106	107	109	111	425	964
Veterans' Compensation COLAs													
Budget authority	0	7	11	15	19	23	27	32	36	41	46	76	257
Outlays	0	7	11	15	19	23	27	32	36	41	46	76	257
Temporary Assistance for Needy Families													
Budget authority	0	17	17	17	17	17	17	17	17	17	17	87	173
Outlays	0	13	16	16	17	17	17	17	17	17	17	79	165
Commodity Credit Corporation[a]													
Budget authority	0	0	4	4	13	14	15	14	13	12	13	35	102
Outlays	0	0	1	2	11	13	15	14	13	12	13	27	93
Children's Health Insurance Program													
Budget authority	0	0	0	0	0	0	15	15	15	15	15	0	77
Outlays	0	0	0	0	0	0	6	11	15	15	15	0	62
Rehabilitation Services													
Budget authority	0	4	4	4	4	4	5	5	5	5	5	21	45
Outlays	0	2	3	4	4	4	4	4	5	5	5	17	39
Child Care Entitlement to States													
Budget authority	0	4	4	4	4	4	4	4	4	4	4	18	36
Outlays	0	3	3	3	3	4	4	4	4	4	4	16	34
Child Nutrition[b]													
Budget authority	0	1	1	1	1	1	1	1	1	1	1	5	12
Outlays	0	1	1	1	1	1	1	1	1	1	1	5	12
Ground Transportation Programs Not Subject to Annual Obligation Limitations													
Budget authority	0	0	0	0	0	1	1	1	1	1	1	1	4
Outlays	0	0	0	0	0	*	*	1	1	1	1	*	3
Promoting Safe and Stable Families													
Budget authority	0	*	*	*	*	*	*	*	*	*	*	2	3
Outlays	0	*	*	*	*	*	*	*	*	*	*	1	3

Continued

the assumption that some mandatory programs will be extended when their authorization expires (see Table 3-3). The rules provide for different treatment of programs created before and after the Balanced Budget Act of 1997 (P.L. 105-33). All direct spending programs that predate that law and have current-year outlays greater than $50 million are assumed to continue in CBO's baseline projections. Whether programs of that size established after 1997 are assumed to continue is determined on a program-by-program basis in consultation with the House and Senate Budget Committees.

Programs whose authorization expires within the current projection period include SNAP, TANF, most farm subsidies, CHIP, rehabilitation services, the Child Care Entitlement to States, and child nutrition programs. In addition, the Deficit Control Act directs CBO to assume that a COLA for veterans' compensation will be granted

Table 3-3. Continued

Costs for Mandatory Programs That Continue Beyond Their Current Expiration Date in CBO's Baseline Projections

Billions of Dollars

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Trade Adjustment Assistance for Workers[c]													
Budget authority	0	*	*	*	*	*	*	*	*	*	*	1	2
Outlays	0	*	*	*	*	*	*	*	*	*	*	1	2
Ground Transportation Programs Controlled by Obligation Limitations[d]													
Budget authority	0	0	0	0	0	79	79	79	79	79	79	79	476
Outlays	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Transportation Programs Controlled by Obligation Limitations[d]													
Budget authority	0	0	3	3	3	3	3	3	3	3	3	13	30
Outlays	0	0	0	0	0	0	0	0	0	0	0	0	0
Student Aid Administration (Account maintenance fees)													
Budget authority	0	*	*	*	*	*	*	*	*	*	*	*	*
Outlays	0	*	*	*	*	*	*	*	*	*	*	*	*
Natural Resources													
Budget authority	0	*	*	*	*	*	*	*	*	*	*	*	*
Outlays	0	*	*	*	*	*	*	*	*	*	*	*	-1
National Flood Insurance[e]													
Budget authority	0	0	0	0	0	0	0	0	0	0	0	0	0
Outlays	0	1	1	1	1	1	*	*	*	*	*	5	4
Total Budget Authority	**0**	**33**	**148**	**154**	**166**	**253**	**274**	**278**	**283**	**289**	**296**	**754**	**2,174**
Total Outlays	**0**	**27**	**147**	**147**	**163**	**168**	**180**	**190**	**200**	**205**	**213**	**652**	**1,640**

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

COLAs = cost-of-living adjustments; * = between -$500 million and $500 million.

a. Agricultural commodity price and income supports and conservation programs under the Agriculture Improvement Act of 2018 generally expire after 2023. Although permanent price support authority under the Agricultural Adjustment Act of 1938 and the Agricultural Act of 1949 would then become effective, CBO adheres to the rule in section 257(b)(2)(ii) of the Balanced Budget and Emergency Deficit Control Act of 1985 that indicates that the baseline should reflect the assumption that the provisions of the Agriculture Improvement Act of 2018 remain in effect.

b. Includes the Summer Food Service Program and states' administrative expenses.

c. Excludes the cost of extending Reemployment Trade Adjustment Assistance.

d. Authorizing legislation for these programs provides contract authority, which is counted as mandatory budget authority. However, because the programs' spending is subject to obligation limitations specified in annual appropriation acts, outlays are considered discretionary.

e. Includes payments for claims (which are reflected as positive budget authority and outlays) as well as offsetting collections (that is, negative budget authority and outlays) of premiums from policyholders. In CBO's projections, payments for claims slightly exceed premium collections.

each year. Contract authority for certain transportation programs is also assumed to continue. (Outlays for those programs are typically controlled by obligation limitations set in appropriation acts, so their outlays are considered discretionary.) In the agency's projections, those assumptions account for $1.6 trillion in outlays between 2023 and 2032, most of which are for SNAP, TANF, and COLAs for veterans' compensation. That amount represents about 4 percent of all mandatory spending.

Discretionary Spending

Discretionary spending is controlled by lawmakers through appropriation acts. Those acts fund a wide array of activities, including national defense, transportation programs, veterans' health benefits, certain other health programs, education grants, housing programs, and the administration of justice. Such spending provides some direct benefits to individuals, provides grants to local governments and private entities, pays for federal employees' salaries and benefits, and funds contracts for goods and services provided by the private sector.

CBO projects discretionary spending in accordance with section 257 of the Deficit Control Act. That section requires projections of funding for discretionary programs to grow each year with inflation. For any program without an appropriation provided for future years, CBO projects funding in those years by applying an inflation factor to the most recently appropriated amount. The factor applied is specified in the Deficit Control Act and is based on CBO's economic forecast and estimates from the Office of Management and Budget that indicate how much of a program's funding is spent on compensation for federal employees and how much for other purposes.

Funding translates to outlays when the money is spent. Some funding is spent quickly, such as that provided for salaries and expenses for federal employees. Other funding, such as that for construction contracts, can be spent over several years. CBO estimates how quickly funds will be spent on the basis of how long the money is available for obligation by federal agencies and on historical patterns of related spending.

Discretionary Spending in 2022

In CBO's baseline (which incorporates legislation enacted through April 8, 2022), discretionary funding totals $1.7 trillion in 2022 (see Table 3-4). That funding primarily comes from amounts provided by the Consolidated Appropriations Act (CAA), 2022 (P.L. 117-103). Discretionary funding provided by that act totals $1.5 trillion.[15] The remaining $0.2 trillion arises from previously enacted appropriation legislation, including division J of the Infrastructure Investment and Jobs Act (IIJA, P.L. 117-58) and emergency funding for aid to those affected by natural disasters in 2020 and 2021, for humanitarian assistance to Afghanistan, and for funding to support Ukraine.[16] In total, discretionary appropriations provided for 2022 are $125 billion (or 8 percent) more than the amount provided in 2021.[17] (Taking into account obligation limitations that govern discretionary spending for certain transportation programs, funding is $140 billion more than it was in 2021, also an increase of 8 percent.)[18]

Much of the increase in funding between 2021 and 2022 is attributable to the IIJA, which boosted discretionary appropriations by $163 billion in 2022. (Most of that funding was designated as an emergency requirement. For more information on how appropriations provided by the IIJA affect CBO's projections, see Box 3-4.) Reductions in funding for other emergencies offset some of that increase. Not including the $163 billion in funding provided by the IIJA, funding designated as an emergency requirement for 2022—$58 billion—is less than the $194 billion in emergency-designated funding

15. The 2022 CAA became law on March 15, 2022. The amounts provided by the act are on an annualized basis. That is, in 2022, agencies generally may not spend more than the amounts provided by the 2022 CAA, including spending that occurred before the CAA became law. Prior to that law's enactment, funding for agencies in 2022 was provided by four continuing resolutions.

16. Since April 8, lawmakers have enacted the Additional Ukraine Supplemental Appropriations Act, 2022 (H.R. 7691), providing an additional $40 billion in such funding this year. That amount has not been included in the analysis in this report. For CBO's cost estimate for the bill, see Congressional Budget Office, cost estimate for H.R. 7691, the Additional Ukraine Supplemental Appropriations Act, 2022 (May 11, 2022), www.cbo.gov/publication/58100.

17. Included in the enacted appropriation legislation were changes in mandatory programs (often referred to as CHIMPs) that were counted as reductions to discretionary budget authority. Those reductions amounted to $14 billion in CBO's cost estimate for that legislation for 2022. In CBO's baseline, however, those reductions do not change discretionary budget authority; rather, those CHIMPs change mandatory budget authority and (to a lesser extent) outlays.

18. An obligation limitation is a restriction on the amount, purpose, or period of availability of budget authority and is typically included in an appropriation act. 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.

Table 3-4.

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

Billions of Dollars

	Actual, 2021[a]	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
								Budget Authority						
Defense														
Other discretionary	741	782	814	836	857	878	900	922	945	968	992	1,013	4,285	9,126
IIJA[b]	n.a.	*	*	*	*	*	*	*	*	*	*	*	*	1
Emergency	1	14	15	15	15	16	16	16	17	17	18	18	76	162
Subtotal	742	796	828	851	872	894	916	939	962	985	1,010	1,031	4,361	9,288
Nondefense														
Other discretionary	683	740	774	796	817	838	861	882	904	926	949	973	4,086	8,720
IIJA[b]	n.a.	163	162	165	168	168	172	176	179	183	187	191	834	1,750
Emergency	193	44	46	47	48	49	50	51	52	53	55	56	239	506
Subtotal	876	947	981	1,008	1,032	1,055	1,083	1,109	1,135	1,162	1,191	1,220	5,159	10,977
Total Budget Authority	**1,618**	**1,743**	**1,809**	**1,859**	**1,905**	**1,949**	**1,999**	**2,048**	**2,097**	**2,147**	**2,200**	**2,251**	**9,521**	**20,265**
								Outlays						
Defense														
Other discretionary[c]	742	749	784	807	828	849	870	892	914	937	960	981	4,138	8,822
IIJA[b]	n.a.	*	*	*	*	*	*	*	*	*	*	*	*	1
Emergency[c]	n.a.	6	10	12	14	15	15	15	16	16	17	17	66	146
Subtotal[c]	742	755	794	819	842	863	885	907	930	953	976	998	4,204	8,969
Nondefense														
Other discretionary	895	943	901	884	886	905	928	949	970	993	1,017	1,041	4,504	9,473
IIJA[b]	n.a.	8	33	66	95	121	139	149	155	161	166	170	454	1,256
Emergency	n.a.	11	29	34	38	42	44	46	47	48	50	51	188	429
Subtotal	895	962	963	984	1,020	1,067	1,111	1,144	1,172	1,202	1,233	1,262	5,145	11,158
Total Outlays[c]	**1,636**	**1,717**	**1,757**	**1,803**	**1,862**	**1,930**	**1,996**	**2,051**	**2,102**	**2,155**	**2,209**	**2,261**	**9,349**	**20,127**
Memorandum:														
Effect That Timing Shifts Have on Discretionary Outlays in CBO's Baseline	0	5	*	-5	0	0	0	6	-6	0	0	0	n.a.	n.a
CBO's Baseline Projection of Discretionary Outlays	1,636	1,722	1,758	1,798	1,862	1,930	1,996	2,057	2,096	2,155	2,209	2,261	9,344	20,122
Outlays from IIJA Appropriations as Specified[d]	n.a.	8	30	52	62	71	65	52	35	23	16	12	279	417

Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#data.

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 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 specifies discretionary appropriations each year for 2022 to 2026. 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 in CBO's baseline exceeds the amounts specified in that law. For more information, see Box 3-4.

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 date 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 shifts.

d. The IIJA permanently appropriated to Superfund programs certain balances and future revenues received by the Hazardous Substance Superfund. That spending is considered discretionary and is estimated.

Box 3-4.

How the IIJA Affects CBO's Baseline Projections of Discretionary Spending

The Infrastructure Investment and Jobs Act (IIJA, Public Law 117-58) provided funding that significantly affected the Congressional Budget Office's projections of discretionary spending. The act provided $163 billion in supplemental appropriations for 2022 and $283 billion in advance appropriations over the 2023–2031 period, most of which was designated as an emergency requirement. Funding totals $163 billion in 2022, falls to $69 billion in 2023, and then tapers to $66 billion in 2026. From 2027 to 2031, roughly $2 billion is available each year. Most of the funding provided by the IIJA is for transportation programs, pollution control and abatement, broadband deployment, and energy programs.

In addition, the act provided $383 billion in contract authority—a type of budget authority—for transportation programs over the 2022–2026 period, a $90 billion increase relative to CBO's July 2021 baseline projections.

CBO's Baseline Treatment of Discretionary Funding in the IIJA

In consultation with the House and Senate Budget Committees, CBO applied provisions of law that require the agency to project future discretionary funding if appropriations for those years have not been provided by starting with existing appropriations and then adjusting funding for inflation. As a result, CBO's baseline projections of discretionary funding attributable to the IIJA grow from $163 billion in 2022 to $191 billion in 2032.

That additional budget authority projected in CBO's baseline results in additional outlays. In its cost estimate, the agency estimated that the IIJA would increase discretionary outlays by $415 billion over the 2022–2031 period, with outlays climbing between 2022 and 2026 and then falling through 2031.[1] In CBO's baseline, however, discretionary outlays grow steadily. All told, outlays over the 2022–2031 period (the same period as in CBO's cost estimate) from funding provided by the IIJA—and from the assumption that such funding would continue to be provided in future years—total $1.1 trillion in CBO's baseline, $678 billion more than the amount in the cost estimate. Over the 2022–2032 period, CBO's baseline treatment of the IIJA increases discretionary outlays by $839 billion.

CBO's baseline projections reflect the agency's updated assessment of how quickly funds provided by the IIJA will be spent. Delays to certain application processes have slowed outlays, and the amounts the Administration has spent so far indicate that the funds will be spent more slowly than CBO initially expected. CBO now estimates that discretionary outlays from funding provided by the IIJA will amount to $8 billion in 2022 instead of $14 billion. If, in its original cost estimate, CBO had estimated outlays with the new, slower rates of spending, outlays from that funding would have amounted to $30 billion in 2023 and $52 billion in 2024, instead of the $34 billion and $49 billion initially estimated for those years. However, those changes to rates of spending would not have drastically altered the agency's estimates of outlays over the entire 2022–2031 period. Over that period, the slower rates of spending would have resulted in outlays of $413 billion, $2 billion less than the amount in the cost estimate.

Contract Authority and Obligation Limitations

The classification of spending for certain transportation programs is split. Contract authority is specified in authorization acts and is considered mandatory, but appropriation laws regularly limit the ability of the Administration to obligate funds provided by that contract authority. As a result of those obligation limitations, the outlays for those programs are accounted

1. See Congressional Budget Office, cost estimate for Senate Amendment 2137 to H.R. 3684, the Infrastructure Investment and Jobs Act, as Proposed on August 1, 2021, (August 5, 2021, revised August 9, 2021), www.cbo.gov/publication/57406. In addition to appropriating advance funding and increasing contract authority, the bill also delayed the implementation of a rule affecting rebates for prescription drugs; established reporting requirements for digital assets; extended certain fees, taxes, and budget cuts; rescinded certain funds; and made other, smaller changes.

Continued

provided in 2021. Most of the emergency funding provided for 2022 (other than in the IIJA) is to aid those affected by natural disasters that occurred in 2020 and 2021; to finance U.S. activities in and provide humanitarian assistance to Afghanistan; and to respond to the conflict between Ukraine and Russia.

Discretionary outlays total $1.7 trillion in 2022 in CBO's baseline, an amount that includes outlays from funding provided this year as well as from previous years. That amount is $81 billion (or 5 percent) higher than discretionary outlays in 2021, which totaled $1.6 trillion.

Box 3-4. Continued

How the IIJA Affects CBO's Baseline Projections of Discretionary Spending

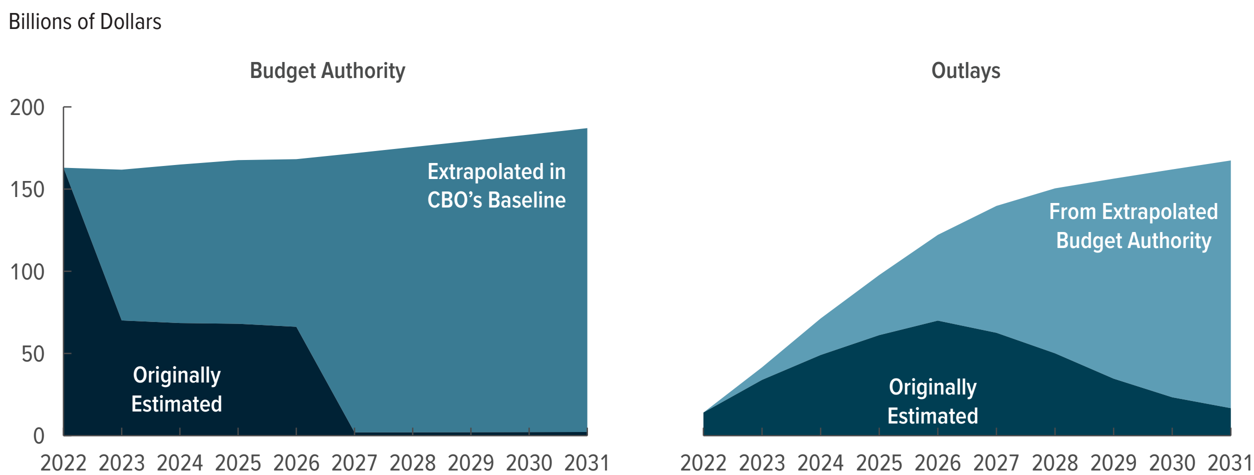
for at the time appropriations are made and are considered discretionary.[2]

Divisions A, B, and C of the IIJA provided contract authority of $383 billion over the 2022–2026 period, an increase of $90 billion relative to CBO's July 2021 baseline. Of that $383 billion, $73 billion is for 2022, $15 billion more than the amounts assumed in CBO's July 2021 baseline. Most of the additional contract authority provided by the IIJA was for federal aid for highways and for transit programs funded by the Highway Trust Fund. Because the IIJA did not increase obligation limitations, CBO did not estimate any additional outlays stemming from that additional contract authority.

The Consolidated Appropriation Act, 2022 (P.L. 117-103), provided obligation limitations for certain transportation programs for fiscal year 2022 at amounts consistent with the contract authority authorized in the IIJA. When CBO incorporated those obligation limitations into its baseline, the agency used the same procedures to adjust for inflation as required for other discretionary funding. Those new obligation limitations resulted in an increase in projected discretionary outlays of $118 billion over the 2022–2031 period. (That amount is in addition to the $1.1 trillion total mentioned above.)

2. For more information on the history of the split treatment of funding for transportation programs, see Congressional Budget Office, *The Highway Trust Fund and the Treatment of Surface Transportation Programs in the Federal Budget* (June 2014), www.cbo.gov/publication/45416.

Effects That Extrapolating Funding in the IIJA Has on CBO's Baseline Projections of Discretionary Spending



Because of the rules that govern how CBO constructs its budget projections, the baseline contains much more spending than the amounts provided by the IIJA. For that spending to materialize, lawmakers would have to appropriate additional amounts.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

CBO has revised its original estimate of how quickly appropriations made by the IIJA would be spent. This figure does not reflect those revisions.

IIJA = Infrastructure Investment and Jobs Act.

Nondefense Spending in 2022. Overall, funding for nondefense discretionary programs increased by $86 billion—or 9 percent—from 2021 to 2022, including obligation limitations for transportation programs. Nondefense budgetary resources comprise 56 percent of discretionary funding for 2022 in CBO's baseline, the same proportion as last year. However, the allocation of that funding has changed significantly since then, largely because of the enactment of the IIJA (see Table 3-5). Discretionary appropriations and obligation limitations for commerce and housing credit, natural resources and environment, and transportation programs increased by a total of $153 billion, nearly doubling the amounts provided to those programs in 2021. (The additional

Table 3-5.

Changes in Nondefense Discretionary Funding From 2021 to 2022

Billions of Dollars

	2021 Total	2022 Other	2022 IIJA	2022 Total	Total Difference	Change (Percent)
Transportation[a]	132	123	37	161	29	22
Veterans' Benefits and Services	105	113	0	113	8	8
Education, Training, Employment, and Social Services	185	106	*	105	-80	-43
Natural Resources and Environment	43	53	51	104	62	145
Income Security	95	97	*	97	2	2
Health	138	83	1	84	-54	-39
Administration of Justice	68	72	1	72	5	7
International Affairs	63	68	0	68	5	7
Commerce and Housing Credit	-8	-6	60	54	63	n.m.[b]
Community and Regional Development	33	52	-9	43	10	30
General Science, Space, and Technology	38	40	0	40	2	5
Energy	5	8	19	27	21	411
General Government	19	19	3	23	4	20
Agriculture	8	18	*	18	10	129
Medicare	8	8	0	8	*	**
Social Security	6	6	0	6	*	5
Total Nondefense	**937**	**860**	**163**	**1,023**	**86**	**9**
Memorandum:						
Outlays From Nondefense Discretionary Funding	895	954	8	962	67	7

Data sources: Congressional Budget Office; Department of the Treasury. See www.cbo.gov/publication/57950#data.

IIJA = Infrastructure Investment and Jobs Act; n.m. = not meaningful; * = between -$500 million and $500 million; ** = between -0.5 percent and zero.

a. Includes budgetary resources provided by obligation limitations for certain surface and air transportation programs.

b. Subsidies for commerce and housing credit programs are typically negative. When the federal government provides a loan under one of those programs, that negative subsidy results in a credit to the federal government, which is recorded as negative budget authority. Excluding the effect of credit programs and the IIJA, budget authority for credit and housing programs would amount to $6 billion for 2022. The IIJA provided $60 billion of budget authority (10 times the base amount).

funding will largely be used to bolster programs aimed at deploying and increasing adoption of broadband Internet, environmental remediation, and transportation infrastructure.) Increases in those programs are partially offset by a $134 billion drop in funding for certain education and health programs. Funding for education, training, employment, and social services programs decreased by $80 billion, mostly because funding for the Education Stabilization Fund was not renewed in 2022. Discretionary funding for health programs decreased by $54 billion in large part because of reduced funding for the Public Health and Social Services Emergency Fund. In 2021, that fund received $50 billion; this year, the 2022 CAA provided $3 billion.

In CBO's baseline, nondefense discretionary outlays in 2022 total $962 billion, $67 billion more than in 2021. About 55 percent, or $530 billion, of those outlays stem from funding provided in prior years, including funding provided in response to the pandemic. One of the largest components of that amount is pandemic-related spending from the Public Health and Social Services Emergency Fund, which will amount to $105 billion in 2022, CBO estimates.

Defense Spending in 2022. About 44 percent of discretionary funding (including obligation limitations for transportation programs) is for defense. Such funding amounts to $796 billion, a $54 billion—or 7 percent—increase from the sum provided in 2021 (see

Table 3-6.

Changes in Defense Discretionary Funding From 2021 to 2022

Billions of Dollars

	2021	2022	Difference	Change (Percent)
Operation and Maintenance	284	307	23	8
Research and Development	106	119	13	12
Procurement	141	145	5	3
Military Personnel	163	167	4	3
Other	48	57	9	19
Total Defense	**742**	**796**	**54**	**7**
Memorandum:				
Outlays From Defense Funding[a]	742	760	19	3
Outlays From Defense Funding, Excluding Effects of Timing Shifts	742	755	14	2

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

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

Table 3-6).[19] Funding for operation and maintenance accounts for most of the increase, and funding for research and development, procurement, military personnel, and other defense programs accounts for smaller shares of the increase. Of the total increase in defense funding, $14 billion is designated as an emergency requirement; about half of that emergency funding is to respond to the conflict between Ukraine and Russia.

Outlays for defense are estimated to amount to $755 billion in 2022. That amount is $14 billion, or 2 percent, more than defense outlays in 2021. Most of those outlays come from funding provided in 2022; $289 billion comes from funding provided in prior years. Outlays for operation and maintenance, research and development, and military personnel account for nearly all the increase. Outlays for procurement are expected to drop by $2 billion relative to last year's amount.

19. Defense funding in 2021 totaled $742 billion, which included $69 billion designated for overseas contingency operations. Before 2022, funding for overseas contingency operations—mostly appropriations for Department of Defense operations in Iraq and Afghanistan—were accounted for separately from other funding during the appropriation process. Last year, the final year of that breakout, funding for overseas contingency operations amounted to $77 billion. Starting in 2022, those amounts are no longer separately appropriated.

Discretionary Spending Over the 2023–2032 Period

In CBO's baseline projections, all funding provided so far for 2022—including amounts provided by the IIJA and other funding designated as an emergency requirement—is assumed to continue in future years, with adjustments for inflation. As a result, in nominal terms, discretionary outlays are projected to increase over the next 10 years (see Table 3-4 on page 75), rising from $1.8 trillion in 2023 to $2.3 trillion by 2032. Outlays from funding designated as an emergency requirement (including funding provided by the IIJA) and from the assumption that such funding would continue to be provided each year account for 9 percent of outlays in CBO's baseline over that period.

Trends in Discretionary Outlays

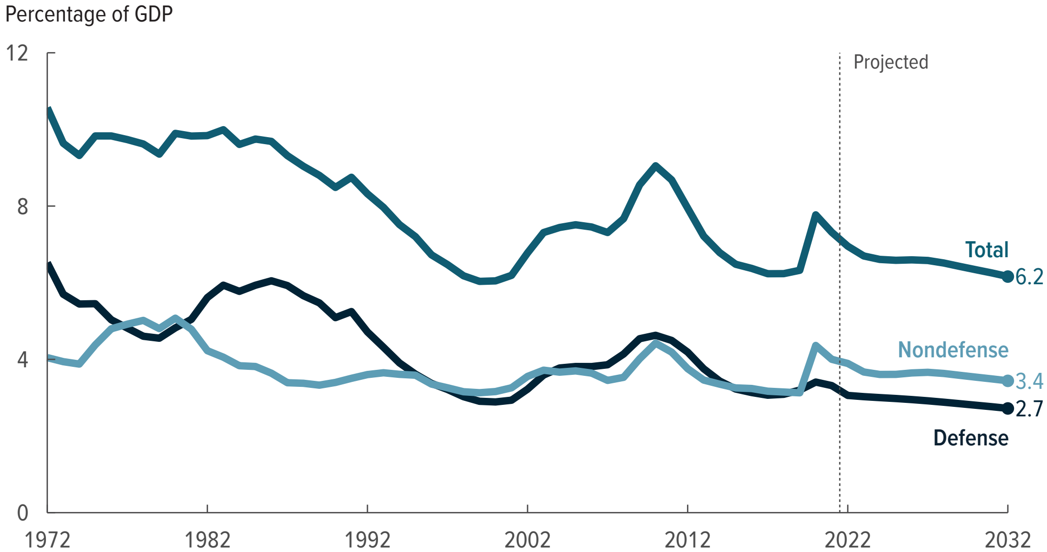
Total discretionary outlays as a share of the economy declined from 1972 to 2001, falling from 10.6 percent of GDP to 6.2 percent (see Figure 3-3). That decline was largely the result of decreasing outlays for defense (from 6.5 percent of GDP in 1972 to 2.9 percent in 2001). In the aftermath of September 11, 2001, outlays for defense increased, reaching 4.6 percent of GDP in 2010. Provisions in the American Recovery and Reinvestment Act (ARRA, P.L. 111-5), which was enacted in 2009, boosted nondefense outlays in that year and for several years thereafter. Those increases in defense and nondefense outlays resulted in discretionary outlays as a share of GDP, reaching 9.1 percent in 2010.

In 2011, discretionary outlays began to decline again as spending for operations in Iraq and Afghanistan and from ARRA waned. In addition, the caps put in place by the Budget Control Act of 2011 generally limited discretionary spending. (Those caps were raised several times in subsequent years and are no longer in effect.) In 2019, discretionary outlays fell to 6.3 percent of GDP.

The response to the global pandemic has resulted in a near-term boost to outlays: As a share of GDP, outlays in 2020 jumped to 7.8 percent, mostly from higher nondefense spending, and amounted to 7.3 percent of GDP in 2021. Pandemic-related spending will decrease this year and next, but the effects of the IIJA in CBO's baseline somewhat offset that decrease. By the end of the projection period, outlays return to 6.2 percent of GDP. That amount reflects the assumption that projected payments from the Highway Trust Fund will occur, regardless of the fund's balances. (For more on CBO's assumptions about payments from expiring trust funds, see Box 3-3 on page 68.)

Figure 3-3.

Discretionary Outlays, by Category



In CBO's projections, discretionary outlays as a percentage of GDP fall this year and next, as spending related to the coronavirus pandemic wanes. Such outlays continue to decline because the projections reflect the assumption that discretionary funding will grow at the rate of inflation, which is projected to be slower than the growth of nominal GDP.

Data source: Congressional Budget Office, using data from the Office of Management and Budget. See www.cbo.gov/publication/57950#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. Outlays have been adjusted to exclude the effects of those shifts.

GDP = gross domestic product.

If lawmakers provided funding that differed significantly from the amounts CBO projected using procedures specified in the Deficit Control Act, outlays also would differ. For example, funding for emergency requirements could vary greatly. Emergency funding for this year as provided in laws other than the IIJA totaled $58 billion as of April 8. Lawmakers have since enacted the Additional Ukraine Supplemental Appropriations Act, 2022 (H.R. 7691), providing an additional $40 billion in such funding. In 2019, 2020, and 2021, emergency funding amounted to $25 billion, $489 billion, and $194 billion, respectively, and in some years, no such funding has been provided.

Additionally, if none of the projected funding related to the IIJA in CBO's baseline materialized beyond the funding that was specified in that law, outlays stemming from that legislation would only amount to an estimated $417 billion over the 2023–2032 period instead of the $1.3 trillion projected in the baseline. Discretionary outlays as a percentage of GDP would amount to 5.7 percent in 2032 instead of the 6.2 percent projected in the baseline. (For additional information on how discretionary spending could differ from amounts in CBO's baseline, see Chapter 5.)

Net Interest

In the budget, net interest outlays primarily encompass the government's interest payments on federal debt, offset by income that the government receives from interest on loans. Net outlays for interest are dominated by the interest paid to holders of the debt that the Treasury 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. (For more information on federal debt, see Chapter 1.) Other federal accounts also pay and receive interest for various reasons.[20]

In CBO's projections, net interest outlays increase from $352 billion in 2021 to $399 billion, or 1.6 percent of GDP, in 2022. Those outlays then triple by 2032, reaching $1.2 trillion, or 3.3 percent of GDP—1.3 percentage points higher than their 50-year average as a share of economic output.

20. See Congressional Budget Office, *Federal Debt: A Primer* (March 2020), www.cbo.gov/publication/56165, and *Federal Net Interest Costs: A Primer* (December 2020), www.cbo.gov/publication/56780.

The federal government's net interest costs are affected by interest rates on Treasury securities and the amount of debt held by the public as well as by the rate of inflation applicable to Treasury inflation-protected securities and the maturity structure of outstanding securities. (For example, longer-term securities generally pay higher interest rates.) Of those factors, the projected increase in interest rates is the most significant. The rate paid on 3-month Treasury bills is projected to rise from an average of 0.05 percent in 2021 to 2.6 percent in 2025 before falling back to 2.3 percent in 2028 and remaining close to that rate through 2032. Similarly, the rate on 10-year Treasury notes is projected to climb from 1.3 percent in 2021 to 3.8 percent in 2028, roughly where it is projected to remain through 2032. (For a more detailed discussion of CBO's forecast of interest rates, see Chapter 2.)

The increase in interest rates accounts for about 70 percent of the projected growth in net interest outlays over the 2022–2032 period. CBO estimated the contribution of rising interest rates to net interest costs by keeping interest rates on marketable debt held by the public at their values in the fourth quarter of fiscal year 2021. For example, the rate paid on 3-month Treasury bills was assumed to remain at 0.05 percent, and the rate on 10-year Treasury notes was assumed to remain at 1.3 percent. In that scenario, outlays for interest in 2032 would be $768 billion lower (including the effects of lower debt-service costs) than in CBO's baseline projections, and debt would be $4 trillion lower at the end of that year.

The large increase in interest costs projected over the next decade is also affected by the increase in debt underlying CBO's baseline projections. Debt held by the public is projected to rise by 66 percent (in nominal terms) over the next 10 years, increasing from $24.2 trillion at the end of 2022 to $40.2 trillion at the end of 2032. Relative to the size of the economy, debt is projected to increase from 98 percent of GDP at the end of this year to 110 percent of GDP in 2032. That level of debt relative to the size of the economy would be the largest in the nation's history and would be more than double the 50-year average of 46 percent.

Uncertainty About the Spending Outlook

Budget projections are inherently uncertain; even if no changes were made to current law, actual outcomes would undoubtedly differ from CBO's projections. The agency attempts to construct its spending projections so that they fall in the middle of the distribution of possible outcomes under current law. Hence, actual outlays could turn out to be higher or lower than CBO projects, both because laws could change and because outcomes could (and probably will) differ from CBO's estimates.

According to CBO's analysis of the accuracy of its past projections of outlays (excluding the effects of enacted legislation), those projections were generally close to actual amounts but, on average, were too high. The average absolute error of CBO's outlay projection for the second year of its baseline (often referred to as the budget year) was 2.2 percent between 1985 and 2021.[21] For CBO's sixth-year projections made for the years 1989 to 2021, the average absolute error was 6.3 percent. In CBO's current baseline projections, those percentage errors would equal about $130 billion (or 0.5 percent of GDP) in 2023 and $440 billion (or 1.4 percent of GDP) in 2027. (The baseline projection of outlays for 2023 is $5.9 trillion, or 22.4 percent of GDP, whereas for 2027, it is $7.0 trillion, or 22.9 percent of GDP.)

21. For a more detailed analysis of past outlay errors, see Congressional Budget Office, *The Accuracy of CBO's Budget Projections for Fiscal Year 2021* (January 2022), www.cbo.gov/publication/57614, and *An Evaluation of CBO's Past Outlay Projections* (November 2017), www.cbo.gov/publication/53328.

Chapter 4: The Revenue Outlook

Overview

The Congressional Budget Office projects that if current laws generally remain unchanged, federal revenues will continue the strong growth seen last year and will rise by 19 percent in 2022, to $4.8 trillion. The strong revenue growth in 2021 and 2022 results mostly from large increases in collections of individual income taxes. Total revenues in 2022 are projected to equal 19.6 percent of the nation's gross domestic product (GDP)—the largest annual revenues relative to the size of the economy since 2000 (see Figure 4-1).

From 2023 to 2025, revenues are projected to decline as a percentage of GDP as temporary factors that have boosted tax receipts in recent years fade away. In 2026 and 2027, by contrast, revenues are projected to rise relative to GDP because of changes to rules governing the individual income tax that are scheduled to occur at the end of calendar year 2025.

Over the past 50 years, revenues have ranged between 14.5 percent and 20.0 percent of GDP, averaging 17.3 percent. In CBO's baseline projections, which generally reflect the continuation of current laws, revenues remain above that average throughout the next 10 years.

Key Factors Driving Projected Changes in Revenues

Despite the economic disruptions resulting from the coronavirus pandemic, federal revenues declined by only 1 percent in 2020, to a total of $3.4 trillion (or 16.3 percent of GDP). With the economic recovery and the expiration of temporary provisions enacted in response to the pandemic, revenues grew sharply in 2021—by 18 percent—to a total of $4.0 trillion (or 18.1 percent of GDP). On the basis of receipts recorded through late April 2022, CBO anticipates that revenues will rise by an additional 19 percent this year.

Revenues are projected to keep growing in dollar terms over the next few years. But that growth rate (about 1 percent a year) is expected to be slower than the growth of the economy, causing revenues to decline from 19.6 percent of GDP in 2022 to 17.6 percent in 2025. In CBO's estimation, some of the factors behind the recent jump in individual income tax receipts will dissipate. In addition, net income of the Federal Reserve System, which is remitted to the Treasury and counted as revenue, is projected to decline because of rising interest rates and changes in the central bank's portfolio of assets.

After 2025, revenues are projected to increase again relative to GDP, following the scheduled expiration of many temporary provisions of the 2017 tax act (Public Law 115-97). Revenues are then projected to remain relatively stable from 2027 to 2032, totaling 18.2 percent of GDP in 2032 (the end of CBO's current baseline projection period).

Those projected changes in total revenues over the next decade reflect the following shifts in various sources of revenues:

- Individual income tax receipts are projected to decline as a share of GDP over the next few years because of the expected dissipation of some of the factors that caused their recent surge. For example, realizations of capital gains (profits from selling assets that have appreciated in value) are projected to decline from the high levels of the past two years to a more typical level relative to GDP. Subsequently, from 2025 to 2027, individual income tax receipts are projected to rise sharply because of changes to tax rules set to occur at the end of calendar year 2025. After 2027, those receipts remain at or slightly below the 2027 level relative to GDP.
- Corporate income tax receipts are projected to rise from 1.6 percent of GDP this year to 1.8 percent in 2024 and then decline gradually to 1.4 percent of GDP in 2032. That pattern reflects several factors, including the expectation that some of the recent strength in corporate tax collections is temporary, a projected decline in corporations' domestic economic profits relative to GDP during the 2022–2032 period, and the effects of scheduled changes to tax rules, which initially increase corporate tax receipts but have varying effects over time.

Figure 4-1.

Total Revenues

Total revenues as a share of GDP are expected to reach 19.6 percent this year—their highest level in two decades. Revenues are projected to remain above their 50-year average of 17.3 percent of GDP throughout the next decade.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

GDP = gross domestic product.

- Receipts from all other sources, on net, are projected to decline from 7.4 percent of GDP this year to 7.0 percent of GDP in 2032. Revenues from payroll taxes, remittances from the Federal Reserve, excise taxes, and customs duties are all projected to be slightly lower as a share of the economy in 2032 than this year, whereas estate and gift taxes are projected to increase relative to GDP.

Besides the factors discussed above, CBO's baseline projections of tax receipts also depend on projected funding for the Internal Revenue Service (see Box 4-1).

Changes in CBO's Revenue Projections Since 2021

CBO's current revenue projections are higher than its previous projections, which were released in July 2021. At that time, CBO published revenue projections for the 2021–2031 period; the projections in this report cover the 2022–2032 period. For the overlapping years—2022 to 2031—CBO's projection of cumulative revenues over that decade has increased by $3.4 trillion, or 7 percent. Annual revenues are now projected to be higher by 0.4 percent of GDP, on average.

Most of that increase stems from changes in CBO's economic forecast, primarily its projections of GDP and the types of income that make up GDP, such as wages and salaries, corporate profits, and proprietors' income. Technical revisions to CBO's revenue forecast have also had the net effect of boosting projected revenues. (For more information about those changes, see Appendix A.)

Revenues Forgone Because of Tax Expenditures

In the federal tax system, various exclusions, deductions, credits, and preferential rates cause revenues to be lower than they would be otherwise given the underlying structure of tax rates. Many of those provisions are called tax expenditures because they resemble federal spending and contribute to the budget deficit.

Tax expenditures have a major impact on the federal budget. For example, the more than 200 tax expenditures in the income tax system will total 8.3 percent of GDP in 2022, CBO estimates (including their effects on individual income, payroll, and corporate income taxes). That amount equals 42 percent of all federal revenues expected to be collected in 2022.

Uncertainty of CBO's Revenue Projections

Revenue projections are inherently uncertain. CBO constructs its projections to be consistent with the agency's economic forecast, which is intended to fall in the middle of the range of likely outcomes for the economy.

Box 4-1.

How Funding for the Internal Revenue Service Affects CBO's Baseline Projections of Revenues

The Internal Revenue Service (IRS) collects nearly all federal revenues, largely through taxpayers' voluntarily reporting their income, calculating the amount they owe, and remitting that amount to the IRS. In addition, through its audits and other enforcement actions, the IRS collects a portion of the taxes not paid voluntarily. Changes in the ability of the IRS to collect tax receipts, through either voluntary or enforced compliance, affect federal revenues.

The Congressional Budget Office's baseline revenue projections take into account CBO's expectations about the IRS's ability to collect revenues in the future. For instance, CBO's current baseline reflects the assessment that voluntary tax compliance is unlikely to change much in the next 10 years—consistent with the IRS's estimates that the share of tax liability that is paid voluntarily and on time has remained fairly stable over the past several decades.[1]

Moreover, CBO projects that revenues from the IRS's enforcement activities will vary with the amounts appropriated for enforcement of tax laws. The direct impact of enforcement activities on revenues is measured by the amounts of "back taxes" paid on a previous year's tax liability. If the IRS's budget is small in relation to its past funding, CBO's projection of the back taxes received for a given amount of tax liability declines.

Appropriations to the IRS for 2022 are larger than CBO projected in its July 2021 baseline, increasing projected revenues from enforcement activities. The Consolidated Appropriations Act, 2022 (Public Law 117-103), provided the IRS with $12.6 billion for 2022, an increase of 5.7 percent over its 2021 budget. That increase is reflected in CBO's baseline projections of federal spending as well as of revenues from back taxes. Because the IRS's budget is still small relative to historical funding, the ratio of back taxes to tax liability is projected to decline over the 2022–2032 period.[2]

The IRS faces near-term challenges that could affect its ability to collect revenues. Disruptions stemming from the coronavirus pandemic have reduced the agency's capacity to process incoming mail and have resulted in backlogs of tax returns and taxpayer correspondence. Current staffing difficulties have led the IRS to reassign workers at processing centers to clear the inventory of correspondence. The agency's workload also grew during the pandemic: The IRS was responsible for administering three rounds of economic impact payments and an expanded child tax credit with an advanceable payment.[3] As of early 2022, there had not been a sharp drop in collections of back taxes because of slowdowns in enforcement during the pandemic.

The IRS also faces longer-term challenges and risks that could affect revenue collections. One risk is a potential decline in the rate of voluntary compliance. Such a decline could result from reductions in customer service, as taxpayers who want to comply with tax laws struggle to understand their liability, or from reductions in enforcement, which could change the likelihood of penalties for noncompliance. Another risk is that the IRS will again be given added responsibilities without sufficient additional funding, which could reduce the effectiveness of taxpayer services and enforcement for a given level of funding.

1. For more information about the IRS's estimates of voluntary compliance, see Internal Revenue Service, "The Tax Gap" (November 2, 2021), www.irs.gov/newsroom/the-tax-gap.

2. For more about how the IRS's funding for enforcement activities has changed over time, see Congressional Budget Office, *Trends in the Internal Revenue Service's Funding and Enforcement* (July 2020), www.cbo.gov/publication/56422.

3. The economic impact payments were provided by the Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020 (P.L. 116-136), the Consolidated Appropriations Act, 2021 (P.L. 116-260), and the American Rescue Plan Act of 2021 (P.L. 117-2). That third law also established the expanded child tax credit.

CBO's revenue projections have been too high, on average, in recent decades, mainly because of the difficulty of forecasting the timing and nature of economic downturns. Since 1982, the mean absolute error of CBO's revenue projections (the average of all errors, without regard for whether they were positive or negative) was about 5 percent for projections made for the coming year and 10 percent for projections made for the sixth year. (The overall accuracy of those projections has been similar to that of projections produced by the Administration.)

Past and Projected Changes in the Composition of Revenues

Federal revenues come from many sources: taxes on individual income, payroll taxes (which are dedicated to certain social insurance programs), taxes on corporate income, excise taxes on the production or purchase of some goods and services, earnings of the Federal Reserve System, customs duties on certain imports, estate and gift taxes, and miscellaneous fees and fines.

Individual income taxes are the largest source of federal revenues (see Figure 4-2). Over the past 50 years, they have contributed an average of 46 percent of annual revenues (equal to 8.0 percent of GDP). Payroll taxes—mainly for Social Security and Medicare Part A (the Hospital Insurance program)—are the second-largest source of revenues, contributing an average of 34 percent of annual revenues (equal to 6.0 percent of GDP) over that period. Corporate income taxes have provided 10 percent of revenues (1.8 percent of GDP), on average, and all other sources combined have provided about 9 percent of revenues (1.6 percent of GDP).

Although that broad picture has remained roughly the same over the past five decades, the details have varied:

- Receipts from individual income taxes have fluctuated significantly over the past 50 years, ranging from 42 percent to 51 percent of annual revenues (and from 6.0 percent to 9.9 percent of GDP). Those fluctuations, which show no consistent trend over time, are attributable to changes in laws and in the economy.
- Receipts from payroll taxes rose as a share of revenues from the 1960s through the 1980s. The main reasons were an expansion of payroll taxes to finance Medicare and legislated increases in tax rates for Social Security and in the amount of income to which those taxes applied. By the late 1980s, payroll tax receipts accounted for 37 percent of annual revenues (and 6.5 percent of GDP). Since 2001, those receipts have decreased slightly relative to the size of the economy, averaging 6.0 percent of GDP. That period includes two years (2011 and 2012) when receipts fell because of temporary cuts in some payroll tax rates.
- Receipts from corporate income taxes declined as a share of annual revenues (and also relative to GDP) from the 1960s to the early 1980s, mainly because corporate profits fell relative to the size of the economy. Corporate tax receipts have fluctuated widely since then, with no consistent trend, because of changes in laws and in the economy.
- Revenues from other sources, particularly excise taxes, have gradually declined as a share of annual revenues (and also relative to GDP). That downward trend has reversed in the past several years, however, because of increases in remittances from the Federal Reserve and in receipts from fees and fines.

If current tax laws generally remained in effect over the next decade—an assumption underlying CBO's baseline revenue projections—individual income taxes would continue to account for most of the fluctuations in annual revenues through 2032. Nevertheless, those receipts would remain well above 8.0 percent of GDP, their average size over the past 50 years. Individual income tax receipts are projected to total 10.6 percent of GDP in 2022, decline to 9.0 percent of GDP in 2025, and then rise to 9.8 percent of GDP in 2032.

Receipts from payroll taxes are projected to remain relatively stable over the next decade at 5.9 percent to 6.0 percent of GDP. Corporate income taxes are projected to range between 1.4 percent and 1.8 percent of GDP over the 2022–2032 period, averaging 1.5 percent. Taken together, all other sources of revenue are projected to average 1.1 percent of GDP during that period.

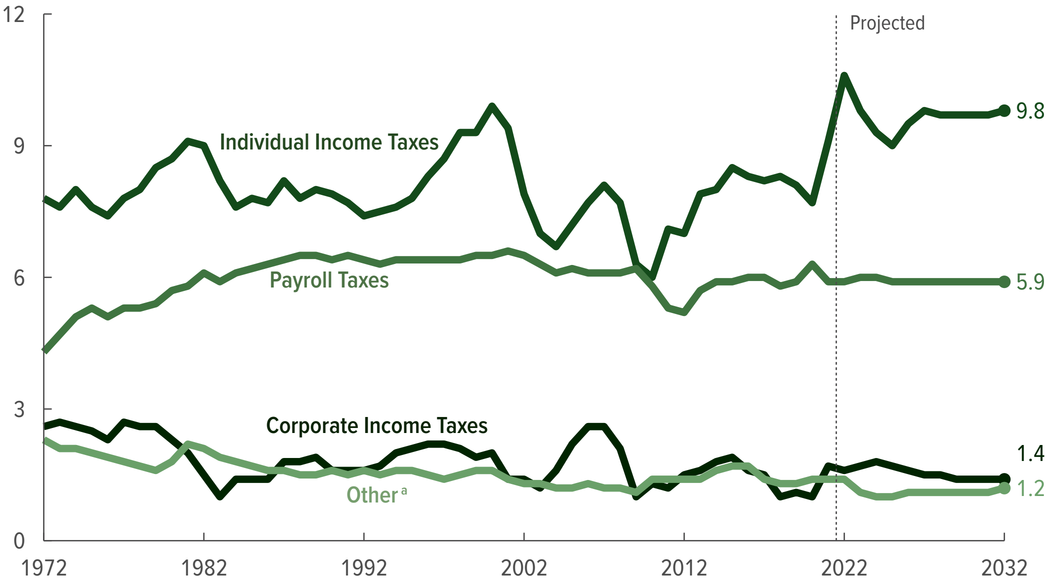
Individual Income Taxes

In 2021, receipts from individual income taxes totaled $2.0 trillion, or 9.1 percent of GDP. Under current law, and on the basis of receipts observed through late April of this year, CBO expects individual income tax receipts to rise by 28 percent in 2022, to $2.6 trillion. At 10.6 percent of GDP, that total is expected to be the highest amount of individual income tax receipts recorded since 1913, when ratification of the Sixteenth

Figure 4-2.

Revenues, by Category

Percentage of Gross Domestic Product



Receipts from individual income taxes—the largest source of federal revenues—rose sharply in 2021 and are projected to do so again in 2022 as the economy recovers from recession and temporary provisions enacted in response to the pandemic expire. Those receipts are projected to rise again after 2025 because of the scheduled expiration of some provisions of the 2017 tax act.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

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

Amendment authorized the federal government to begin collecting income taxes.

About one-third of this year's jump in individual income tax receipts results from growth in the economy and in the types of income that make up GDP, especially wages and salaries. Both nominal GDP (output not adjusted to remove the effects of inflation) and wages are expected to rise by 10 percent in 2022.

In CBO's estimation, another one-third of the growth in receipts in 2022 results from the end of temporary provisions enacted in response to the pandemic. One of those provisions allowed employers to defer payment of a portion of certain payroll taxes in 2020 and 2021. The payment of half of those deferred taxes, combined with the end of other temporary provisions, has boosted receipts in 2022.[1]

The remaining growth in individual income taxes this year cannot yet be explained. Tax collections in both 2020 and 2021 were larger than the currently available data on economic activity would suggest. That unexplained gap has widened in 2022. CBO will evaluate the reasons for the discrepancy as more detailed information from tax returns becomes available for those years.

Over the coming decade, if current laws remained unchanged, individual income tax receipts would decline to 9.8 percent of GDP in 2032, CBO projects, 0.9 percentage points lower relative to GDP than in 2022 (see Table 4-1). That projected decline in individual income tax receipts as a share of the economy over 10 years reflects offsetting factors. Scheduled changes in tax law after 2025 and real bracket creep (explained below) are projected to increase receipts relative to GDP over the decade. But those changes are more than offset by factors expected to reduce receipts, including a decline in realizations of capital gains and other types of taxable income and the expected dissipation of the recent unexplained strength in receipts.

1. Although some of those provisions affect payroll taxes, they will not change the amounts of payroll taxes credited to the Social Security and Railroad Retirement trust funds. The effects of those provisions are being recorded in the budget as reductions in individual income tax collections.

Table 4-1.

CBO's Baseline Projections of Revenues

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
	In Billions of Dollars													
Individual Income Taxes	2,044	2,623	2,579	2,542	2,539	2,771	2,970	3,049	3,170	3,301	3,436	3,582	13,400	29,938
Payroll Taxes	1,314	1,465	1,572	1,625	1,669	1,726	1,786	1,853	1,923	1,995	2,072	2,150	8,378	18,372
Corporate Income Taxes	372	395	456	478	483	473	457	461	470	480	491	505	2,347	4,755
Other														
Excise taxes	75	88	90	94	93	93	93	93	94	94	95	96	462	934
Federal Reserve remittances	100	111	30	20	32	47	56	65	76	87	98	111	185	622
Customs duties	80	95	99	100	101	102	103	104	105	107	109	110	505	1,040
Estate and gift taxes	27	29	29	28	28	29	43	46	49	52	56	60	156	418
Miscellaneous fees and fines	34	32	34	38	37	39	41	44	47	45	46	47	190	419
Subtotal	317	354	283	279	290	310	336	352	370	385	403	424	1,498	3,433
Total	**4,047**	**4,836**	**4,890**	**4,924**	**4,982**	**5,280**	**5,548**	**5,716**	**5,934**	**6,161**	**6,402**	**6,662**	**25,623**	**56,498**
On-budget	3,095	3,782	3,754	3,737	3,753	4,008	4,229	4,347	4,514	4,689	4,875	5,078	19,481	42,984
Off-budget[a]	952	1,054	1,136	1,186	1,228	1,272	1,320	1,369	1,420	1,472	1,527	1,584	6,142	13,514
Memorandum:														
Gross Domestic Product	22,365	24,694	26,240	27,291	28,271	29,266	30,332	31,487	32,716	33,996	35,318	36,680	141,400	311,596
	As a Percentage of Gross Domestic Product													
Individual Income Taxes	9.1	10.6	9.8	9.3	9.0	9.5	9.8	9.7	9.7	9.7	9.7	9.8	9.5	9.6
Payroll Taxes	5.9	5.9	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	1.6	1.7	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.7	1.5
Other														
Excise taxes	0.3	0.4	0.3	0.3	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	0.4	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.1	0.2
Customs duties	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3
Estate and gift taxes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1
Miscellaneous fees and fines	0.2	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	1.4	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.1
Total	**18.1**	**19.6**	**18.6**	**18.0**	**17.6**	**18.0**	**18.3**	**18.2**	**18.1**	**18.1**	**18.1**	**18.2**	**18.1**	**18.1**
On-budget	13.8	15.3	14.3	13.7	13.3	13.7	13.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8
Off-budget[a]	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

a. Receipts from Social Security payroll taxes.

Scheduled Increases in Individual Income Taxes After 2025

At the end of calendar year 2025, nearly all of the changes to the individual income tax made by the 2017 tax act are set to expire. That scheduled expiration (which is considered part of current law in CBO's baseline) is the most significant factor pushing up tax revenues relative to income over the next 10 years. The provisions that are scheduled to change will result in 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 in calendar year 2026, boosting receipts in subsequent fiscal years. CBO projects that the scheduled changes to those tax provisions would boost annual receipts from individual income taxes relative to GDP by 0.8 percentage points after 2025.

Real Bracket Creep and Related Factors

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).[2] If income grows faster than prices—as CBO projects it will in each year from 2023 to 2032—more income is pushed into higher tax brackets, a process known as real bracket creep. In addition, the Internal Revenue Service sets the adjustments to those 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 parameters, such as the amount of the child tax credit, are fixed in nominal dollars and not adjusted for inflation.

The upshot is that the individual income tax system is 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 as a percentage of GDP to rise by 0.3 percentage points from 2023 to 2032.

Projected Decline in Realizations of Capital Gains

Over the past 40 years, profits from sales of assets—capital gains realizations—have equaled 3.6 percent of GDP a year, on average. CBO estimates that realizations were significantly above that historical average in the past two years, totaling 5.5 percent of GDP in calendar year 2020 and 5.8 percent in 2021. In CBO's baseline projections, capital gains realizations decline over the next decade to a level consistent with their historical average percentage of GDP (after accounting for differences in applicable tax rates). That anticipated decline reduces projected annual receipts from individual income taxes as a share of GDP by about 0.5 percentage points over the next decade.

Other Factors Affecting Individual Income Taxes

CBO projects that under current law, several other factors would have negative effects on receipts from individual income taxes over the coming decade, reducing those receipts by a total of 1.5 percent of GDP.

First, a pandemic-related tax provision allowed employers to defer payment of some of their payroll taxes in 2020 and 2021; instead, they can make half of the deferred payments in 2022 and half in 2023. That provision will boost tax receipts in 2022 and 2023 but will have no effect thereafter, causing receipts to drop.

Second, various types of taxable income (other than realizations of capital gains) are projected to decline as a percentage of GDP. The most notable decline is for wages and salaries. Taxable income from pensions and unemployment insurance, which has been fairly high for the past two years, is also projected to decline relative to GDP.

Third, and most significant, 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. Those larger-than-anticipated receipts may have resulted from several possible developments. They may reflect higher wage or nonwage income than the Bureau of Economic Analysis has reported for the past two years. Realizations of capital gains in those years may have been larger than CBO has estimated, or a larger share of those realizations may have come from sales of assets held for less than a year, which are subject to higher tax rates. Also, the temporary tax provisions enacted in response to the pandemic may not have been as widely used as anticipated. And the distribution of taxable income may have been skewed more toward higher-income taxpayers (who, on average, are subject to higher tax rates) than CBO estimates.

Depending on which factors explain those larger-than-expected receipts from individual income taxes, 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.

Payroll Taxes

Receipts from payroll taxes, which fund social insurance programs, totaled $1.3 trillion in 2021, or 5.9 percent of GDP. Under current law, payroll taxes are projected to remain between 5.9 percent and 6.0 percent of GDP in each year through 2032.

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

Table 4-2.

CBO's Baseline Projections of Payroll Tax Revenues

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Social Security	952	1,054	1,136	1,186	1,228	1,272	1,320	1,369	1,420	1,472	1,527	1,584	6,142	13,514
Medicare	295	331	355	369	382	396	412	429	446	463	482	501	1,913	4,234
Unemployment Insurance	57	68	69	57	46	43	40	40	41	42	44	45	254	465
Railroad Retirement	5	5	6	6	6	6	6	6	6	7	7	7	29	62
Other Retirement[a]	6	6	7	7	8	9	9	10	11	11	12	13	40	97
Total	**1,314**	**1,465**	**1,572**	**1,625**	**1,669**	**1,726**	**1,786**	**1,853**	**1,923**	**1,995**	**2,072**	**2,150**	**8,378**	**18,372**

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

a. Consists largely of federal employees' contributions to the Federal Employees Retirement System and the Civil Service Retirement System.

Sources of Payroll Tax Receipts

The two largest sources of payroll tax receipts are the taxes dedicated to Social Security and Part A of Medicare (see Table 4-2). Much smaller sources are unemployment insurance taxes (most of which are imposed by states, although their receipts are classified as federal revenues); employers' and employees' contributions to the Railroad Retirement system; and other contributions to federal retirement programs, mainly by federal employees. The premiums that Medicare enrollees pay for Part B (the Medical Insurance program) and Part D (prescription drug benefits) are voluntary payments and thus are not counted as tax revenues. Rather, they are considered offsets to spending and appear on the spending side of the budget as offsetting receipts.

Social Security and Medicare payroll taxes are calculated as a percentage of a worker's earnings. Almost all workers are in jobs covered by Social Security. The Social Security tax is usually 12.4 percent of earnings, with the employer and employee each paying half. That tax applies only up to a certain amount of a worker's annual earnings ($147,000 in 2022, an amount that is indexed to increase with the growth of average earnings for all workers). The Medicare tax applies to all earnings, with no taxable maximum. It is levied at a rate of 2.9 percent, with the employer and employee each paying half. An additional Medicare tax of 0.9 percent is levied on the amount of an individual's earnings over $200,000 (or $250,000 for a married couple filing a joint income tax return), bringing the total Medicare tax on those earnings to 3.8 percent.

Projected Receipts

Annual receipts from the Social Security and Medicare payroll taxes are both projected to be stable relative to GDP over the 2022–2032 period. Social Security tax revenues will remain at 4.3 percent of GDP throughout that period. Medicare tax revenues will rise slightly but remain between 1.3 percent and 1.4 percent of GDP from 2022 to 2032.

Receipts from unemployment insurance taxes declined each year from 2012 to 2019 (both in nominal dollars and relative to GDP) and totaled 0.2 percent of GDP in 2019. Payments of unemployment benefits rose in 2020 because of pandemic-induced job losses. States responded by raising more unemployment insurance revenues to replenish their unemployment insurance trust funds. Consequently, those revenues rose to 0.3 percent of GDP in 2021. They are projected to remain at that elevated level for several years before resuming their pre-2020 decline, gradually falling to 0.1 percent of GDP in 2026 and staying at that level through 2032. Receipts from all of the remaining sources of payroll tax revenues are projected to remain below 0.1 percent of GDP throughout the 2022–2032 period.

Corporate Income Taxes

In 2021, receipts from corporate income taxes totaled $372 billion, or 1.7 percent of GDP. CBO expects corporate tax receipts to rise by $23 billion in 2022 but to fall as a percentage of GDP, to 1.6 percent. After 2022, corporate tax receipts are projected to rise through 2024, reaching 1.8 percent of GDP, and then to decline to

1.4 percent of GDP from 2029 to 2032. That pattern reflects several factors, including a projected decrease in corporations' domestic economic profits as a share of GDP; the phaseout of some effects of the pandemic and provisions enacted in response to it; and the various ways in which provisions of the Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020 (P.L. 116-136) and the 2017 tax act are projected to affect corporate tax receipts over time.

Receipts in 2022

CBO expects corporations' income tax payments, net of refunds, to rise by 6 percent in 2022, to $395 billion. That increase is smaller than the projected increases in domestic economic profits and GDP (both of which are expected to grow by 10 percent in 2022), so corporate tax revenues are expected to decline relative to both profits and GDP in 2022. That decline is consistent with the tax collections seen during the first half of fiscal year 2022. It probably results in part from effects of the pandemic, and of temporary provisions enacted in response to the pandemic, that boosted receipts in 2021 but not in subsequent years. In particular, initial evidence for the 2020 tax year suggests that corporations made smaller early payments and larger subsequent payments for that year than they would have in a more typical year. As a result, a larger share of total corporate tax liabilities for the 2020 tax year were collected in fiscal year 2021.

Receipts After 2022

In CBO's baseline projections, annual receipts from corporate income taxes decline by 0.2 percent of GDP, on net, between 2022 and 2032. Several factors contribute to that projected decline, but they are partially offset by factors expected to boost receipts over the 2023–2032 period. The factors reducing receipts include CBO's expectation that domestic economic profits will decline relative to GDP. In addition, corporate tax receipts in 2021 were higher than can be fully explained by the currently available data, and CBO projects that the factors driving that temporary strength will gradually diminish.

Scheduled changes in tax rules over the 2023–2032 period will have varying effects on the amount of corporate tax receipts collected. Payments of a onetime tax on previously untaxed foreign profits are set to end, which will reduce receipts. But the scheduled phaseout of temporary provisions of the CARES Act, as well as scheduled changes in tax rules enacted in the 2017 tax act, will boost receipts.

Decline in Domestic Economic Profits Relative to GDP. CBO projects that domestic economic profits will fall from 9.8 percent of GDP in 2022 to 7.7 percent of GDP in 2032, in part because of rising interest payments on businesses' debt over the next several years. By itself, that anticipated decline in profits relative to GDP causes CBO's projections of annual receipts from corporate income taxes to fall by about 0.2 percent of GDP over the next decade.

Expected Dissipation of Recent Strength in Tax Collections. Corporate tax collections were larger in 2021 and early 2022 than can be fully explained by currently available data on business activity for those years. The factors that contributed to the unexplained strength in receipts will not become fully apparent until information from tax returns becomes available over the next two years. Depending on the factors that caused those larger receipts, their effects might be expected to continue indefinitely, end suddenly, or even change direction. In CBO's projections, the unexplained strength gradually dissipates over the next few years, causing annual corporate tax revenues to decline by about 0.2 percent of GDP between 2023 and 2032.

Scheduled Changes in Tax Rules. On net, changes in tax rules that are scheduled to occur over the next decade increase CBO's projections of annual corporate tax receipts by 0.1 percent of GDP.

Some of the changes projected to boost corporate tax receipts involve the amount of deductions that companies are allowed to take for various expenses and the speed at which they can take them. Currently, businesses can immediately deduct the full value of expenses for investment in equipment and certain other qualified investments. Those "bonus depreciation" provisions, which were extended most recently by the 2017 tax act, are scheduled to phase out between 2023 and 2027, reducing the amount of allowable deductions in a given year. In addition, beginning in 2022, businesses must use new rules for calculating expenses related to research and experimentation, which will reduce deductions for those expenses. Another scheduled change involves a provision of the CARES Act that allowed companies to obtain refunds for net operating losses accrued between 2019 and 2021. That provision does not apply to later years.

Partly offsetting the effects of those factors are scheduled changes that are expected to decrease corporate tax receipts. One example is the end of scheduled payments for the onetime tax on previously untaxed foreign profits, known as deemed repatriation. Businesses began making those payments in 2018, and the largest installments are due in 2024 and 2025. Those payments are set to end after 2025, reducing corporate receipts.

Smaller Sources of Revenues

The other sources of federal revenues consist of excise taxes, remittances from the Federal Reserve System to the Treasury, customs duties, estate and gift taxes, and miscellaneous fees and fines. Revenues from those sources totaled $317 billion in 2021 (see Table 4-3), or 1.4 percent of GDP. CBO projects that those receipts will remain at 1.4 percent of GDP in 2022, the result of offsetting changes in some of those smaller revenue sources.

Excise taxes are projected to decline gradually as a share of GDP over the next decade, from 0.4 percent in 2022 to 0.3 percent in 2032, as the tax bases on which many of those taxes are levied shrink. Remittances from the Federal Reserve—which climbed to 0.4 percent of GDP in 2020 and 2021 because of the central bank's actions in response to the pandemic-induced recession (including an expansion of its holdings of assets)—are expected to remain at 0.4 percent of GDP in 2022. Remittances are expected to decline sharply in 2023, however, because of changes in the Federal Reserve's portfolio of assets and increases in interest rates. Remittances are projected to gradually increase thereafter, to 0.3 percent of GDP in 2032. Customs duties, which totaled 0.4 percent of GDP in 2021, are projected to decline gradually, to 0.3 percent of GDP in 2032, as imports of goods subject to those duties grow more slowly than GDP.

Excise Taxes

Unlike taxes on income, excise taxes are levied on the production or purchase of a particular type of good or service. In CBO's baseline projections, about 90 percent of excise tax receipts come from taxes related to highways, aviation, tobacco, and alcohol.

Excise tax revenues are projected to rise from $88 billion in 2022 to $96 billion in 2032. Nevertheless, those receipts are projected to decline slightly relative to GDP. The main reason is that many excise taxes are imposed as a fixed dollar amount per unit sold, and the number of units sold is projected to either grow more slowly than the overall economy or decline in coming years.

In general, CBO's baseline projections reflect the assumption that expiring tax provisions will follow the schedules set forth in current law. However, the Balanced Budget and Emergency Deficit Control Act of 1985 (P.L. 99–177) requires that CBO's baseline incorporate the assumption that expiring excise taxes dedicated to trust funds will be extended. Receipts from excise taxes that are assumed to be extended after expiration account for about one-third of the excise tax revenues projected over the next decade. Trust funds financed in part by excise taxes that are scheduled to expire during that period include the Highway, Airport and Airway, Patient-Centered Outcomes Research, Oil Spill Liability, Sport Fish Restoration and Boating, Hazardous Substances Superfund, and Leaking Underground Storage Tank trust funds.

Highway Taxes. Almost half of excise tax receipts in 2022 come from highway taxes. Those taxes include levies on the consumption of gasoline, diesel fuel, and blends of those fuels with ethanol, and taxes on the retail sale of trucks and use taxes on certain vehicles. Annual receipts from highway taxes, which are largely dedicated to the Highway Trust Fund, are projected to increase only slightly each year between 2022 and 2032. Over that period, those receipts average $43 billion a year.

CBO's projection of a slight increase in highway tax revenues is the net effect of falling receipts from taxes on fuel and rising receipts from taxes on trucks. Gasoline consumption is expected to decline because improvements in vehicles' fuel economy are expected to more than offset increases in the number of miles that people drive. CBO expects that increases in fuel economy will also reduce the consumption of diesel fuel per mile driven during the next 10 years.

Under current law, most of the federal excise taxes used to fund highway programs are scheduled to expire on September 30, 2028. CBO's baseline incorporates the assumption that those expiring taxes would be extended because they are dedicated to a trust fund.

Aviation Taxes. In CBO's baseline, receipts from taxes on airline tickets, aviation fuels, and various aviation-related transactions are projected to increase from $15 billion in 2022 to $25 billion in 2032—an average annual growth rate of 5 percent. That growth is close to the projected growth of GDP over that period. The largest component of aviation excise taxes, a tax on airline tickets, is

Table 4-3.

CBO's Baseline Projections of Smaller Sources of Revenues

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Excise Taxes														
Highway	43	42	43	43	43	43	43	43	43	42	42	42	215	428
Aviation	6	15	17	19	19	20	21	22	22	23	24	25	97	212
Tobacco	12	12	12	12	11	11	10	10	9	9	9	8	55	101
Alcohol	11	11	10	10	10	10	10	10	10	10	11	11	51	103
Health care	3	3	2	4	3	3	3	3	3	3	3	3	14	29
Other	*	4	6	6	6	6	6	6	6	6	7	7	29	62
Subtotal	75	88	90	94	93	93	93	93	94	94	95	96	462	934
Federal Reserve Remittances	100	111	30	20	32	47	56	65	76	87	98	111	185	622
Customs Duties	80	95	99	100	101	102	103	104	105	107	109	110	505	1,040
Estate and Gift Taxes	27	29	29	28	28	29	43	46	49	52	56	60	156	418
Miscellaneous Fees and Fines														
Universal Service Fund fees	9	10	10	10	10	10	11	11	11	11	11	11	52	106
Other fees and fines	25	22	24	27	27	29	31	33	36	34	35	37	138	313
Subtotal	34	32	34	38	37	39	41	44	47	45	46	47	190	419
Total	**317**	**354**	**283**	**279**	**290**	**310**	**336**	**352**	**370**	**385**	**403**	**424**	**1,498**	**3,433**

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

* = between -$500 million and zero.

levied as a percentage of the dollar value of transactions rather than on the number of units sold (as gasoline taxes are, for example). Thus, receipts from aviation taxes rise as both real economic activity and prices increase.

Under current law, most aviation taxes are scheduled to expire in 2023. CBO's baseline incorporates the assumption that those expiring taxes would be extended because they are dedicated to a trust fund (the Airport and Airway Trust Fund).

Tobacco and Alcohol Taxes. In CBO's baseline projections, revenues from taxes on tobacco products total $12 billion in 2022. That amount is projected to decrease by roughly 4 percent a year over the next decade, to $8 billion in 2032, in part because tobacco consumption is expected to continue declining. Receipts from taxes on alcoholic beverages are expected to total $10.6 billion in both 2022 and 2032. CBO anticipates that receipts from excise taxes on both tobacco and alcohol products will be reduced over the next decade because a recent court ruling will allow a growing share of those products to avoid federal excise taxes altogether.[3]

Health Care Taxes. In CBO's baseline projections, annual receipts from health care taxes average $3 billion over the 2022–2032 period. Most of those receipts come from the annual fee imposed on manufacturers and importers of brand-name drugs, which was instituted under the Affordable Care Act (P.L. 111-148).

Other Excise Taxes. Collections of other excise taxes are projected to increase from $4 billion in 2022 to $7 billion in 2032. That growth largely results from recently reinstated taxes that are assessed on various hazardous substances and dedicated to the Hazardous Substances Superfund. Those taxes, which were recently reimposed by the Infrastructure Investment and Jobs Act (P.L. 117-58), will start being collected partway through 2022 and are projected to total more than $2 billion in 2032. Other excise taxes include taxes dedicated to the Federal Aid to Wildlife Restoration Fund, the Oil Spill Liability

3. On August 23, 2021, the U.S. Court of Appeals for the Federal Circuit upheld an earlier ruling by the U.S. Court of International Trade in *The National Association of Manufacturers, The Beer Institute v. Department of the Treasury, et al. (NAM).* As a result of the ruling, tobacco and alcohol products on which excise taxes would normally apply will receive a drawback (or refund) of those excise taxes in situations in which the merchandise can be matched to similar products that are exported or destroyed—even when no excise tax had previously been collected on the exported or destroyed merchandise.

Trust Fund, and the Patient-Centered Outcomes Research Trust Fund.

Remittances From the Federal Reserve System

The income produced by the activities of the Federal Reserve System—minus the costs of generating that income and operating the system—is remitted to the Treasury and counted as revenue. Most of that income comes from interest on Treasury securities and mortgage-backed securities held by the central bank, whereas most of those costs are for interest payments made to banks on the reserves they hold with the Federal Reserve.

The Federal Reserve's response to the pandemic-induced recession led to a large increase in remittances to the Treasury. Remittances increased from $53 billion (or 0.2 percent of GDP) in 2019 to $100 billion (or 0.4 percent of GDP) in 2021, the first full fiscal year reflecting the changes made since the pandemic. That increase was largely caused by the difference (or spread) between the interest rates on the Federal Reserve's assets and the interest rates on its liabilities and by the larger balance sheet to which that spread applied.

In CBO's baseline projections, remittances peak at $111 billion in 2022 (more than 0.4 percent of GDP). Thereafter, as the interest rate on reserves rises, remittances drop to a low of $20 billion (or 0.07 percent of GDP) in 2024. (For details about CBO's forecasts of monetary policy and interest rates in the coming decade, see Chapter 2.) Remittances start to increase in 2025 as more of the Federal Reserve's short-term assets mature and move off the balance sheet, causing its interest expenses to decline. CBO expects that the Federal Reserve will begin expanding its asset holdings in 2026 to meet the demand for currency and reserves. That expansion, along with a projected rise in interest rates, keeps remittances increasing steadily as a share of GDP.

Remittances are projected to total 0.3 percent of GDP in 2032—about 0.1 percent of GDP lower than this year, but 0.1 percent of GDP higher than the average over the 1998–2007 period (the decade before the central bank changed its operations in response to the 2008 financial crisis).

Customs Duties, Estate and Gift Taxes, and Miscellaneous Fees and Fines

Revenues from all other sources are projected to remain relatively stable over the next decade, together continuing to account for 0.6 percent of GDP each year between 2022 and 2032.

Customs Duties. Customs duties, which are assessed on certain imports, have averaged 0.2 percent of GDP for the past two decades. Receipts from customs duties rose in the past several years after the implementation of new tariffs. They include tariffs on imports of solar panels and some appliances, which took effect in February 2018; tariffs on steel and aluminum imports from certain countries, which took effect in March 2018; tariffs on a range of products imported from China, which were imposed in 2018 and 2019; and tariffs on certain softwood lumber products from Canada, which took effect in December 2021. (Some of the tariffs on steel and aluminum were later replaced with tariff rate quotas.)[4] The additional taxes levied on affected imports vary from 10 percent to 25 percent of the assessed customs value of those products.

CBO's baseline reflects the assumption that those recent tariffs will continue throughout the 2023–2032 period at the rates currently in effect. However, the Administration has broad authority to modify tariff policy without legislative action.

4. CBO's projections of revenues from customs duties reflect tariff rate quotas (TRQs) on certain imports from Argentina, Brazil, and South Korea that went into effect on June 1, 2018, and TRQs on imports from the European Union that went into effect on January 1, 2022. Those projections do not reflect tariff rate quotas that went into effect after CBO completed its projections, including a TRQ on imports from Japan that took effect on April 1, 2022, and a TRQ on imports from the United Kingdom that is scheduled to take effect on June 1, 2022.

For each affected product category, TRQs allow a specified amount (or quota) of goods to be imported from those places under most-favored-nation tariff rates. Any imports exceeding the quota are subject to an additional tariff rate. Like tariffs without quota systems, binding TRQs (in which the amount of imports equals or exceeds the quota) put upward pressure on the prices that domestic consumers and businesses pay for affected imports, relative to the prices they would pay in the absence of a TRQ. As a result, binding TRQs, like tariffs without quota systems, usually reduce imports. TRQs and tariffs differ, however, in that the United States collects less customs revenue under a TRQ because a portion of imports is not subject to the additional tariff. That difference in customs revenue partly reflects revenue that is indirectly ceded to foreign governments and exporters. Thus, replacing a tariff with a binding TRQ can lead to similar increases in domestic prices and reductions in imports, while reducing customs revenue. In CBO's estimation, customs revenue would be roughly $3 billion higher in 2023 if the TRQs on imports from Argentina, Brazil, South Korea, and the European Union were replaced by tariffs without quota systems.

Customs duties totaled 0.4 percent of GDP in 2021 because of those additional tariffs as well as increases in imports that began in 2020 after the start of the pandemic. In CBO's baseline, customs duties decline gradually, to 0.3 percent of GDP in 2032, partly because imports other than oil are projected to grow more slowly than GDP.

Estate and Gift Taxes. In 2021, revenues from estate and gift taxes totaled $27 billion (or just over 0.1 percent of GDP). Revenues from those taxes are projected to remain near that level through 2026 but to rise sharply in 2027, after a scheduled decline at the end of calendar year 2025 in the amounts exempted from estate and gift taxes. CBO projects that receipts from those taxes would total 0.2 percent of GDP in 2032.

Miscellaneous Fees and Fines. Receipts from fees and fines totaled $34 billion (or 0.2 percent of GDP) in 2021. Under current law, those receipts would decline slightly and average 0.1 percent of GDP from 2022 to 2032, CBO projects.

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.[5]

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 recorded separately in the budget, unlike outlays for each spending program.[6] The Congressional Budget Act of 1974 (P.L. 93-344) requires that the federal budget list tax expenditures. The Administration and the Congress regularly publish estimates of tax expenditures prepared by the Treasury's Office of Tax Analysis and the staff of the Joint Committee on Taxation (JCT), respectively.[7]

Magnitude of Tax Expenditures

Tax expenditures have a major impact on the federal budget. On the basis of estimates prepared by JCT, CBO estimates that in 2022, forgone revenues from the more than 200 tax expenditures in the individual and corporate income tax systems will total 8.3 percent of GDP (including their effects on payroll taxes as well as on income taxes).[8] That amount equals 42 percent of projected federal revenues for 2022 and exceeds projected outlays for all discretionary programs combined (see Figure 4-3).

5. Sec. 3(3) of the Congressional Budget and Impoundment Control Act of 1974, codified at 2 U.S.C. §622(3) (2006), 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."

6. 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.

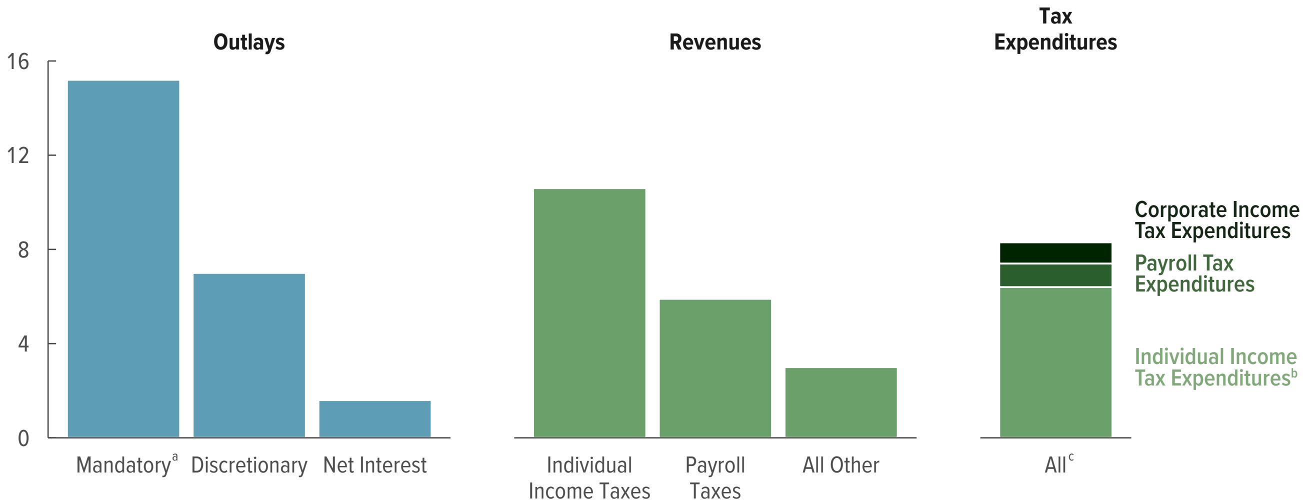
7. For this analysis, CBO followed JCT's definition of tax expenditures as deviations from a "normal" income tax structure. For the individual income tax, that structure includes existing regular tax rates, the standard deduction, personal exemptions, and deductions of business expenses. For the corporate 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 2020–2024*, JCX-23-20 (November 2020), www.jct.gov/publications/2020/jcx-23-20. 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.whitehouse.gov/omb/budget/analytical-perspectives.

8. For income tax expenditures, CBO used JCT's most recent estimates of tax expenditures, published in November 2020. Those estimates were made before the enactment of the Consolidated Appropriations Act, 2021 (P.L. 116-260), and the American Rescue Plan Act of 2021 (P.L. 117-2), so they do not reflect the changes made by those laws. Most significantly, those laws provided for the temporary expansion of the child tax credit and earned income tax credit in 2021 and the issuance of additional rounds of recovery rebate payments. CBO calculated tax expenditures as a share of GDP for 2022 using the estimate of GDP that is consistent with JCT's published tax expenditure estimates, which were based on CBO's July 2020 baseline. 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.

Figure 4-3.

Estimated Outlays, Revenues, and Tax Expenditures in 2022

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 2022, the total revenues forgone because of tax expenditures are projected to equal 8.3 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/57950#data.

GDP = gross domestic product.

a. Includes tax expenditures from the outlay portions of refundable tax credits.

b. The outlay portions of refundable tax credits are included in tax expenditures as well as in mandatory outlays. In 2022, they are estimated to total 0.7 percent of GDP. For this analysis, CBO used estimates of tax expenditures prepared by the staff of the Joint Committee on Taxation. Those estimates do not incorporate changes to tax law made after September 30, 2020. Thus, they exclude the effects of the Consolidated Appropriations Act, 2021 (Public Law 116-260), and the American Rescue Plan Act of 2021 (P.L. 117-2). Those laws expanded the refundable child tax credit and earned income tax credit for calendar year 2021 and authorized additional rounds of recovery rebate payments.

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 2022, 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.

A simple total of 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 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 2022, 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.

Nonetheless, the total amount of tax expenditures does not represent the increase in revenues that would occur if all tax expenditures were eliminated. The reason is that repealing a tax provision would change incentives and lead taxpayers to modify their behavior in ways that would diminish the effect of that repeal on revenues. For example, if the preferential tax rates on capital gains realizations were eliminated, taxpayers would reduce the amount of capital gains they realized. As a result, the amount of additional revenues that would result from eliminating those preferential rates would be smaller than the estimated size of the tax expenditure.

The Largest Tax Expenditures in 2022

CBO estimates that the 10 largest tax expenditures account for nearly three-quarters of the total budgetary effects of all tax expenditures in 2022, or 6.1 percent of GDP.[9] Those 10 tax expenditures fall into four categories: exclusions from taxable income, preferential tax rates, tax credits, and deductions from income.

Exclusions From Taxable Income. Taxpayers' ability to exclude certain types of income from taxation accounts for the greatest share of total tax expenditures. The largest excluded items are contributions made to pension funds and earnings of those funds (minus pension benefits that are included in taxable income), as well as premium payments for employment-based health insurance. Another exclusion applies when an asset is transferred at death: Heirs are not liable for taxation on increases in the value of the asset that occurred before they acquired it.

- The exclusion of pension plan contributions and earnings is the single largest tax expenditure in the tax code; including effects on payroll taxes, the tax expenditure resulting from that exclusion is estimated to equal 1.8 percent of GDP in 2022.[10]
- The exclusion of contributions for employment-based health insurance has the second-largest impact, resulting in a tax expenditure that is estimated to total 1.5 percent of GDP this year, including effects on payroll taxes.
- The tax expenditure caused by the exclusion from individual income taxation of capital gains at death is estimated to equal 0.2 percent of GDP in 2022.

Preferential Tax Rates. Under the individual income tax, some forms of income, such as dividends and long-term capital gains, are subject to preferential tax rates. Under the corporate income tax, income of controlled foreign corporations is taxed at a lower rate than profits of domestic corporations.

- The tax expenditure for the preferential tax rates on dividends and long-term capital gains is estimated to total 0.7 percent of GDP in 2022.[11]
- The tax expenditure for the reduced tax rate on active income of controlled foreign corporations is estimated to equal 0.3 percent of GDP in 2022.[12]

Tax Credits. Credits reduce tax liability dollar for dollar by the amount of the credit. Nonrefundable tax credits cannot reduce a taxpayer's income tax liability to less than zero, whereas refundable tax credits may result in direct payments to taxpayers who do not owe any income taxes.[13]

- The tax expenditure for the tax credit for children and other dependents is estimated to total 0.5 percent of GDP in 2022. Typically, about one-quarter of the budgetary effect of that credit is recorded in the budget as mandatory spending because it is paid to people who have no income tax liability.

9. For that estimate, CBO combined the components of certain tax expenditures that JCT reported separately, such as tax expenditures for different types of charitable contributions.

10. That total includes amounts from defined benefit plans and defined contribution plans offered by employers. It does not include amounts from self-directed individual retirement arrangements or from Keogh plans that cover partners and sole proprietors, although contributions to those plans and earnings accrued in them are also excluded from taxable income until withdrawal.

11. Taxpayers with income over certain thresholds—$200,000 for single filers and $250,000 for married couples filing joint returns—face a surtax equal to 3.8 percent of their investment income (including capital gains and dividend income, as well as interest income and some passive business income). That surtax reduces the preferential treatment of dividends and capital gains. JCT treats the surtax as a negative tax expenditure—that is, as a deviation from the tax system that increases rather than decreases taxes—and it is not included in the estimates presented here.

12. Although the current and future income of controlled foreign corporations is subject to a lower tax rate, previously deferred income that those corporations accumulated before 2018 is subject to a onetime tax, which can be paid over eight years. The estimate for this tax expenditure does not include any offset for the onetime tax on prior-year income.

13. JCT's estimates of tax expenditures that CBO used in this analysis do not reflect changes to tax law made after September 30, 2020. Thus, they exclude the effects of the Consolidated Appropriations Act, 2021, and the American Rescue Plan Act of 2021. Those laws expanded the refundable child tax credit and earned income tax credit for calendar year 2021 and authorized additional rounds of recovery rebate payments.

- The tax expenditure for the earned income tax credit is estimated to total 0.3 percent of GDP in 2022. Most of the budgetary effect of that credit is recorded in the budget as mandatory spending.
- The tax expenditure for the premium tax credit—which helps people with low and moderate income buy health insurance through marketplaces—is estimated to total 0.2 percent of GDP in 2022. Most of the budgetary effect of that credit is recorded as mandatory spending in the budget.

Deductions From Income. Deductions allow taxpayers to reduce their taxable income, generally by an amount they have spent for a particular purpose. For example, itemized deductions let taxpayers deduct more than the amount of the standard deduction on the basis of expenses they have incurred, such as contributions to charities. And many owners of pass-through businesses can take a deduction equal to 20 percent of qualified business income, which includes reasonable compensation to owners for services rendered to the business.[14]

- The tax expenditure for the itemized deduction for charitable contributions is estimated to equal 0.3 percent of GDP in 2022.
- The tax expenditure for the 20 percent deduction for qualified business income available to certain pass-through businesses is estimated to equal 0.2 percent of GDP in 2022.

Distribution of Tax Expenditures

Tax expenditures vary greatly in the distribution of their benefits among households in different income groups. Exclusions and deductions from income typically create larger tax expenditures for higher-income taxpayers than for lower-income taxpayers because individual income tax rates rise with income. Similarly, tax expenditures for preferential tax rates are derived from the difference between the ordinary tax rate and the preferential rate, so those tax expenditures accrue mostly to higher-income taxpayers, who have higher ordinary rates. By contrast, the benefits from tax credits are skewed toward lower- and middle-income households, mainly because the largest tax credits phase out to zero as income rises beyond certain thresholds.

The most recent year for which CBO has completed an analysis of the distributional effects of tax expenditures is 2019.[15] In that year, higher-income households benefited more from the 13 largest tax expenditures (measured in dollars) than lower-income households did. CBO estimates that 50 percent of the total benefits of income tax expenditures accrued to households in the highest one-fifth (quintile) of the income distribution, 13 percent accrued to households in the middle quintile, and 9 percent accrued to households in the lowest quintile. Payroll tax expenditures, which have a smaller total value, were more evenly distributed: 34 percent accrued to households in the highest quintile, 21 percent to households in the middle quintile, and 4 percent to households in the lowest quintile.

Uncertainty About the Revenue Outlook

Revenue projections are inherently uncertain, and even if no changes were made to current law, actual revenues would undoubtedly differ in some ways from CBO's baseline projections. CBO constructs its revenue projections to be consistent with the agency's economic forecast, which is intended to fall in the middle of the range of likely outcomes for the economy. Thus, actual revenues could turn out to be higher or lower than CBO projects.

Historically, many of the errors in CBO's revenue projections are attributable to errors in the agency's economic forecast. Others result from differences between projected and actual income relative to the size of the economy. The largest projection errors have involved specific hard-to-predict events (such as downturns in the economy) rather than indicating any general trend in the accuracy of CBO's projections.

In analyzing its baseline projections of revenues since 1982, CBO found that projections for the second year (which is often called the budget year and usually begins about six months after the projections are released) and projections for the sixth year were generally too high,

14. Pass-through businesses are businesses whose income is taxed under the individual income tax rather than the corporate income tax.

15. See Congressional Budget Office, *The Distribution of Major Tax Expenditures in 2019* (October 2021), www.cbo.gov/publication/57413.

on average. The largest errors in revenue projections have occurred near economic downturns. However, the overall accuracy of CBO's revenue projections has been similar to that of revenue projections made by the Administration.

Since 1982, the mean absolute error (the average of all errors, regardless of whether they were positive or negative) was 5.2 percent for CBO's budget-year projections and 10.0 percent for the sixth-year projections.[16] In CBO's current baseline projections, those percentage errors would equal about $250 billion (or 1.0 percent of GDP) in 2023 and $560 billion (or 1.8 percent of GDP) in 2027.

16. Those errors include CBO's projections from 1982 through the most recent fiscal years for which actual receipts were available for each projection period: 2020 for the budget-year projections and 2016 for the sixth-year projections. The complete series of past errors is included with the supplemental materials that accompany this report at www.cbo.gov/publication/57950#data. For a more detailed analysis of past errors, see Congressional Budget Office, *An Evaluation of CBO's Past Revenue Projections* (August 2020), www.cbo.gov/publication/56499. That analysis included actual results through fiscal year 2018. For an analysis of errors in 2021, see Congressional Budget Office, *The Accuracy of CBO's Budget Projections for Fiscal Year 2021* (January 2022), www.cbo.gov/publication/57614.

Chapter 5: Budgetary Outcomes Under Alternative Assumptions About Spending and Revenues

Overview

The baseline budget projections in this report show federal spending, revenues, and deficits under the assumption that the laws governing spending and taxes generally remain unchanged. Those projections are not intended to be a forecast of budgetary outcomes; rather, they are meant to provide a benchmark that policymakers can use to assess the potential effects of policy decisions.

The Congressional Budget Office's baseline projections for spending and revenues follow procedures set in law as well as long-standing guidelines. For example, those laws require CBO to incorporate the assumption that future discretionary funding will match amounts most recently provided, with adjustments for inflation.[1] Those provisions also require CBO to incorporate the assumption that laws governing mandatory spending will generally continue beyond their statutory expiration and that payments from trust funds would be made even after a program's balance was exhausted and annual dedicated revenues were inadequate to fund them. In contrast, projections of revenues generally reflect scheduled changes to provisions affecting the tax code, including changes in statutory tax rates.

In addition to being affected by rules about baseline construction, CBO's current projections are affected by assumptions about administrative actions. One of those assumptions is the end date of the public health emergency stemming from the coronavirus pandemic. (The Secretary of Health and Human Services officially determines when to lift the emergency declaration.) Specifically, outlays for certain mandatory spending programs and revenue reductions from related tax credits might be larger or smaller depending on whether the public health emergency lasts longer or ends sooner than July 2023, the end date incorporated in CBO's baseline. That timing would also affect CBO's projections of the deficit (see Box 5-1).

This chapter shows how different assumptions about future legislated policies would affect CBO's budget projections. The first part of the chapter examines alternative assumptions about future funding for discretionary programs, and the second part discusses the continuation of certain revenue provisions currently scheduled to change. (For a discussion about how laws governing CBO's projections for mandatory spending affect the baseline, see Chapter 3.) The estimated effects of those alternative assumptions do not account for any resulting changes to the economy or for how those changes could, in turn, affect the budget.

Most of the alternatives examined in this chapter would increase projected deficits and debt.[2]

Alternative Assumptions About Discretionary Funding

For the most part, current law does not specify discretionary appropriations for years after 2022. However, section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177) requires projections of funding for discretionary programs to grow each year with inflation. CBO's projections translate that funding into outlays by estimating how quickly agencies will spend the money provided.

1. For nearly all discretionary spending, the measure CBO uses to adjust funding for future years is a weighted mixture of the gross domestic product price index and the employment cost index for wages and salaries of workers in private industry. The weights are determined using data from the Office of Management and Budget that indicate how much of a program's funding is spent on compensation for federal employees and how much for other purposes.

2. For a discussion of the consequences of higher deficits and debt, see Congressional Budget Office, *The Economic Effects of Waiting to Stabilize the Federal Debt* (April 2022), www.cbo.gov/publication/57867.

Box 5-1.

Effects of the Pandemic-Related Public Health Emergency on CBO's Baseline Projections

On January 31, 2020, the Secretary of Health and Human Services declared a public health emergency in response to the coronavirus pandemic. Nearly two months later, lawmakers enacted the Families First Coronavirus Response Act (FFCRA, Public Law 116-127), which linked the operation of some programs to that public health emergency. Most notably, that law increased Medicaid's federal medical assistance percentage (or FMAP, the formula that determines the matching amount the federal government pays to states for Medicaid) by 6.2 percentage points for most categories of enrollees for the duration of the public health emergency. To receive the enhanced federal funding, states must provide continuous coverage, which generally allows people to remain enrolled in Medicaid during that period regardless of changes in their circumstances. (Typically, Medicaid enrollees must meet certain financial guidelines to remain enrolled in the program.)

As a result, the Congressional Budget Office's baseline projections—especially those that cover the next few years—depend on when the emergency ends. The projections in this report are based on the expectation that the emergency declaration will be lifted in July 2023. That could occur sooner or later, however. (The public health emergency was most recently renewed on April 16, 2022, for an additional 90 days.)

If the public health emergency ended a year later, in July 2024, additional Medicaid outlays, along with related changes to revenues and outlays, would increase deficits in the baseline by $72 billion over the 2023–2032 period.[1] (The 10-year deficit in CBO's current baseline projections is $15.7 trillion.) That increase would occur for two major reasons. First, the FMAP increase provided under the FFCRA would persist in states that maintained continuous coverage. Second, enrollment in those states would stay elevated until July 2024 and would then slowly decline through 2025.

If the public health emergency ended nine months sooner, in September 2022, changes to Medicaid outlays and other related changes would reduce deficits in CBO's baseline by $84 billion over the 2022–2032 period. Those savings would materialize because the FMAP increase would be shorter than currently expected, and the policy's effects on enrollment would end sooner. The savings realized from a shorter public health emergency would be greater than the costs of a longer emergency because more states would be affected by the former; CBO expects some states to choose to discontinue receiving the enhanced FMAP in 2023 even if the public health emergency is extended.

1. That estimate includes potential interactions with enrollment in employer-sponsored health insurance plans, the insurance marketplaces created under the Affordable Care Act, and other health insurance programs. It also includes interactions with Medicare Part D and title IV-E (federally subsidized) foster care.

However, lawmakers can, and do, set funding at amounts that differ from what is projected in the baseline, which could lead to larger or smaller outlays.

To illustrate how discretionary spending could differ from amounts in CBO's baseline projections, the agency estimated budgetary outcomes under three alternative assumptions about future funding (see Table 5-1). The alternative projections would increase future discretionary funding using a different growth rate, freeze discretionary funding at current amounts, or exclude projected additional funding for the Infrastructure Investment and Jobs Act (IIJA, P.L. 117-58).

Increase Discretionary Funding at the Growth Rate of Nominal GDP After 2022

Projecting discretionary funding using a measure that grows faster than the measure CBO currently uses would provide an alternative benchmark to CBO's baseline projections of discretionary spending. If discretionary appropriations and obligation limitations for certain transportation programs instead grew at the rate of nominal gross domestic product (GDP), outlays would be $1.4 trillion higher—and thus the deficit would be $1.4 trillion larger—than they are in CBO's baseline and would amount to 6.9 percent of GDP by 2032 rather than the 6.2 percent projected in the baseline (see Figure 5-1).[3] The debt-service costs associated with those additional outlays would amount to $131 billion. (Debt

3. Funding for most ground and air transportation programs is mandatory, but lawmakers typically limit the ability of the Administration to obligate that funding in annual appropriation acts. Like other appropriations, those limitations are projected to grow with inflation in CBO's baseline. Outlays that result from those limitations are considered discretionary.

Table 5-1.

Budgetary Effects of Selected Alternative Assumptions About Future Discretionary Funding

Billions of Dollars

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Increase Discretionary Funding at the Growth Rate of Nominal GDP After 2022													
Increase (-) in the deficit, excluding debt service	0	-18	-40	-62	-84	-108	-136	-168	-205	-244	-286	-312	-1,351
Debt-service costs	0	*	-1	-2	-5	-7	-11	-16	-22	-29	-38	-15	-131
Freeze Discretionary Funding at the 2022 Amount													
Decrease in the deficit, excluding debt service	0	34	76	120	164	210	259	306	357	409	461	603	2,395
Debt-service savings	0	*	2	5	9	14	21	30	41	53	68	30	243
Exclude Projected Additional Funding for the IIJA[a]													
Decrease in the deficit, excluding debt service	0	3	15	34	50	74	98	120	138	150	159	175	839
Debt-service savings	0	*	*	1	2	4	6	10	14	19	24	7	80

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

In CBO's baseline projections, discretionary funding grows from its current amount at the projected rate of inflation, which is measured by a weighted mixture of the GDP price index and the employment cost index for wages and salaries of workers in private industry.

Estimates do not account for how the alternatives could affect the economy or for how those potential changes could, in turn, affect the budget.

Debt service is the change in interest payments resulting from an increase or decrease in estimates of the deficit.

GDP = gross domestic product; IIJA = Infrastructure Investment and Jobs Act; * = between -$500 million and $500 million.

a. Funding provided by the IIJA would remain at the amounts specified in law instead of growing with inflation (as it does under the rules that govern how CBO constructs its baseline projections).

service is the change in interest payments resulting from an increase or decrease in estimates of the deficit.)

Freeze Discretionary Funding at the 2022 Amount

Projecting spending under the assumption that discretionary funding was frozen at the 2022 amount provides another alternative benchmark to CBO's baseline projections of discretionary spending. (In the case of appropriations that have already been provided for years beyond the current year, discretionary funding would be frozen at the latest amount provided in advance.) If lawmakers generally froze appropriations and obligation limitations for certain transportation programs at the nominal 2022 amount from 2023 through 2032, outlays would be $2.4 trillion less over that period than the amount projected in the baseline, excluding associated debt-service savings (which would amount to $243 billion). In 2032, discretionary outlays under such a freeze would total 4.9 percent of GDP rather than the 6.2 percent projected in the baseline.

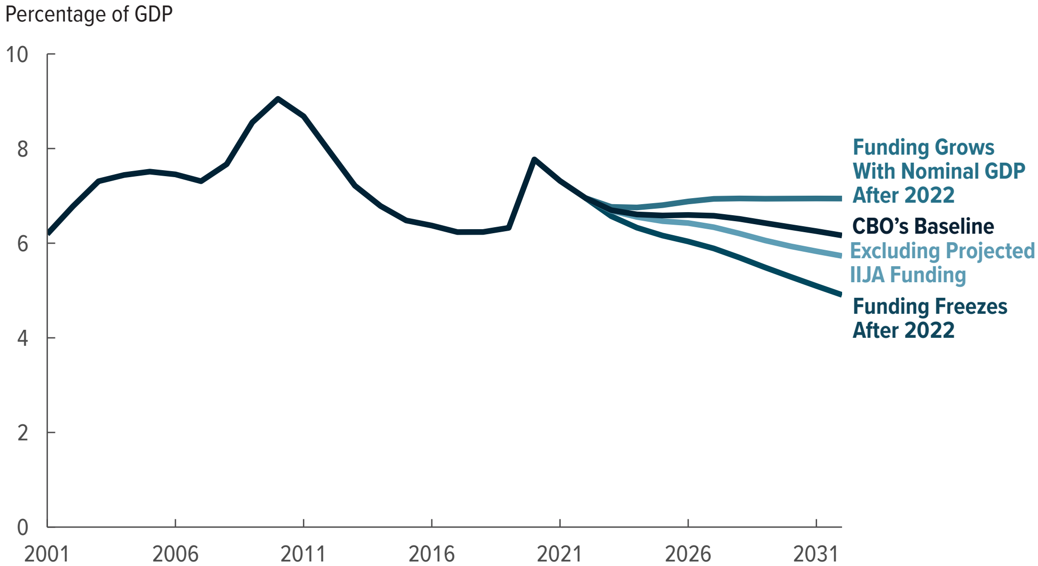
Exclude Projected Additional Funding for the IIJA

The Infrastructure Investment and Jobs Act—signed into law in November 2021—appropriated funds for investment in transportation programs, environmental programs, and other programs for each year from 2022 through 2026. The total funding provided by the IIJA decreases each year over that period as funding for different programs ends in different years.

In CBO's baseline, however, funding related to the IIJA increases each year. That is because, in consultation with the budget committees, CBO applied its typical baseline construction to that funding. As a result, for future years in which the IIJA has not provided funding, CBO projected funding by adjusting existing appropriations for inflation. (For more information about how the IIJA's funding affects CBO's discretionary baseline, see Box 3-4 on page 76.)

Figure 5-1.

Discretionary Outlays in CBO's Baseline and Under Three Alternatives



Under a scenario in which appropriations grew with nominal GDP, discretionary outlays as a share of the economy would remain relatively steady. Under the other three scenarios, including the scenario underlying CBO's baseline budget projections, outlays would fall to or below recent historical lows as a percentage of GDP.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#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. Outlays have been adjusted to exclude the effects of those shifts.

GDP = gross domestic product; IIJA = Infrastructure Investment and Jobs Act.

If, instead, CBO had excluded the additional projected funding for the IIJA (counting just the funding specifically provided by the law), discretionary outlays would be $839 billion lower through 2032 than they are in CBO's baseline, excluding debt-service savings. Those debt-service savings would reduce interest payments by $80 billion, in CBO's estimation. Under that scenario, discretionary outlays would amount to 5.7 percent of GDP in 2032 rather than the 6.2 percent projected in CBO's baseline.

Alternative Assumptions About Revenue Policies

CBO's baseline projections generally reflect the effects of scheduled changes in revenue provisions, including the assumption that temporary provisions will expire as scheduled under current law and that recently expired provisions will not be retroactively extended.[4] If certain temporary revenue provisions were instead made permanent, though, or if selected provisions were retroactively extended, revenues would differ from amounts in CBO's baseline projections. To illustrate how revenues could differ, the agency estimated budgetary outcomes under seven alternative assumptions. The first four assumptions relate to provisions of the 2017 tax act (P.L. 115-97), and the last three address other revenue provisions.

To assess those budgetary outcomes, CBO mainly used revenue estimates prepared by the staff of the Joint Committee on Taxation (JCT), which are the official estimates for most tax legislation considered by the Congress. (CBO estimated the cost of the alternative that would extend certain trade promotion programs, as well as the debt-service costs associated with each revenue alternative.) Although estimates for each of the individual provisions would depend on the order in which they were estimated (because of interactions), the total effect of extending all alternative policies discussed in this chapter would be approximately equal to the sum of the estimates for each alternative.[5]

4. The Balanced Budget and Emergency Deficit Control Act of 1985 requires that CBO's baseline projections incorporate the assumption that expiring excise taxes dedicated to trust funds will be extended.

5. Additional detailed estimates of the budgetary effects of the alternative revenue policies are included in the supplemental data for CBO's revenue projections, by category, that accompany this report at www.cbo.gov/publication/57950#data.

Table 5-2.

Budgetary Effects of Selected Alternative Assumptions About Future Revenue Policies Related to the 2017 Tax Act

Billions of Dollars

												Total	
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2023–2027	2023–2032
Extend the 2017 Tax Act's Changes to Individual Income Tax Provisions[a]													
Increase (-) in the deficit, excluding debt service	0	*	*	-6	-167	-301	-295	-307	-317	-328	-342	-474	-2,064
Debt-service costs	0	*	*	*	-3	-9	-18	-27	-37	-48	-59	-12	-201
Extend Higher Estate and Gift Tax Exemptions[b]													
Increase (-) in the deficit, excluding debt service	0	0	*	-1	-2	-13	-15	-16	-17	-18	-20	-16	-102
Debt-service costs	0	0	*	*	*	*	-1	-1	-2	-2	-3	*	-9
Extend the 2017 Tax Act's Changes to the Tax Treatment of Investment Costs[c]													
Increase (-) in the deficit, excluding debt service	0	-61	-46	-48	-48	-49	-44	-34	-28	-24	-21	-253	-404
Debt-service costs	0	-1	-2	-3	-5	-6	-8	-9	-11	-12	-13	-18	-70
Maintain Certain Business Tax Provisions Altered by the 2017 Tax Act[d]													
Increase (-) in the deficit, excluding debt service	0	0	0	0	-10	-18	-19	-19	-19	-20	-20	-28	-125
Debt-service costs	0	0	0	0	*	-1	-1	-2	-2	-3	-4	-1	-12

Data sources: Congressional Budget Office; staff of the Joint Committee on Taxation. See www.cbo.gov/publication/57950#data.

The estimates of the effects on the deficit are from the staff of the Joint Committee on Taxation and are preliminary. The estimates of debt-service costs are from CBO. The effects under the alternative assumptions are estimated relative to current law and incorporate the economic projections that underlie CBO's May 2022 baseline. The estimates do not account for how the alternatives could affect the economy or for how those potential changes could, in turn, affect the budget. The estimates include the effects on outlays of changes in refundable tax credits.

Debt service is the change in interest payments resulting from an increase or decrease in estimates of the deficit.

* = between -$500 million and zero.

a. Permanently extend many provisions of the 2017 tax act (Public Law 115-97)—most significantly, the provisions that lower individual income tax rates, expand the income tax base, expand the child tax credit, maintain the 20 percent deduction for certain business income, and reduce the amount of income subject to the alternative minimum tax. For detailed estimates, see the supplemental data that accompany this report.

b. Extend the 2017 tax act's expansion of the exemption amount for estate and gift taxes.

c. Extend the changes made by the 2017 tax act that allow businesses with large amounts of investments to expense (immediately deduct from their taxable income) the cost of their investment in equipment and certain other property. Under current law, the portion of those expenses that may be deducted (for equipment and certain other property) is 100 percent in 2022, 80 percent in 2023, 60 percent in 2024, 40 percent in 2025, and 20 percent in 2026. (After that year, the provisions expire.) The 100 percent allowance would be extended permanently beyond 2022 in this alternative. Additionally, the 2017 tax act included a scheduled change starting in 2022 that requires research and development costs to be deducted over a period of five years rather than immediately. Those costs could continue to be deducted immediately under this alternative, retroactive to the beginning of 2022. For detailed estimates, see the supplemental data that accompany this report.

d. Maintain certain tax policies that affect businesses rather than allowing them to change as scheduled under current law. Some of those policies are currently scheduled to expire and other changes have delayed effective dates. For detailed estimates, see the supplemental data that accompany this report.

Extend the 2017 Tax Act's Changes to Individual Income Tax Provisions

Most of the individual income tax provisions of the 2017 tax act are slated to expire at the end of calendar year 2025. The expiring provisions affect major elements of the individual income tax code, including statutory tax rates and brackets, allowable deductions, the size and refundability of the child tax credit, the 20 percent deduction for certain business income, and the income levels at which the alternative minimum tax takes effect.[6]

6. The alternative minimum tax is similar to the regular income tax but includes fewer exemptions, deductions, and rates. People who file individual income tax returns must calculate the tax owed under each system and pay the larger of the two amounts.

Table 5-3.

Budgetary Effects of Selected Alternative Assumptions About Other Future Revenue Policies

Billions of Dollars

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Extend Expiring Tax Provisions Other Than Those From the 2017 Tax Act[a]													
Increase (-) in the deficit, excluding debt service	0	-3	-4	-5	-11	-14	-16	-16	-17	-18	-20	-37	-123
Debt-service costs	0	*	*	*	-1	-1	-1	-2	-2	-3	-4	-2	-14
Retroactively Extend Certain Expired Tax Provisions[b]													
Increase (-) in the deficit, excluding debt service	0	-2	-2	-2	-2	-3	-4	-5	-5	-6	-7	-11	-37
Debt-service costs	0	*	*	*	*	*	*	-1	-1	-1	-1	-1	-4
Extend Trade Promotion Programs[c]													
Increase (-) in the deficit, excluding debt service	0	-2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5	-11
Debt-service costs	0	*	*	*	*	*	*	*	*	*	*	*	-2

Data sources: Congressional Budget Office; staff of the Joint Committee on Taxation. See www.cbo.gov/publication/57950#data.

The estimates of the effects on the deficit of extending expired or expiring tax provisions are from the staff of the Joint Committee on Taxation and are preliminary. The estimates of the effects on the deficit of extending trade promotion programs and all the estimates of debt-service costs are from CBO. The effects under the alternative assumptions are estimated relative to current law and incorporate the economic projections that underlie CBO's May 2022 baseline. The estimates do not account for how the alternatives could affect the economy or for how those potential changes could, in turn, affect the budget. The estimates include the effects on outlays of changes in refundable tax credits.

Debt service is the change in interest payments resulting from an increase or decrease in estimates of the deficit.

* = between -$500 million and zero.

a. Extend tax provisions that have been extended in the past and are scheduled to expire. For detailed estimates, see the supplemental data that accompany this report.

b. Extend tax provisions (none of which are related to legislation enacted in response to the coronavirus pandemic) that expired at the end of 2021. For detailed estimates, see the supplemental data that accompany this report.

c. Extend several trade promotion programs that are scheduled to expire over the 2023–2032 period and reinstate the General Schedule of Preferences, which expired at the end of 2020.

According to JCT's estimates, if the expiring individual income tax provisions of the 2017 tax act were extended, deficits would be larger than those in CBO's baseline, on net, by $2.1 trillion over the 2023–2032 period, excluding debt-service costs (see Table 5-2 on page 105). Most of the effects would occur after 2026. Debt-service costs would add $201 billion to those deficits.

Extend Higher Estate and Gift Tax Exemptions

The 2017 tax act also temporarily doubled the exemption amount for estate and gift taxes. That change expires at the end of calendar year 2025. If that expansion was extended, deficits would increase by $102 billion over the 2023–2032 period (excluding debt-service costs), JCT estimates. Again, most of those effects would occur after 2026. Debt-service costs would add $9 billion to those deficits.

Extend the 2017 Tax Act's Changes to the Tax Treatment of Investment Costs

The 2017 tax act made two major changes to the way that businesses' investment costs are treated for tax purposes. First, it temporarily expanded a provision known as bonus depreciation, which allows businesses to immediately deduct a portion of the cost of certain investments. Bonus depreciation was increased to 100 percent of the cost of such investments through 2022; it is then scheduled to phase down between 2023 and 2026. Additionally, starting in 2022, companies must deduct research and development expenses over five years rather than immediately deducting those expenses. Together, extending the expansion of bonus depreciation (and thus averting the phasedown) and retroactively allowing for the continued immediate deduction of research and development expenses would increase deficits by $404 billion (excluding debt-service costs) over the 2023–2032 period, JCT estimates. Debt-service costs would add $70 billion to those deficits.

Maintain Certain Business Tax Provisions Altered by the 2017 Tax Act

Some provisions of the 2017 tax act that affect business taxes have scheduled expiration dates or include changes that do not take effect for several years. Such policies include reductions in the size of the deduction for certain types of foreign income and an increase in the tax rate applied for the purposes of the base erosion minimum tax (a provision put in place to keep corporations from avoiding tax liability by shifting profits out of the United States). If those scheduled expirations and changes did not occur, deficits would increase by $125 billion over the 2023–2032 period (excluding debt-service costs), JCT estimates. Debt-service costs would add $12 billion to those deficits.

Extend Expiring Tax Provisions Other Than Those From the 2017 Tax Act

In addition to the revenue provisions described above, 16 provisions that were in place before the start of the pandemic and that have been extended in the past are set to expire before the end of the 10-year projection period. Those provisions include tax credits for energy investment and for businesses that hire people from certain designated groups (qualified veterans, summer youth employees, and people who have been unemployed for at least 27 consecutive weeks, for example). If those temporary tax provisions were permanently extended, the deficit would be larger than amounts projected in the baseline by a total of $123 billion (excluding debt-service costs) over the 2023–2032 period, in JCT's estimation (see Table 5-3 on page 106). Debt-service costs would add $14 billion to those deficits.

Retroactively Extend Certain Expired Tax Provisions

An additional 18 revenue provisions that were in place before the start of the pandemic and that have been extended in the past expired at the end of 2021. Among those expired provisions are ones that provided tax credits for certain producers of clean energy and that allowed certain homeowners to deduct mortgage insurance premiums. According to JCT, if those provisions were retroactively made permanent, the deficit would be $37 billion larger over the 2023–2032 period. Debt-service costs would add $4 billion to those deficits.

Extend Trade Promotion Programs

Trade promotion programs are programs that reduce or eliminate customs duties on certain products from participating countries. Three of those programs—administered pursuant to the African Growth and Opportunity Act, the Caribbean Basin Trade Partnership Act, and acts granting trade preferences to Haiti—are set to expire at various points between 2023 and 2032. Furthermore, the Generalized System of Preferences (the largest and oldest U.S. trade preference program) expired in December 2020. If each of those programs was extended until 2032 and the Generalized System of Preferences was reinstated retroactive to 2021, deficits would increase by $11 billion over the 10-year period, in CBO's estimation. Additional interest payments on the debt from those larger deficits would amount to $2 billion over the same period.

Appendix A: Changes in CBO's Baseline Projections Since July 2021

Overview

The Congressional Budget Office estimates that if no new legislation affecting spending and revenues is enacted, the budget deficit for fiscal year 2022 will total $1.0 trillion. That amount is $118 billion (or 10 percent) less than the $1.2 trillion deficit the agency estimated in July 2021, when it last updated its baseline budget projections.[1] CBO has increased its estimates of both revenues and outlays for the year. Revenues are $0.4 trillion (or 10 percent) higher in the current baseline projections than they were in the previous projections, and outlays are up by $0.3 trillion (or 6 percent).

CBO now projects that if current laws generally remained in place, the cumulative deficit for the 2022–2031 period would be $14.5 trillion. That amount is $2.4 trillion (or 20 percent) more than the $12.1 trillion the agency projected in July 2021 (see Figure A-1). That increase is the combined result of a $5.8 trillion (or 9 percent) increase in projected outlays and a $3.4 trillion (or 7 percent) increase in projected revenues over the 2022–2031 period.

Primarily because of the increase in deficits, debt held by the public reaches $37.9 trillion by the end of 2031 in CBO's current projections—$2.1 trillion more than the $35.8 trillion the agency projected in July 2021.[2] Nominal gross domestic product (GDP) in 2031 is also now larger than previously projected. That GDP growth dampens the effect of rising debt measured in relation to the size of the economy. Debt is currently projected to reach 107 percent of GDP in 2031—only slightly more than the 106 percent of GDP that CBO projected in July 2021.

1. See Congressional Budget Office, *Additional Information About the Updated Budget and Economic Outlook: 2021 to 2031* (July 2021), www.cbo.gov/publication/57263.

2. For a discussion of other factors that affect the change in debt held by the public, see the section titled "Relationship Between Debt and Deficits" in Chapter 1.

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

- *Legislative changes* result from laws enacted since the agency published its previous baseline projections and generally reflect the budgetary effects reported in CBO's cost estimates when the legislation was enacted.[3]
- *Economic changes* arise from revisions the agency has made to its economic forecast (including those made to incorporate the macroeconomic effects of recently enacted legislation).[4]
- *Technical changes* are revisions to projections that are neither legislative nor economic.

Changes in all three categories increased revenues and outlays over the 2022–2031 period (see Table A-1 on page 112). Legislative and economic changes boosted projected deficits, whereas technical changes reduced them:

- Legislative changes *increased* projected deficits by $2.4 trillion, mostly because of increases in discretionary outlays resulting from provisions of the Infrastructure Investment and Jobs Act (IIJA; Public Law 117-58) and the Consolidated Appropriations Act, 2022 (2022 CAA; P.L. 117-103), and from the assumption, specified in law, that appropriations in future years will equal those in 2022 with adjustments for inflation.

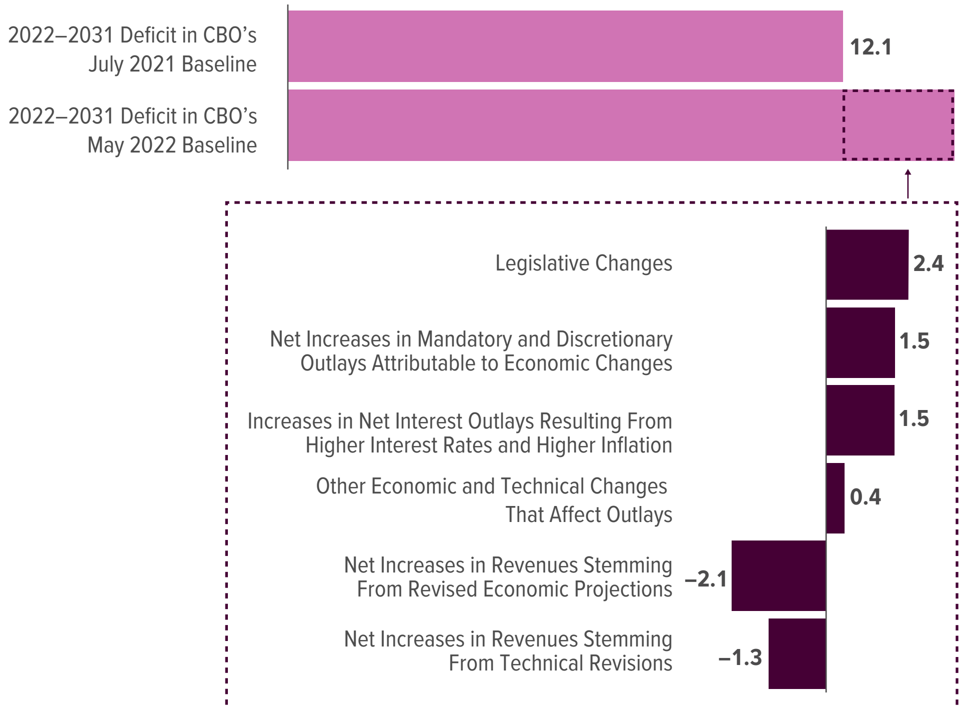
3. The baseline projections described in this report incorporate the effects of legislation enacted through April 8, 2022. The Suspending Normal Trade Relations With Russia and Belarus Act (Public Law 117-110), enacted on that date, is the most recent law whose budgetary effects are reflected in this analysis.

4. The current budget projections are based on CBO's latest economic forecast, which was completed on March 2, 2022. The economic changes discussed in this report reflect differences between that forecast and CBO's July 2021 forecast.

Figure A-1.

Changes in CBO's Baseline Projections of the 10-Year Deficit Since July 2021

Trillions of Dollars



The cumulative deficit for 2022 to 2031 is $2.4 trillion larger in CBO's current baseline projections than it was in the agency's July 2021 projections. Legislative changes account for most of that increase. Revenue increases, which reduce deficits, were mostly offset by economic changes that increased outlays, particularly those for interest and Social Security.

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

- On net, economic changes *increased* deficits by $1.1 trillion. CBO revised its projections of outlays upward by $3.1 trillion because of changes made to its economic projections, including increases in interest rates and inflation. That increase in outlays was partially offset by a $2.1 trillion increase in projected revenues associated with higher projections of GDP.
- Technical changes in the agency's projections of revenues and outlays *decreased* projected deficits over the period by a total of $1.0 trillion, on net. The largest technical revision in a single budget category was an increase of $0.8 trillion in CBO's projections of individual income tax revenues, which reduced deficits.

As a result of those changes, *primary* deficits—that is, deficits excluding net outlays for interest—are now projected to total $0.6 trillion more over the 2022–2031 period than CBO projected in July 2021. The agency's projections of net interest outlays increased by more than three times that amount—$1.9 trillion—over that period.

Legislative Changes

To account for legislation enacted after the July 2021 baseline projections were prepared, CBO increased its estimate of the deficit for 2022 by $44 billion and its projections of deficits over the 2022–2031 period by $2.4 trillion (see Table A-1).[5] Nearly all the changes were to outlays. Those changes are mostly the result of increased discretionary funding provided by the IIJA and other appropriation acts, including the 2022 CAA, and of CBO's projecting such funding into future years. Other legislation enacted since CBO prepared its previous baseline had a minor effect on the agency's projections.

Changes in Outlays

Incorporating the effects of recently enacted legislation into CBO's baseline projections increased outlays in 2022 by $52 billion (or 1 percent) and outlays over the 2022–2031 period by $2.4 trillion (or 4 percent).

5. The July 2021 baseline projections incorporated the effects of legislation enacted through May 18, 2021.

Most of that additional spending is for discretionary programs.[6]

Discretionary Outlays. The increase in projected outlays is roughly split between new funding provided by the IIJA and additional funding provided by other appropriation legislation.

The IIJA provided discretionary funding (nearly all of which was designated as an emergency requirement) mainly for transit infrastructure, pollution control and abatement, broadband deployment, and energy programs. The act provided $163 billion in supplemental appropriations for 2022 and $283 billion in advance appropriations for the 2023–2031 period.[7] (See Box 3-4 on page 76 for more details about the IIJA.)

After consulting with the House and Senate Budget Committees, CBO followed provisions of law that require the agency to project future funding on the basis of existing appropriations and projected that the additional funding provided in the IIJA would be provided in future years with adjustments for inflation.[8] Accordingly, in CBO's baseline projections, discretionary funding attributable to the IIJA grows from $163 billion in 2022 to $187 billion in 2031. That additional budget authority in turn results in additional outlays. Those outlays grow steadily throughout the period and add $1.1 trillion to projected outlays over the 2022–2031 period.[9]

The other half of the increase in discretionary outlays stems from other appropriations enacted this year, including emergency funding provided as part of continuing resolutions and full-year funding provided by the 2022 CAA. Together, those laws provided defense and nondefense discretionary appropriations for fiscal year 2022 that were substantially larger than the amounts projected in CBO's July 2021 baseline.

As a result of the 2022 CAA, nonemergency discretionary funding for this year is $56 billion more than it was in CBO's July 2021 projections.[10] CBO increased its projections of budget authority throughout the projection period accordingly, and in turn, it raised its projections of outlays for the entire 2022–2031 period by $627 billion—$208 billion for defense and $419 billion for nondefense activities.

In addition to the IIJA funding, lawmakers have thus far provided $58 billion in funding for 2022 that was designated as an emergency requirement. (Including the IIJA funding, $221 billion in emergency funding has been appropriated for 2022 to date.) That amount is substantially more than the $10 billion in emergency funding

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

7. Funding designated as an emergency requirement is exempt from certain budget enforcement rules. Supplemental appropriations are provided by appropriation legislation enacted in addition to a regular annual appropriation act.

8. In accordance with section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985 (P.L. 99-177), 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.

9. Almost two-thirds ($0.7 trillion) of that increase stems from the assumption that the funding provided by the IIJA would continue to be provided annually in future years. In its cost estimate, CBO estimated that outlays stemming from the IIJA would climb slowly for the first few years, peak in 2026, and fall through 2031; in all, the IIJA would increase discretionary outlays by $415 billion over the 2022–2031 period. Unlike the agency's baseline projections, the cost estimate—in keeping with CBO's standard practice—reflected only the funding provided by the act; it did not reflect the assumption that such funding would continue to be provided in future years. See Congressional Budget Office, cost estimate for Senate Amendment 2137 to H.R. 3684, the Infrastructure Investment and Jobs Act, as proposed on August 1, 2021 (revised August 9, 2021), www.cbo.gov/publication/57406. In addition to providing funding, the bill delayed the implementation of a rule affecting rebates for prescription drugs; established reporting requirements for digital assets; extended certain fees, taxes, and budget cuts; rescinded certain funds; and made other changes.

10. Each year, some mandatory programs are modified by provisions in annual appropriation acts (often referred to as CHIMPs). Such modifications may increase or decrease spending for a given program, and for budget enforcement procedures, they are considered to increase or decrease the amount of discretionary budget authority attributed to the appropriation acts that make the changes. Ultimately, those effects are applied in the budget to the relevant mandatory programs. In CBO's cost estimate for the 2022 CAA, changes in mandatory programs that were credited against discretionary budget authority decreased discretionary funding in 2022 by $14 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 2022 in the baseline is higher than the amount shown in the cost estimate for the CAA, which was partially offset by those reductions in mandatory spending.

Table A-1.

Changes in CBO's Baseline Projections of the Deficit Since July 2021

Billions of Dollars

											Total	
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2022–2026	2022–2031
Deficit in CBO's July 2021 Baseline	-1,153	-789	-753	-998	-1,049	-1,077	-1,395	-1,363	-1,661	-1,855	-4,741	-12,093
						Legislative Changes						
Changes in Revenues												
Individual income taxes	8	-1	1	2	2	3	3	3	3	4	12	28
Excise taxes	1	2	2	2	2	2	2	2	2	2	8	19
Other	*	*	*	*	*	*	1	1	1	1	1	4
Total Change in Revenues	**9**	**1**	**3**	**4**	**5**	**5**	**6**	**6**	**6**	**7**	**22**	**51**
Changes in Outlays												
Discretionary												
Defense	14	25	30	34	36	37	39	40	41	42	138	337
Nondefense	39	94	148	178	208	229	243	252	261	269	667	1,922
Subtotal	53	118	178	212	244	266	282	292	302	311	805	2,259
Mandatory	-1	-22	-17	-18	-5	-2	-4	-4	-1	-23	-63	-98
Net Interest												
Debt Service[a]	*	2	5	10	17	24	32	41	51	62	34	245
Total Change in Outlays	**52**	**98**	**167**	**204**	**255**	**288**	**310**	**329**	**352**	**350**	**777**	**2,406**
Increase (-) in the Deficit From Legislative Changes	**-44**	**-97**	**-164**	**-199**	**-251**	**-283**	**-305**	**-323**	**-346**	**-343**	**-755**	**-2,355**
						Economic Changes						
Changes in Revenues												
Individual income taxes	114	122	113	101	103	108	116	133	154	172	551	1,235
Payroll taxes	54	70	77	80	80	80	81	86	93	101	362	802
Federal Reserve remittances	-12	-112	-111	-81	-55	-41	-22	-6	2	8	-371	-430
Corporate income taxes	23	38	50	49	40	32	30	33	37	39	200	372
Other	7	8	9	9	9	7	6	7	9	10	41	80
Total Change in Revenues	**186**	**126**	**138**	**157**	**176**	**186**	**212**	**252**	**296**	**330**	**783**	**2,059**
Changes in Outlays												
Mandatory												
Social Security	17	59	80	86	89	92	92	96	101	106	330	817
Medicaid	5	10	12	13	14	14	15	16	16	17	54	132
Civilian and military retirement annuities	2	7	10	10	11	11	11	11	11	11	40	94
Veterans' benefits and services	2	7	8	9	9	9	10	8	10	10	36	83
Medicare	0	2	5	6	8	9	10	10	13	14	20	76
SNAP	*	6	8	8	8	8	8	8	8	8	30	72
Supplemental Security Income	1	3	4	4	4	4	5	4	4	5	16	38
Child nutrition	*	1	2	3	3	3	3	4	4	4	9	27
Other	-16	-9	-5	-3	-2	1	4	5	4	2	-34	-18
Subtotal	12	86	123	136	143	152	158	162	170	177	501	1,320
Discretionary	*	12	18	20	21	21	22	22	22	23	92	180
Net interest												
Effects of interest rates and inflation	70	118	173	193	189	177	168	154	132	114	743	1,487
Debt service[a]	-1	-1	2	7	13	18	22	26	29	30	21	146
Subtotal	69	117	176	200	201	195	190	180	161	144	763	1,633
Total Change in Outlays	**81**	**215**	**317**	**357**	**365**	**367**	**370**	**364**	**353**	**344**	**1,335**	**3,133**
Increase (-) or Decrease in the Deficit From Economic Changes	**105**	**-90**	**-179**	**-199**	**-189**	**-182**	**-159**	**-111**	**-57**	**-14**	**-552**	**-1,075**

Continued

Table A-1. Continued

Changes in CBO's Baseline Projections of the Deficit Since July 2021

Billions of Dollars

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total 2022–2026	Total 2022–2031
Technical Changes												
Changes in Revenues												
Individual income taxes	173	124	75	53	80	67	59	55	53	51	506	790
Corporate income taxes	55	39	38	32	32	33	38	44	50	54	196	415
Payroll taxes	19	-2	-2	*	2	4	5	4	2	3	18	35
Other	3	5	1	1	1	1	1	1	1	1	10	14
Total Change in Revenues	**251**	**165**	**113**	**86**	**115**	**105**	**102**	**104**	**105**	**108**	**729**	**1,253**
Changes in Outlays												
Mandatory												
Social Security	-8	-19	-28	-33	-35	-37	-38	-39	-41	-43	-124	-322
SNAP	54	55	23	16	18	17	18	19	22	24	166	266
Premium tax credits and related spending	11	6	10	13	14	16	16	18	19	22	55	144
Medicaid	39	79	14	-8	-6	-8	-11	-15	-17	-17	117	49
Medicare	19	18	6	6	1	-2	2	-13	-5	11	50	43
Supplemental Security Income	-3	-4	-4	-4	-4	-4	-5	-4	-5	-5	-19	-42
Coronavirus Relief Fund	38	1	2	0	0	0	0	0	0	0	41	41
Revisions to the costs of credit programs	-32	0	0	0	0	0	0	0	0	0	-32	-32
Earned income and child tax credits	24	-1	-2	-1	*	1	2	2	2	2	21	29
Student loans	34	1	*	-1	-1	-1	-1	-1	-1	-1	32	27
Other	-24	12	42	17	*	-13	-13	-6	-11	-11	47	-8
Subtotal	151	148	62	5	-13	-31	-31	-39	-38	-18	353	196
Discretionary	19	18	10	5	6	8	7	4	4	-2	58	79
Net interest												
Debt service[a]	7	11	12	11	8	3	-3	-8	-12	-16	49	13
Other	17	-3	-12	-13	-12	-6	-5	*	-1	*	-22	-35
Subtotal	24	8	1	-2	-3	-3	-8	-9	-13	-16	28	-22
Total Change in Outlays	**194**	**174**	**73**	**8**	**-10**	**-27**	**-32**	**-44**	**-47**	**-37**	**439**	**253**
Increase (-) or Decrease in the Deficit From Technical Changes	**56**	**-9**	**40**	**78**	**125**	**132**	**133**	**147**	**153**	**145**	**290**	**1,000**
All Changes												
Total Increase (-) or Decrease in the Deficit	**118**	**-195**	**-303**	**-320**	**-315**	**-333**	**-330**	**-288**	**-251**	**-212**	**-1,016**	**-2,429**
Deficit in CBO's May 2022 Baseline	-1,036	-984	-1,056	-1,318	-1,364	-1,409	-1,725	-1,651	-1,912	-2,067	-5,758	-14,523
Memorandum:												
Increase in Revenues	446	292	253	248	295	296	319	362	407	445	1,534	3,363
Increase in Outlays	328	488	556	568	610	628	649	649	658	657	2,551	5,793
Increase (-) or Decrease in the Primary Deficit[b]	211	-68	-122	-112	-100	-117	-115	-75	-52	-23	-191	-573
Increase (-) in the Deficit From the Increase in Net Interest Outlays	-94	-127	-181	-208	-215	-215	-215	-213	-199	-189	-825	-1,856

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

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

a. Debt service is the change in interest payments resulting from an increase or decrease in estimates of the deficit.

b. Primary deficits exclude net outlays for interest.

for 2022 that was in CBO's July 2021 baseline projections.[11] The largest non-IIJA emergency appropriations this year were to provide disaster relief, to assist evacuees from Afghanistan, and to respond to the war in Ukraine. Because that funding continues with adjustments for inflation in CBO's baseline projections, outlays over the 2022–2031 period are now projected to be $509 billion higher than they were projected to be in July 2021.

Mandatory Outlays. On net, new legislation affecting mandatory programs reduced estimated outlays in 2022 by $1 billion and projected outlays over the 2022–2031 period by $98 billion.[12] The largest changes stem from the IIJA, which reduced outlays in 2022 by $10 billion and outlays over the 2022–2031 period by $110 billion. The largest reductions occurred because the IIJA delayed implementation of a rule that would have eliminated the existing safe-harbor provision for pharmaceutical rebates, extended the guarantee fee that Fannie Mae and Freddie Mac assess on loans included in mortgage-backed securities, and rescinded previously enacted appropriations related to the coronavirus pandemic.[13] Those reductions were partially offset by the VOCA Fix to Sustain the Crime Victims Fund Act of 2021 (P.L.117-27), which increased outlays projected for the 2022–2031 period by $8 billion. Other laws had minimal net effects on mandatory outlays.

Net Interest Outlays. The changes that CBO made to account for legislation enacted since the July 2021 projections were made increased the agency's projections of the deficit for 2022 by $44 billion and its projections of the cumulative deficit for the 2022–2031 period by $2.1 trillion before debt-service costs are taken into account.[14] The additional federal borrowing stemming from those larger annual deficits added $245 billion to CBO's projections of net outlays for interest over the 2022–2031 period.

Changes in Revenues

To reflect enacted legislation, CBO increased its estimate of revenues in 2022 by $9 billion (or less than 1 percent) and its projections of revenues for the 2022–2031 period by $51 billion (or less than 1 percent). Most of those changes stemmed from provisions in the IIJA.

Individual Income Taxes. The agency increased its estimate of individual income tax revenues in 2022 by $8 billion (or less than 1 percent) and its projections of such revenues over the 2022–2031 period by $28 billion (or less than 1 percent). Most of the increase in 2022 is attributable to a provision of the IIJA that terminated tax credits for businesses that retained or rehired employees. (Those credits were originally enacted as part of the Coronavirus Aid, Relief, and Economic Security Act, P.L. 116-136.) The primary cause of the increases over the rest of the projection period was a provision requiring brokers who facilitate the transfer of digital assets (such as cryptocurrencies) to report information about such transactions to the Internal Revenue Service (IRS).

Excise Taxes. CBO increased its projections of excise tax revenues over the 2022–2031 period by $19 billion (or 2 percent). Nearly all of that change resulted from a provision of the IIJA that reinstated and modified certain Superfund excise taxes.

11. That increase stems from the treatment of emergency appropriations in CBO's July 2021 baseline. Although lawmakers enacted $192 billion in emergency funding in 2021, nearly all of that amount—$184 billion—was provided in response to the coronavirus pandemic. Because of the unusual size and nature of that pandemic-related funding, CBO, after consulting with the House and Senate Budget Committees, deviated from the standard procedures that it uses to construct its baseline and did not extrapolate into future years that $184 billion when projecting discretionary budget authority. Thus, in its previous baseline, CBO projected only $10 billion in emergency funding in 2022.

12. Mandatory spending consists of outlays for some federal benefit programs, such as Social Security, Medicare, and Medicaid, and certain other payments to people, businesses, nonprofit institutions, and state and local governments. It is governed by statutory criteria and is not normally controlled by the annual appropriation process.

13. The IIJA delayed from 2023 to 2026 the implementation of a rule that would have eliminated the existing "safe harbor" for rebates paid by pharmaceutical manufacturers to health plans and pharmacy benefit managers (PBMs) in Medicare Part D. The safe harbor rule protects those parties from liability or penalty in specific situations defined in the regulations that implemented the anti-kickback statute, which prohibits offering or accepting payments to induce use of services reimbursable under federal health care programs. Eliminating the safe harbor would effectively make it illegal for drug manufacturers to pay post-sale rebates to health plans or PBMs in those programs in return for coverage or preferred treatment of their drug. CBO expects that enacting the rule and thus eliminating the safe harbor would result in pharmaceutical manufacturers' withholding some of the discounts that they previously negotiated and would thus increase federal outlays for prescription drugs.

14. Debt service is the change in interest payments resulting from an increase or decrease in estimates of the deficit.

Other Revenues. Laws enacted since the July 2021 baseline projections were made led CBO to increase its projections of revenues from all other sources over the 2022–2031 period by a total of $4 billion (or less than 1 percent), on net. A few provisions were responsible for most of that increase. Like individual income taxes, corporate income taxes were boosted by the provision of the IIJA that requires information about transfers of digital assets to be reported to the IRS. The Suspending Normal Trade Relations With Russia and Belarus Act (P.L. 117-110) increased the tariff rates applicable to most imports from those countries, thereby boosting projections of customs duties. And a provision of the IIJA related to the reclamation of land with abandoned mines led CBO to increase its estimates of other miscellaneous receipts.

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). The revisions that CBO made to its projections of those economic factors *decreased* its estimate of the deficit in 2022 by $105 billion—the net effect of an increase in estimated revenues that is partially offset by an increase in projected outlays, mostly for interest (see Table A-1 on page 112). However, economic changes *increased* the cumulative deficit over the 2022–2031 period in CBO's projections by $1.1 trillion. That increase is the net result of a $3.1 trillion increase in outlays that is partially offset by a $2.1 trillion increase in revenues.

Changes in Outlays

CBO's revisions to its economic forecast increased its estimate of outlays for the current year by $81 billion (or 1 percent). CBO now projects that in later years, inflation, interest rates, and wages will be higher than it projected in July 2021. On net, those revisions increased projected outlays over the 2022–2031 period by $3.1 trillion (or 5 percent).

Mandatory Outlays. Economic changes increased CBO's estimate of mandatory outlays in 2022 by $12 billion (or less than 1 percent), on net. Projections of mandatory outlays from 2022 to 2031 increased by $1.3 trillion (or 4 percent). Upward revisions to projected outlays for Social Security account for about 60 percent of that increase.

Social Security. Projected outlays for Social Security from 2022 to 2031 increased by a total of $817 billion (or 6 percent) because of economic changes. CBO now projects 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. As a result, the agency's projections of Social Security benefits paid over the 2022–2031 period increased by $671 billion. The COLA that took effect in January 2022 was 5.9 percent, rather than the 3.8 percent that CBO projected it to be in July 2021. Next year's COLA is currently projected to be 6.0 percent; CBO previously anticipated that it would be 2.2 percent. The agency increased its estimate of the 2024 COLA by a smaller amount—0.6 percentage points. CBO's current projections of the COLAs for 2025 to 2031 are within 0.2 percentage points of its previous estimates. In addition, CBO increased its projections of average wages by about 5 percent, which boosted projected Social Security benefits for new recipients over the 2022–2031 period by $145 billion.

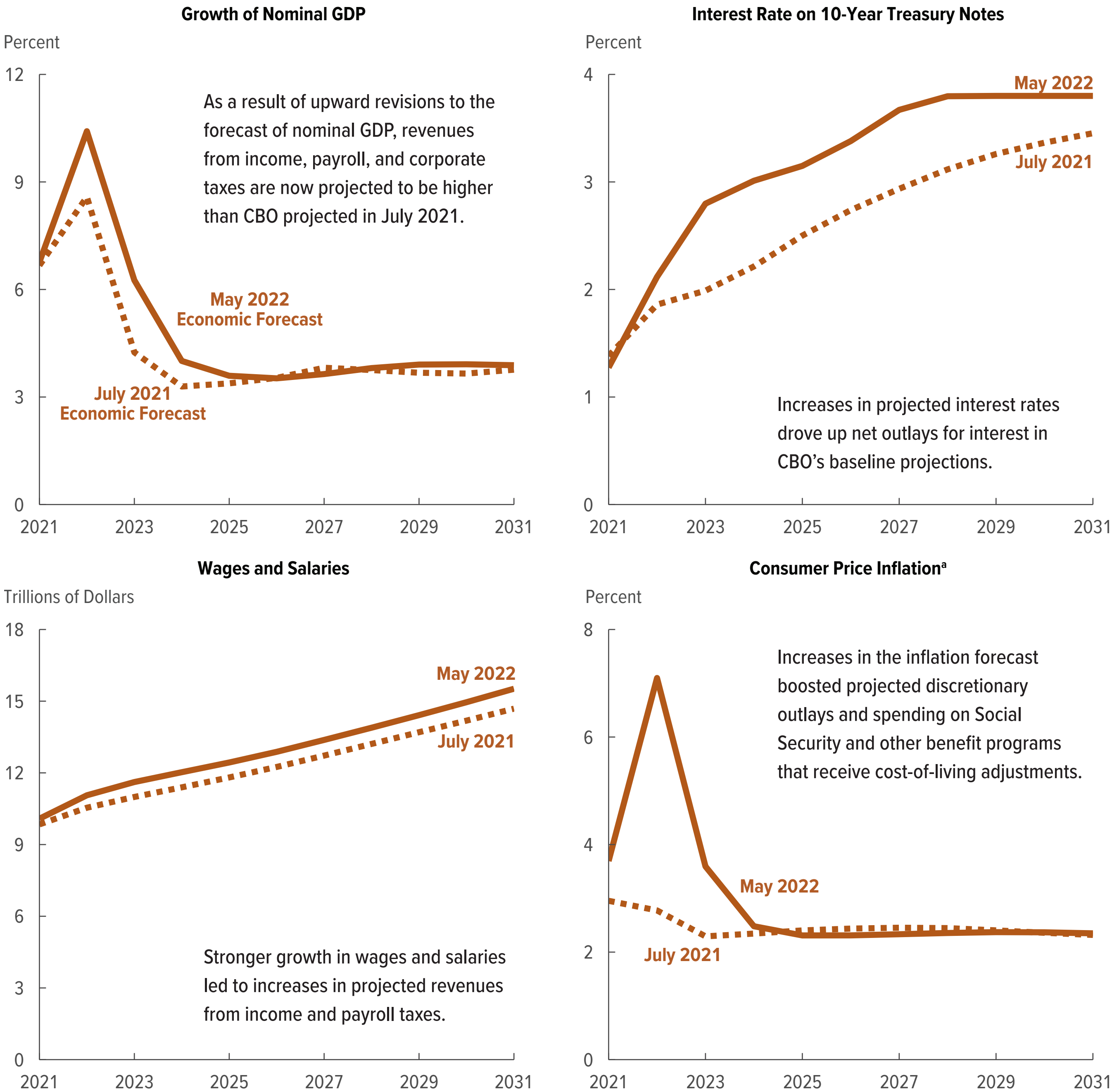
Medicaid and Medicare. CBO increased its projections of outlays for Medicaid over the 2022–2031 period by $132 billion (or 2 percent) and its projections of outlays for Medicare in those years by $76 billion (or 1 percent). Spending for those programs is affected by changes in the prices of labor, goods, and services.[15] 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 and skilled nursing facilities).

Civilian and Military Retirement Annuities. CBO increased its projection of spending for federal employees' retirement annuities (civilian and military) over the 2022–2031 period by $94 billion (or 5 percent). As with Social Security benefits, a COLA is applied to those

15. By law, many of Medicare's payment rates are also adjusted to account for gains in private nonfarm business productivity (the ability to produce the same output using fewer inputs, such as hours of labor) that occur over a 10-year period. See Centers for Medicare & Medicaid Services, "Market Basket Research and Information" (March 22, 2022), https://go.usa.gov/xsB2D. Upward revisions to CBO's forecast of productivity decreased projected Medicare spending, but they did so by a smaller amount than did the changes in prices.

Figure A-2.

Changes in CBO's Economic Forecast Since July 2021



Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Data are for fiscal years.

GDP = gross domestic product.

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

retirement annuities. Upward revisions to CBO's inflation projections boosted the COLA projections, which in turn increased projected outlays for those annuities.

Veterans' Benefits and Services. CBO increased its projections of spending for veterans' benefits and services over the 2022–2031 period by $83 billion (or 5 percent). As was the case with Social Security, higher inflation projections gave rise to higher COLA projections that increased projected outlays for disability compensation.

Supplemental Nutrition Assistance Program. Economic changes increased CBO's projections of outlays for the Supplemental Nutrition Assistance Program (SNAP) over the 2022–2031 period by $72 billion (or 9 percent). Most of that increase stems from upward revisions to CBO's projections of inflation in the prices of food.

Supplemental Security Income. CBO's projections of outlays for the Supplemental Security Income (SSI) program over the 2022–2031 period increased by $38 billion (or 6 percent) since July 2021 because of changes the agency made to its economic forecast. Upward revisions to the agency's inflation projections pushed up its COLA projections, which in turn increased outlays for SSI benefits.

Child Nutrition. CBO's projections of outlays for the Child Nutrition program over the 2022–2031 period increased by $27 billion (or 8 percent) since July 2021 because of changes the agency made to its economic forecast. As with SNAP, most of that increase stems from upward revisions to CBO's projections of inflation in the prices of food.

Other Mandatory Programs. CBO updated its projections of outlays for several other mandatory programs to reflect changes in its economic forecast. Although those changes resulted in both upward and downward adjustments to such spending, on net, they decreased projected outlays for the 2022–2031 period by a total of $18 billion.

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 2022–2031 period. As a result, discretionary outlays over that period are now projected to be $180 billion (or 1 percent) greater than they were in CBO's previous baseline projections.

Net Interest Outlays. Economic changes boosted CBO's estimate of net interest outlays in 2022 by $70 billion (or 23 percent) and its projections of such outlays from 2022 to 2031 by $1.5 trillion (or 29 percent). The change in the estimate for this year is largely a result of higher inflation, which increases the cost of Treasury inflation-protected securities. The increase in the projections for the 2022–2031 period is largely attributable to upward revisions to the agency's forecasts of inflation and of interest rates on Treasury securities.

In all, changes stemming from revisions to CBO's economic forecast increased the projected cumulative deficit over the 2022–2031 period by $0.9 trillion. As a result, the agency increased its projections of debt-service costs for the 2022–2031 period by $146 billion because of those economic changes.

Changes in Revenues

As a result of changes it made to its economic forecast, CBO raised its estimate of revenues in 2022 by $186 billion (or 4 percent) and its projections of revenues from 2022 to 2031 by $2.1 trillion (or 4 percent). Increases in projections of factors that affect the size of the economy—including wages and salaries, proprietors' income, and corporate profits—spurred the increases in projected income and payroll taxes. CBO also raised its projections of imports, which boosted estimates of customs duties. Those increases were partially offset by decreases in CBO's projections of remittances by the Federal Reserve.

Individual Income Taxes. CBO raised its estimate of individual income tax revenues in 2022 by $114 billion (or 5 percent) and its projections of such revenues over the 2022–2031 period by $1.2 trillion (or 5 percent). The increase was driven largely by a 5 percent increase in projected wages and salaries over the projection period, owing to a stronger-than-anticipated recovery of the labor market and higher-than-expected inflation. Projections of proprietors' income also increased. Additionally, higher asset values in recent years boosted expected capital gains realizations and distributions from pensions.

Payroll Taxes. CBO's estimate of payroll tax revenues in 2022 increased by $54 billion (or 4 percent); its projections for the 2022–2031 period rose by $802 billion (or 5 percent). The main drivers of those increases are upward revisions to estimates of wages and salaries and proprietors' income.

Federal Reserve Remittances. CBO revised its estimate of Federal Reserve remittances between 2022 and 2031 downward by $430 billion. The central bank's interest expenses are now projected to rise sooner than they were projected to rise in July 2021, so its projected net profit is less.

Corporate Income Taxes. CBO raised its estimate of corporate income tax revenues in 2022 by $23 billion (or 7 percent) and its projections of such revenues over the 2022–2031 period by $372 billion (or 10 percent), mostly because of a $1.2 trillion upward revision to its forecast of domestic profits over the 2022–2031 period. That increase in projected domestic profits was partially offset by a decrease in projected profits earned abroad by U.S. businesses over that period.

Other Revenues. CBO increased its projections of other revenues over the 2022–2031 period by a total of $80 billion (or 3 percent). Its projections of receipts from customs duties and excise taxes in those years increased by a total of $102 billion (or 6 percent) in response to higher projections of economic growth, imports, and taxable air travel. That increase was partially offset by a $22 billion reduction in projected estate and gift tax receipts over the decade; although in recent years asset values were higher than expected, CBO projects that they will grow more slowly than previously anticipated.

Technical Changes

Technical changes—those revisions that are neither legislative nor economic—result from a variety of factors, including revisions made to CBO's population projections, the incorporation of new information or data from federal agencies, and changes made to the way programs are administered that affect federal spending and revenues. Technical changes reduced CBO's estimate of the deficit in 2022 by $56 billion. Over the 2022–2031 period, deficits are now projected to be $1.0 trillion smaller, on net, than they were projected to be in July 2021 because of technical changes—mostly increases in projected individual income and corporate tax receipts (see Table A-1 on page 112).

Changes in Revenues

CBO revised its estimate of revenues in 2022 upward by $251 billion (or 6 percent) and its projection for the 2022–2031 period upward by $1.3 trillion (or 2 percent) for technical reasons. New tax data and stronger-than-anticipated tax collections over the past year account for the most significant increases. CBO observes payments to the Treasury as they occur but does not receive detailed information on tax liabilities until as many as two years after payments have been made. As a result, there is frequently a discrepancy between estimates of tax liabilities based on available economic data and those based on recent collections. When the reasons for a discrepancy cannot be explained by changes in economic conditions or other measured phenomena, CBO treats the discrepancy as temporary and typically phases it out over several years in its projections.

Individual Income Taxes. Technical changes raised CBO's estimate of individual income tax receipts in 2022 by $173 billion (or 7 percent) and its projections for the 2022–2031 period by $790 billion (or 3 percent). CBO boosted projected receipts at the beginning of the period because recent tax collections have continued to be stronger than expected given current economic data and the agency's estimates of the budgetary effects of recently enacted legislation. Additionally, CBO revised upward its estimates of the amount of corporate business income taxed at the individual level throughout the projection period. That change reflects modeling refinements based on recent historical tax and economic data. Partially offsetting the upward adjustments to 2022 revenues was a reduction in the anticipated amount of payroll taxes that would be reallocated to individual income taxes in that year. (See the section on payroll taxes, below.)

Corporate Income Taxes. CBO has increased its estimate of corporate income tax revenues in 2022 by $55 billion (or 17 percent) and its projections of such revenues over the 2022–2031 period by $415 billion (or 11 percent). One reason for that increase is that since last spring, corporate tax collections have been stronger than can be explained by the data currently available to CBO. As a result, CBO revised upward its estimate of receipts in 2022 and in subsequent years. Those adjustments, which diminish over the projection period, total about $100 billion from 2022 to 2031.

CBO also increased its projections of corporate tax revenues throughout the decade because it now anticipates that some of the recent strength in collections will be permanent. Those upward revisions, which total about $300 billion over the decade, mostly result from three factors:

- CBO continued to refine its treatment of income and deductions from foreign corporations and branches, including how it estimates taxes collected on global intangible low-taxed income (GILTI). Specifically, CBO adjusted its estimates of foreign income received by U.S. firms and the associated deductions to better align with updated estimates that the Bureau of Economic Analysis released in July 2021. That change increased projections of corporate taxable income, thereby boosting projected net receipts.
- The agency adjusted its treatment of GILTI and the associated deduction in a manner consistent with recent tax data to better reflect the budgetary effects of that category of taxable income. Recent tax data indicate that income categorized as GILTI increases the share of positive profits for a given level of corporate net income, which further increases projected corporate receipts.
- CBO changed its projections of the adjustment made to account for misreporting on corporate income tax returns to better reflect recent estimates from the Bureau of Economic Analysis. That change increased the agency's projections of corporate tax receipts.

Payroll Taxes. CBO increased its estimate of payroll tax revenues in 2022 by $19 billion (or 1 percent) and its projections for 2022 to 2031 by a total of $35 billion (or less than 1 percent). The agency boosted its estimate for 2022 because it now expects that reallocations from payroll taxes to individual income taxes will be smaller than it previously anticipated. Amounts recorded by the Treasury as payroll taxes for 2020 were largely determined before the onset of the pandemic. The effects of subsequent declines in wages and new laws were recorded as reductions in individual income tax receipts in 2020. CBO previously anticipated that the Treasury would reallocate amounts between payroll taxes and individual income taxes in both 2021 and 2022, thereby reducing payroll revenues in those years. CBO now estimates that most of those reallocations already occurred in 2021. The revisions to CBO's projections of payroll tax revenues over the 2022–2031 period—which amount to less than 1 percent of payroll tax revenues in those years in the agency's July 2021 baseline projections—result from incorporating newly available historical tax information into its estimates.

Other Revenues. Technical changes increased CBO's projections of other revenues from 2022 to 2031 by $14 billion (or less than 1 percent). The most significant increase in other revenues was an increase of $34 billion (or 4 percent) in projected receipts from customs duties over the next decade, reflecting updated estimates of the effects of administratively imposed tariffs. Additionally, the agency increased its projections of estate and gift tax receipts by $15 billion (or 4 percent) to align those estimates with recently recorded collections, changes in mortality rates resulting from the pandemic, and other factors.

Those increases were partially offset by a net reduction of $40 billion (or 4 percent) in excise tax revenues. Most significantly, CBO lowered its projections of receipts from taxes on alcohol and tobacco products from 2022 to 2031 by about $17 billion because a recent court ruling allows many products in those categories to avoid excise taxes. Tobacco and alcohol products that would normally be subject to excise taxes may, as a result of the ruling, receive a drawback (or refund) of excise taxes based on a substitution drawback allowed for similar merchandise that is exported or destroyed even when no excise tax had been previously collected on that merchandise.

Changes in Outlays

Technical changes increased CBO's estimate of outlays in 2022 by $194 billion (or 4 percent) and its projections of outlays over the 2022–2031 period by $253 billion (or less than 1 percent) Changes to spending for mandatory programs account for about three-quarters of the technical changes that CBO made to its baseline projections of outlays since July 2021. Those changes stem mostly from revisions to projections of demographic or technical factors that underlie the agency's projections of mandatory spending (see Figure A-3). Increases to estimates of discretionary spending and reductions in projections of net interest costs account for the rest.

Mandatory Outlays. For technical reasons, CBO increased its estimates of spending this year for some programs and decreased them for others. On net, technical changes increased mandatory outlays for 2022 by $151 billion (or 4 percent). Technical changes increased

CBO's projections of mandatory outlays over the 2022–2031 period by $196 billion (or less than 1 percent).

Social Security. CBO lowered its estimate of outlays for Social Security this year by $8 billion (or 1 percent) and its projections of such outlays over the 2022–2031 period by $322 billion (or 2 percent) for technical reasons. Most of that reduction is attributable to two factors. First, the increase in mortality stemming from the coronavirus pandemic led CBO to lower its projections of the population age 65 or older; as a result, the agency's projections of outlays for Old-Age and Survivors Insurance are now lower than they were in July 2021. Second, CBO lowered its estimate of the number of people receiving Disability Insurance (DI) benefits over the 10-year projection period, primarily because in recent months far fewer new DI beneficiaries have begun receiving benefits than previously projected. Those changes partially offset the increases in projected outlays for Social Security stemming from the economic changes that are discussed above.

Supplemental Nutrition Assistance Program. CBO increased its estimate of outlays for SNAP this year by $54 billion and its projections for the 2022–2031 period by $266 billion (or 33 percent) for technical reasons. Changes in the Thrifty Food Plan (TFP) that resulted from the Department of Agriculture's recent reevaluation of the TFP for 2022 were the main source of those increases.[16] (The TFP is a basket of foods selected by the Department of Agriculture that would provide a nutritious diet for a household of a particular size. The price of the TFP is used to determine SNAP benefit levels.) Largely as a result of that reevaluation, the price of the TFP is now about 23 percent higher than it was last year. The increases in projected outlays for SNAP in 2022 and 2023 also stem from additional SNAP allotments provided during the public health emergency and from additional benefits provided through the Pandemic Electronic Benefit Transfer program. (Including the economic changes discussed earlier, projected outlays for SNAP over the 2022–2031 period are now 41 percent greater than they were in CBO's July 2021 baseline projections.)

Premium Tax Credits and Related Spending. CBO and the staff of the Joint Committee on Taxation (JCT) increased their estimate of outlays for premium tax credits (which help defray the cost of obtaining health insurance) and related spending this year by $11 billion (or 15 percent) and their projections of such spending over the 2022–2031 period by $144 billion (or 22 percent) for technical reasons.[17] Those increases are largely the result of increased projections of the number of people who receive federal subsidies to enroll in health insurance plans through the marketplaces established under the Affordable Care Act and of higher projected premiums for those plans. In addition, CBO and JCT now estimate that the average subsidy received by people enrolled in subsidized marketplace coverage will be larger than the agencies previously estimated, in part because of a change in the projected income distribution of marketplace enrollees.

Medicaid. CBO increased its estimate of outlays for Medicaid in 2022 by $39 billion (or 8 percent) and its projections of such outlays over the 2022–2031 period by $49 billion (or 1 percent). The increase in the near term is largely attributable to two factors. First, actual spending in 2021 was higher than expected. Second, CBO pushed back its estimate of when the public health emergency brought on by the coronavirus pandemic will end to July 2023; two provisions of previously enacted legislation that increased Medicaid outlays remain in effect for the duration of that emergency. As part of the Families First Coronavirus Response Act (P.L. 116-127), lawmakers increased the portion of the program's costs that the federal government must cover. To receive the enhanced federal funding, the law required states to maintain coverage for all Medicaid enrollees as long as the public health emergency continued, regardless of any changes in their income or circumstances that would otherwise have caused them to become ineligible for the program.

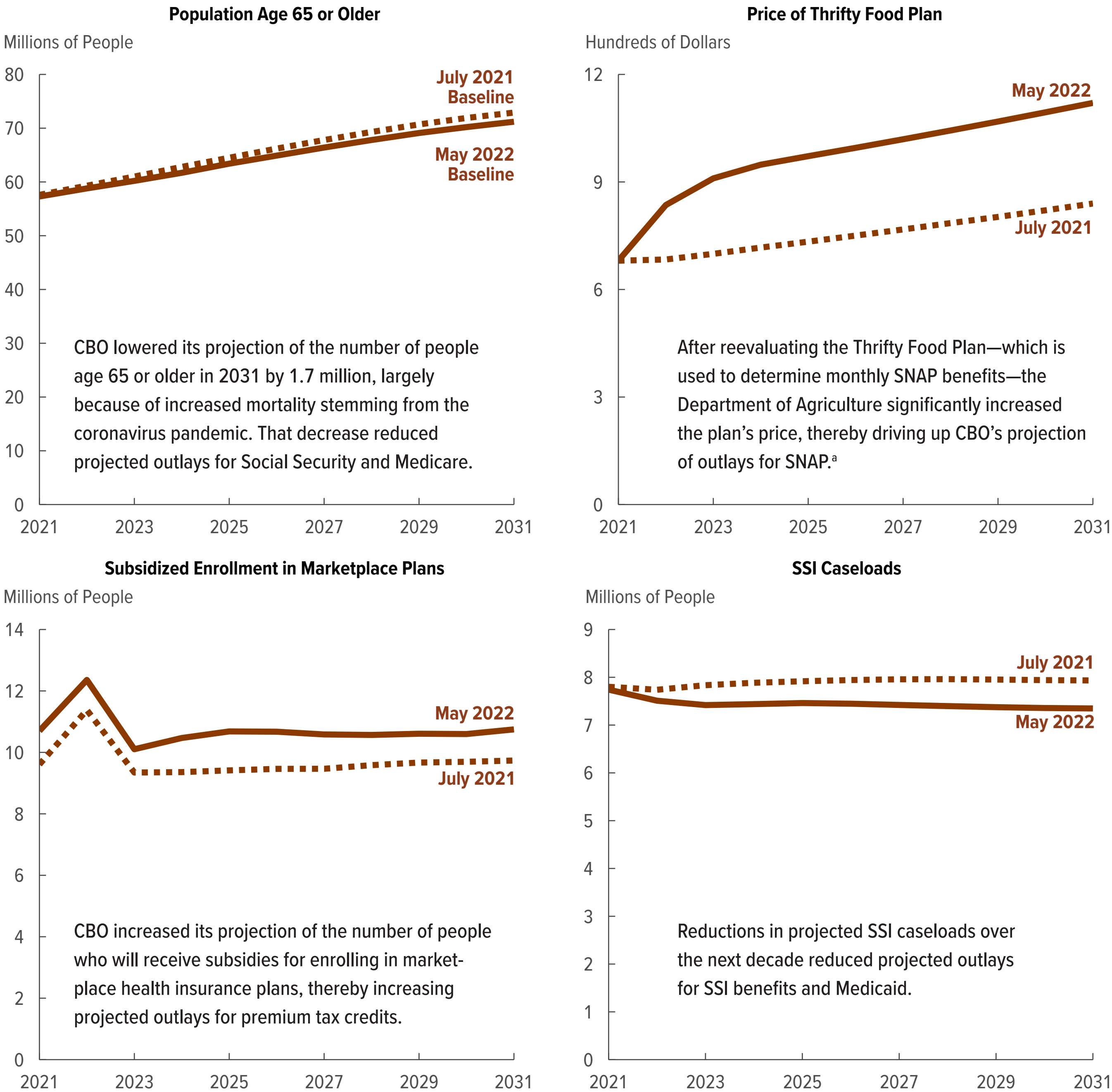
The reductions in spending in later years are attributable to smaller projected SSI caseloads, which result in lower projections of the number of SSI beneficiaries who are enrolled in Medicaid. SSI beneficiaries are typically automatically eligible for Medicaid. (Including the economic changes discussed earlier, projected outlays for Medicaid

16. See Department of Agriculture, Food and Nutrition Service, "USDA Modernizes the Thrifty Food Plan, Updates SNAP Benefits: First Update in More Than 45 Years Reflects Current Cost Realities" (August 16, 2021), www.fns.usda.gov/news-item/usda-0179.21.

17. Premium tax credits are federal subsidies for health insurance purchased through the marketplaces established by the Affordable Care Act. Related spending consists almost entirely of payments for risk adjustment and the Basic Health Program.

Figure A-3.

Changes in CBO's Technical Projections Since July 2021



Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

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

a. The increase in the price of the Thrifty Food Plan also reflects upward revisions to CBO's projections of inflation in the prices of food. Although the increase in the forecast of food prices is significant, most of the change in the price of the Thrifty Food Plan stems from the Department of Agriculture's reevaluation.

over the 2022–2031 period are now 3 percent greater than CBO projected in July 2021.)

Medicare. Technical changes increased CBO's estimate of outlays for Medicare in 2022 by $19 billion (or 3 percent) and its projections of such outlays over the 2022–2031 period by $43 billion (or less than 1 percent). Outlays for prescription drugs and Medicare Advantage plans in 2021 were higher than expected, so CBO increased its projections of such outlays. In addition, such spending is now anticipated to grow more rapidly than CBO projected in July 2021. Lower projections of Medicare enrollment partially offset that increase. Enrollment over the 2022–2031 period is 2 percent lower in CBO's current projections than it was in the agency's previous projections because mortality rates increased during the pandemic.

Supplemental Security Income. CBO lowered its estimate of outlays for Supplemental Security Income for this year by $3 billion (or 5 percent) and its projections for the 2022–2031 period by $42 billion (or 6 percent) for technical reasons. Most of those reductions stem from a larger-than-anticipated decline in caseloads. The technical changes offset much of the effect of the economic changes affecting SSI that are discussed above.

Coronavirus Relief Fund. CBO increased its estimate of outlays for direct assistance to state, local, tribal, and territorial governments in response to the pandemic in 2022 by $38 billion and its projections of such spending over the 2022–2031 period by $41 billion. Outlays in 2021 from the fund were less than expected, so CBO shifted spending to later years in its projections, thereby increasing its estimate for 2022 and, by much smaller amounts, its projections for 2023 and 2024.

Revisions to the Costs of Credit Programs. Changes recorded by the Administration to the subsidy costs of loans and loan guarantees made before 2022 under federal credit programs other than student loan programs (which are discussed below) caused CBO's estimate of mandatory outlays in 2022 to drop by $32 billion. The largest of those changes are as follows: a $22 billion reduction in the cost of loan guarantees provided by the Federal Housing Administration, a $4 billion reduction in the cost of the Treasury Department's Economic Stabilization Program, and a $4 billion reduction in the cost of certain disaster loan programs run by the Small Business Administration.

Earned Income and Child Tax Credits. CBO increased its estimate of total outlays for the earned income tax credit (EITC) and the child tax credit (CTC) in 2022 by $24 billion and its projections of such outlays over the 2022–2031 period by $29 billion. The increase in the estimate for 2022 is the result of higher-than-expected CTC outlays in the first half of fiscal year 2022 that are partially offset by lower-than-expected EITC outlays over the same period.

Student Loans. CBO's estimate of outlays for student loan programs in 2022 is now $34 billion higher than it was in July 2021. The largest source of that increase, $23 billion, stems from revisions that the Department of Education made to the estimated subsidy costs of outstanding loans that were issued before 2022. An additional $4 billion in costs results from pandemic-related administrative actions, which included suspending repayment, interest accrual, and involuntary collections on student loans until the end of August 2022; those costs are partially offset by savings related to the shift of default collection activities to Federal Student Aid's Business Process Operations vendors.[18]

Other Mandatory Programs. Smaller technical changes decreased CBO's estimate of outlays for other mandatory programs in 2022 by $24 billion and its projections of outlays for such programs over the 2022–2031 period by $8 billion.

Discretionary Outlays. Technical changes increased CBO's estimate of discretionary outlays in 2022 by $19 billion (or 1 percent) and its projections over the 2022–2031 period by $79 billion (or 1 percent). The two largest changes are increases in outlays for the Public Health and Social Services Emergency Fund (PHSSEF) of the Department of Health and Human Services and in outlays for the Federal Emergency Management Agency's Disaster Relief Fund (DRF). In 2021, outlays from both funds were smaller than expected, so CBO shifted spending to later years in its baseline projections, thereby increasing estimates of such outlays over the next decade. Estimated outlays for the PHSSEF in 2022 rose by $35 billion, and projected outlays from 2022 to 2031, by a total of $63 billion. For the DRF, estimated outlays

18. Although the administrative actions are set to continue through August 2022, the Administration's recorded costs of those actions—which CBO uses in its projections—reflect the costs only through May 1, 2022.

in 2022 increased by $7 billion, and projected outlays over the 10-year period rose by $43 billion.

Those increases in outlays were partially offset by a $7 billion reduction in outlays for IIJA-funded programs in 2022 and by a $32 billion reduction in such outlays over the 2022–2031 period. Information from the Administration indicates that spending for those programs will occur more slowly than CBO originally estimated.

Net Interest Outlays. Technical changes decreased CBO's projections of net interest outlays for the 2022–2031 period by $35 billion (or less than 1 percent). Because the Treasury's ability to borrow was limited by the statutory debt ceiling, debt held by the public at the end of 2021 was lower than CBO forecast. That lower amount of debt at the end of 2021 led to a $28 billion decrease in net interest costs over the 10-year period. Other technical changes reduced net interest outlays by $8 billion.

All told, technical changes to revenues and noninterest outlays reduced CBO's projections of debt held by the public in 2031 by $1.0 trillion. However, because of increases in debt in the earlier years of the projection period, those technical changes increased the cost of servicing debt over the 2022–2031 period by an estimated $13 billion.

Appendix B: The 10-Year Outlook for Major Federal Trust Funds

Overview

The federal government uses several accounting mechanisms to link earmarked receipts (that is, money designated for a specific purpose) with corresponding expenditures. One of those mechanisms is trust funds.[1] When the receipts designated for trust funds exceed the amounts needed for expenditures, the funds are credited with nonmarketable debt instruments known as Government Account Series (GAS) securities, which are issued by the Treasury. At the end of fiscal year 2021, trust funds held $5.4 trillion in such securities (see Table B-1).[2] (Unless indicated otherwise, all the years discussed in this appendix are federal fiscal years.)

The federal budget has numerous trust funds, although most of the money credited to them goes to fewer than a dozen. By far the largest trust funds are Social Security's Old-Age and Survivors Insurance (OASI) Trust Fund and the funds dedicated to the government's retirement programs for its military and civilian personnel.

According to the Congressional Budget Office's current baseline budget projections, the balances held by federal trust funds will rise by $357 billion in fiscal year 2022 (see Table B-2). That amount is $259 billion more than the $98 billion surplus the agency estimated for the trust funds as a whole in July 2021, when it last published its baseline budget projections for those funds.[3] The change in CBO's estimate was largely driven by two factors: a $118 billion transfer to the Highway Trust Fund from the Treasury's general fund (required by the Infrastructure Investment and Jobs Act, or IIJA, Public Law 117-58), and more tax income credited to the OASI Trust Fund.

Spending from all the trust funds combined is projected to exceed their collective income starting in 2025. That deficit grows to $505 billion by 2032. Over the 2023–2032 period, the trust funds are projected to incur a deficit of $1.9 trillion, on net, mostly because of growing shortfalls in the OASI Trust Fund.

If the Congress did not act to address the shortfalls, the balances in two trust funds would be exhausted within the next 10 years, CBO projects: the Highway Trust Fund (in 2027) and Medicare's Hospital Insurance (HI) Trust Fund (in 2030). No provisions in law dictate the funds' procedures once their balances are depleted. If that happened, the government would continue to collect excise and payroll taxes designated for the funds and the funds would continue to make payments, but the government would not have the legal authority to make payments in excess of receipts. Thus, the government would no longer be able to pay the amounts scheduled or projected under current law.[4]

1. Other mechanisms serving that purpose are special funds (such as the fund that the Department of Defense uses to finance its health care program for military retirees) and revolving funds (such as the Federal Employees' Group Life Insurance fund).

2. Debt issued in the form of GAS securities is included in a measure of federal debt called gross debt. Because that debt is intragovernmental in nature, it is not included in the measure called debt held by the public. For a discussion of different measures of federal debt, see Congressional Budget Office, *Federal Debt: A Primer* (March 2020), www.cbo.gov/publication/56165.

3. Congressional Budget Office, "10-Year Trust Fund Projections" (supplemental material for *The Budget and Economic Outlook: 2021 to 2031*, July 2021), www.cbo.gov/data/budget-economic-data#5.

4. For more information about the legal issues related to exhaustion of a trust fund, see Barry F. Huston, *Social Security: What Would Happen If the Trust Funds Ran Out?* Report RL33514, version 32 (Congressional Research Service, October 2021), https://go.usa.gov/xEtaw. See also Congressional Budget Office, *The 2021 Long-Term Budget Outlook* (March 2021), www.cbo.gov/publication/56977.

Table B-1.

CBO's Baseline Projections of Trust Fund Balances

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Social Security												
Old-Age and Survivors Insurance	2,756	2,713	2,640	2,529	2,379	2,199	1,984	1,725	1,417	1,059	647	181
Disability Insurance	98	114	135	157	178	197	213	232	253	275	299	324
Subtotal	2,854	2,828	2,775	2,686	2,557	2,395	2,197	1,957	1,670	1,334	946	505
Medicare												
Supplementary Medical Insurance (Parts B and D)	171	178	165	165	163	174	187	175	214	229	248	269
Hospital Insurance (Part A)[a,b]	136	159	162	176	163	145	122	65	49	0	0	0
Subtotal	307	337	328	342	327	318	309	240	264	229	248	269
Military Retirement	1,032	1,162	1,288	1,417	1,545	1,679	1,698	1,710	1,731	1,745	1,757	1,770
Civilian Retirement[c]	948	1,035	1,059	1,084	1,110	1,138	1,167	1,198	1,231	1,265	1,298	1,332
Unemployment Insurance	53	80	101	120	124	125	121	117	109	99	89	64
Highway and Mass Transit[a]	21	130	113	90	62	30	0	0	0	0	0	0
Airport and Airway	16	15	19	24	29	34	40	47	54	61	69	78
Railroad Retirement (Treasury holdings)[d]	3	2	2	2	2	2	2	2	2	2	2	2
Other[e]	122	124	126	129	131	134	136	139	142	145	149	152
Total Trust Fund Balance	**5,355**	**5,713**	**5,812**	**5,893**	**5,887**	**5,855**	**5,671**	**5,410**	**5,203**	**4,880**	**4,558**	**4,173**
Memorandum:												
Railroad Retirement (Non-Treasury holdings)[d]	24	22	21	20	18	17	16	14	13	12	11	9

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

These balances are for the end of the fiscal year and include only securities invested in Treasury holdings.

a. In keeping with the rules in section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985, CBO's baseline projections incorporate the assumption that scheduled payments will continue to be made in full after the trust fund has been exhausted, although there is no legal authority to make such payments. Because the manner in which those payments continued would depend on future legislation, if the trust fund is projected to be exhausted, the table shows zero rather than a cumulative negative balance after the exhaustion date.

b. CBO now projects that the Hospital Insurance Trust Fund will be exhausted in 2030, three years later than the agency projected in July 2021, mainly because of an increase in the projected amount of income into the trust fund from payroll tax revenues.

c. Includes trust funds for civil service retirement and foreign service retirement, as well as several smaller retirement funds.

d. The Railroad Retirement and Survivors' Improvement Act of 2001 established an entity, the National Railroad Retirement Investment Trust, that is allowed to invest in non-Treasury securities, such as stocks and corporate bonds.

e. Consists primarily of trust funds for federal employees' health and life insurance, the Superfund program (which is responsible for cleaning up sites contaminated with hazardous materials), and various insurance programs for veterans.

How Trust Funds Work

When a trust fund receives income that is not needed immediately to pay benefits or cover other expenses, the Treasury issues GAS securities in that amount to the fund and then uses the extra cash to finance the government's activities, just as it uses other revenues. As a result, the government borrows less from the public than it would without that extra net income. The reverse happens when a trust fund's income falls short of its expenses; in that case, the fund returns the GAS securities to the Treasury, which then must borrow from the public to make the necessary payments from the fund.

The balance of a trust fund at any given time is a measure of the historical relationship between the related program's receipts and expenditures. That balance (in the form of GAS securities) is an asset for the individual program, such as Social Security, but a liability for the rest of the government. The resources to redeem a trust fund's securities—and thereby pay for benefits or other spending—in some future year must be generated through taxes, income from other governmental sources, or borrowing from the public in that future year. Trust funds have legal meaning in that their balances are a measure of the amounts that the government has the legal authority to spend for certain purposes under current law, but they

Table B-2.

CBO's Baseline Projections of Trust Fund Deficits and Surpluses

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
Social Security														
Old-Age and Survivors Insurance	-55	-42	-73	-111	-150	-180	-214	-260	-307	-359	-412	-466	-729	-2,532
Disability Insurance	1	16	21	22	21	19	16	19	21	22	24	25	99	210
Subtotal	-55	-26	-53	-89	-129	-161	-198	-240	-287	-337	-388	-441	-630	-2,322
Medicare														
Supplementary Medical Insurance (Parts B and D)	83	7	-13	*	-2	10	13	-12	40	14	19	21	8	91
Hospital Insurance (Part A)[a]	2	22	4	14	-13	-19	-23	-57	-16	-49	-53	-74	-37	-286
Subtotal	85	30	-9	14	-15	-8	-10	-69	24	-35	-34	-53	-28	-195
Military Retirement	116	130	126	130	127	134	19	13	21	13	12	13	536	608
Civilian Retirement[b]	-36	87	25	25	26	28	29	31	32	34	34	34	133	297
Unemployment Insurance	3	27	22	18	5	1	-4	-4	-8	-9	-10	-25	41	-16
Highway and Mass Transit[a]	9	108	-17	-23	-28	-32	-37	-39	-41	-42	-44	-45	-136	-347
Airport and Airway	8	*	4	5	5	5	6	6	7	7	8	9	25	62
Other[c]	-1	2	2	2	2	2	3	3	3	3	3	4	12	27
Total Trust Fund Deficit (-) or Surplus	**129**	**357**	**99**	**81**	**-6**	**-32**	**-191**	**-300**	**-248**	**-365**	**-418**	**-505**	**-49**	**-1,885**
Intragovernmental Transfers to Trust Funds[d]	890	957	976	989	1,071	1,160	1,116	1,210	1,213	1,315	1,387	1,487	5,312	11,923
Net Budgetary Impact of Trust Fund Programs	**-761**	**-600**	**-876**	**-908**	**-1,077**	**-1,192**	**-1,308**	**-1,509**	**-1,461**	**-1,680**	**-1,805**	**-1,992**	**-5,361**	**-13,808**

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Negative numbers indicate that the trust funds' transactions add to total budget deficits.

* = between -$500 million and zero.

a. CBO projects that this trust fund will be exhausted during the 2022–2032 period. However, in keeping with the rules in section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985, CBO's baseline projections incorporate the assumption that scheduled payments will continue to be made in full after the trust fund has been exhausted, although there is no legal authority to make such payments. The manner in which those payments continued would depend on future legislation.

b. Includes trust funds for civil service retirement and foreign service retirement, as well as several smaller retirement funds.

c. Consists primarily of trust funds for railroad workers' retirement, federal employees' health and life insurance, the Superfund program (which is responsible for cleaning up sites contaminated with hazardous materials), and various insurance programs for veterans.

d. Includes interest paid to trust funds, payments from the Treasury's general fund to the Supplementary Medical Insurance Trust Fund, the government's share of payments for federal employees' retirement, lump-sum payments to the trust funds for civil service and military retirement, taxes on Social Security benefits, and smaller miscellaneous payments.

have little relevance in an economic or budgetary sense unless the limits of that authority are reached.

Trust Funds' Effects on the Budget

To assess how all federal activities, taken together, affect the economy and financial markets, it is useful to include the cash receipts and expenditures of trust funds in the budget totals, along with the receipts and expenditures of other federal programs. CBO, the Office of Management and Budget, and other fiscal analysts generally follow that practice.

Some of the trust funds' income is in the form of intragovernmental transfers. Those transfers shift resources from one category of the budget to another and have no net effect on revenues, outlays, the budget deficit, or the government's borrowing needs. Those transfers include interest credited to the trust funds; payments from the Treasury's general fund to cover most of the costs of payments for outpatient medical services (including payments to physicians) and for prescription drugs under Parts B and D of Medicare; and the government's share of payments for federal employees' retirement programs. Transfers have also been made to protect trust funds from the financial effects of certain policies, most notably to offset the reduction in Social Security payroll taxes during calendar years 2011 and 2012. (At that time, withholding tax rates were temporarily reduced to provide an economic stimulus by increasing workers' take-home pay.) Intragovernmental transfers are projected to total $1.0 trillion in 2022 and to reach $1.5 trillion in 2032.

Excluding those transfers and counting only income from sources outside the government (such as payroll taxes and Medicare premiums), CBO estimates that the trust fund programs' spending will exceed designated receipts by $600 billion in 2022. That difference—the amount that the programs add to federal deficits—is projected to be $876 billion in 2023 and to grow to $2.0 trillion in 2032.

Those estimates are calculated following procedures specified in section 257(b) of the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177). Specifically, that law requires CBO to assume that the federal government will make required payments in full, regardless of the status of the trust funds.

Social Security's Trust Funds

Social Security provides benefits to retired workers, their families, and some survivors of deceased workers through the OASI program; it also provides benefits to some people with disabilities and their families through the Disability Insurance (DI) program. Those benefits are financed mainly through payroll taxes that are collected on workers' earnings at a rate of 12.4 percent—half of which is paid by the worker and half by the employer. Of that 12.4 percent tax, 10.6 percentage points is credited to the OASI trust fund and the remaining 1.8 percentage points to the DI trust fund.

Old-Age and Survivors Insurance

The OASI trust fund, which held $2.8 trillion in GAS securities at the end of 2021, is by far the largest federal trust fund. CBO projects that the fund's annual income, excluding interest on those securities, will steadily rise from $967 billion in 2022 to $1.5 trillion in 2032 (see Table B-3).[5] Expenditures from the fund are projected to be $1.1 trillion in 2022—exceeding noninterest income by $107 billion—and to grow more quickly than noninterest income over the next 10 years, rising to $2.0 trillion in 2032.

With expenditures growing by an average of about 6 percent a year and noninterest income (mostly from payroll taxes) increasing by an average of about 4 percent a year, the annual cash flows of the OASI program, excluding interest credited to the trust fund, would add to federal deficits in every year of the coming decade by amounts reaching $478 billion in 2032, CBO estimates (see Figure B-1, top panel). Even with interest receipts included, the OASI trust fund is projected to record deficits that, in CBO's baseline projections, reach $466 billion in 2032. CBO projects that under current law, the balance of the OASI trust fund would decline to less than $200 billion at the end of 2032 and would be exhausted in the following year.

Those projections are similar to the projections in CBO's July 2021 *Budget and Economic Outlook*. Even though the 10-year projection period has shifted forward by one year since then, the projected balance at the end of 2031 has changed little because both projected income and projected spending have increased by similar amounts.

Disability Insurance

The DI trust fund is much smaller than the OASI trust fund; its balance at the end of 2021 was $98 billion. Under CBO's current baseline projections, the annual income of the DI fund, excluding interest, is projected to grow gradually, reaching $237 billion in 2032 (see Table B-3). As with the OASI fund, expenditures from the DI fund are projected to increase steadily over the next decade—but more slowly, by about 4 percent a year—rising from $144 billion in 2022 to $222 billion in 2032. Noninterest income credited to the DI trust fund roughly matched expenditures in 2021; the DI

5. Although the federal government is an employer, it does not pay taxes. Instead, to cover the employer's share of the Social Security payroll tax for federal workers, it makes an intragovernmental transfer from the general fund of the Treasury to the OASI and DI trust funds. That transfer is included in the income line in Table B-3.

Table B-3.

CBO's Baseline Projections of Balances in the OASI, DI, and HI Trust Funds

Billions of Dollars

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total 2023–2027	Total 2023–2032
OASI Trust Fund														
Beginning-of-Year Balance	2,811	2,756	2,713	2,640	2,529	2,379	2,199	1,984	1,725	1,417	1,059	647	n.a.	n.a.
Income (Excluding interest)	865	967	1,041	1,089	1,129	1,178	1,226	1,274	1,324	1,375	1,429	1,484	5,663	12,549
Expenditures	-991	-1,074	-1,175	-1,257	-1,332	-1,408	-1,486	-1,576	-1,668	-1,764	-1,863	-1,962	-6,656	-15,490
Noninterest Deficit	-126	-107	-133	-168	-203	-230	-260	-302	-344	-389	-434	-478	-994	-2,941
Interest received	71	65	60	57	53	49	45	42	37	30	22	12	265	409
Total Deficit (-) or Surplus	-55	-42	-73	-111	-150	-180	-214	-260	-307	-359	-412	-466	-729	-2,532
End-of-Year Balance	**2,756**	**2,713**	**2,640**	**2,529**	**2,379**	**2,199**	**1,984**	**1,725**	**1,417**	**1,059**	**647**	**181**	**n.a.**	**n.a.**
DI Trust Fund														
Beginning-of-Year Balance	97	98	114	135	157	178	197	213	232	253	275	299	n.a.	n.a.
Income (Excluding interest)	142	157	170	177	183	190	197	205	212	220	229	237	918	2,021
Expenditures	-143	-144	-152	-159	-167	-176	-187	-192	-199	-206	-214	-222	-841	-1,874
Noninterest Deficit (-) or Surplus	-2	13	18	18	17	14	11	13	13	14	15	15	77	147
Interest received	3	3	3	4	4	5	6	6	7	8	9	10	22	63
Total Deficit (-) or Surplus	1	16	21	22	21	19	16	19	21	22	24	25	99	210
End-of-Year Balance	**98**	**114**	**135**	**157**	**178**	**197**	**213**	**232**	**253**	**275**	**299**	**324**	**n.a.**	**n.a.**
HI Trust Fund[a]														
Beginning-of-Year Balance	134	136	159	162	176	163	145	122	65	49	0	0	n.a.	n.a.
Income (Excluding interest)	359	413	409	426	443	464	488	509	531	555	579	604	2,230	5,008
Expenditures	-360	-393	-410	-417	-461	-488	-516	-570	-549	-605	-632	-678	-2,291	-5,325
Noninterest Deficit	-1	19	-1	9	-18	-24	-28	-60	-18	-50	-53	-74	-61	-317
Interest received	2	3	4	5	5	5	5	3	2	1	0	0	25	31
Total Deficit (-) or Surplus	2	22	4	14	-13	-19	-23	-57	-16	-49	-53	-74	-37	-286
End-of-Year Balance	**136**	**159**	**162**	**176**	**163**	**145**	**122**	**65**	**49**	**0**	**0**	**0**	**n.a.**	**n.a.**

Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

Balances shown are invested in Government Account Series securities issued by the Treasury.

DI = Disability Insurance; HI = Hospital Insurance; OASI = Old-Age and Survivors Insurance; n.a. = not applicable.

a. In keeping with the rules in section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985, CBO's baseline projections incorporate the assumption that scheduled payments will continue to be made in full after the trust fund has been exhausted, although there is no legal authority to make such payments. Because the manner in which those payments continued would depend on future legislation, the table shows zero rather than a cumulative negative balance in the trust fund after the exhaustion date. For the same reason, the table shows zero interest received rather than an interest payment, which reflects the assumption that future legislation would not require the funds to pay financing costs.

trust fund is projected to have noninterest surpluses in each of the next 10 years (see Figure B-1, middle panel).

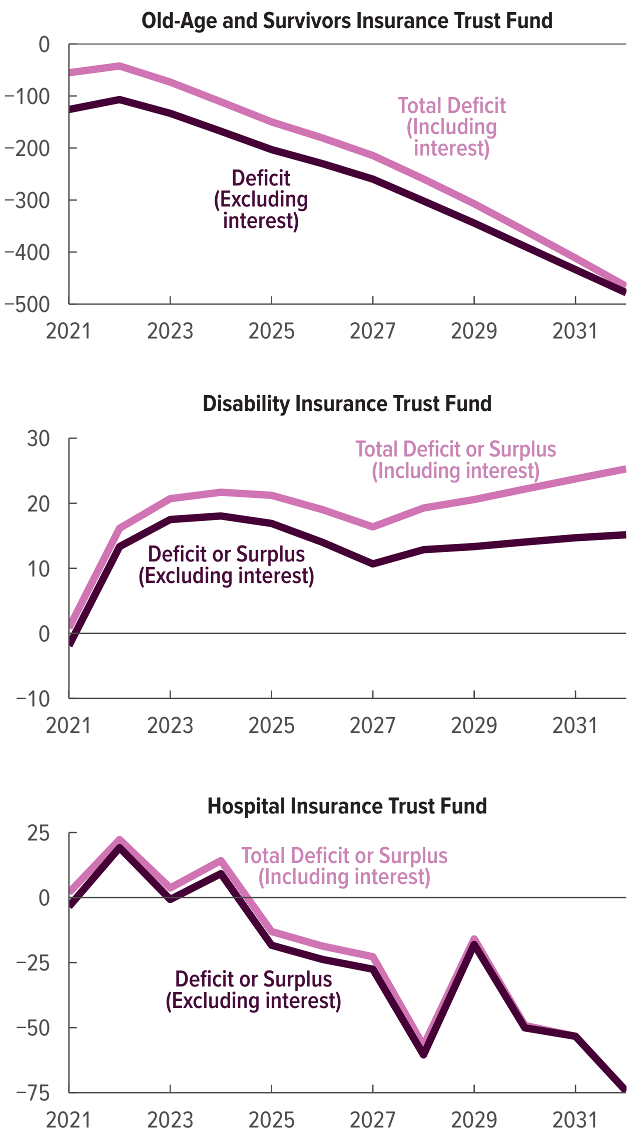
CBO had previously projected that, if current laws generally did not change, the DI trust fund's balance would remain stable at about $100 billion through the end of the 10-year projection period. The agency now projects that the balance will grow to more than $300 billion by 2032. In CBO's estimation, that projected increase results from more payroll taxes being paid into the trust fund (primarily because of higher wages) and fewer outlays for DI benefits (mainly owing to a decrease in the projected number of DI beneficiaries).[6]

6. For details on changes CBO has made to its baseline projections since July 2021, see Appendix A.

Figure B-1.

CBO's Baseline Projections of Annual Deficits and Surpluses in the OASI, DI, and HI Trust Funds

Billions of Dollars



Data source: Congressional Budget Office. See www.cbo.gov/publication/57950#data.

DI = Disability Insurance; HI = Hospital Insurance; OASI = Old-Age and Survivors Insurance.

Trust Funds for Federal Employees' Retirement Programs

After Social Security, the largest trust fund balances at the end of 2021 were held by the Military Retirement Trust Fund ($1.0 trillion) and by various civilian employee retirement funds (a total of $0.9 trillion).[7] Those accounts are mainly funded through transfers from federal agencies, payroll deductions from workers, and supplemental payments from the Treasury. Unlike Social Security's OASI fund and Medicare's trust funds (discussed next), those retirement funds are projected to have surpluses throughout the coming decade. In CBO's baseline projections, the combined annual surpluses total $217 billion in 2022, average around $150 billion per year through 2026, and then average roughly $45 billion per year through 2032.

Of the cumulative growth in the funds' projected balances over the 10-year period, about two-thirds is attributable to the Military Retirement Trust Fund (see Table B-1 on page 126). In CBO's current baseline projections, the balance of the Military Retirement Trust Fund increases by an average of 4 percent annually over the coming decade, reaching nearly $1.8 trillion in 2032. (Most of that increase occurs by 2026.) That fund's growth, particularly through 2026, stems from additional payments that the Treasury is required to make in those years to increase the size of the fund so that it aligns better with projected liabilities. Balances in the civilian retirement funds are projected to grow more slowly, increasing by an average of less than 3 percent annually over the next decade and totaling roughly $1.3 trillion at the end of 2032.

Medicare's Trust Funds

Payments for Medicare benefits are made from two trust funds. The Supplementary Medical Insurance (SMI) Trust Fund is used to make payments for services provided under Parts B and D of the Medicare program, and the HI trust fund is used to make payments under Part A of Medicare.[8]

Supplementary Medical Insurance Trust Fund

The SMI trust fund, the larger of Medicare's two trust funds, contains two separate accounts. One pays for physicians' services and other health care provided on an outpatient basis under Part B of Medicare (Medical

7. Those civilian retirement funds include the Civil Service Retirement Trust Fund, the Foreign Service Retirement Trust Fund, and several smaller retirement funds.

8. Part C of Medicare (known as Medicare Advantage) specifies the rules under which private health care plans can assume responsibility for, and be paid for, providing benefits covered under Parts A and B.

Insurance), and the other pays for prescription drug benefits under Part D.

Most of the SMI trust fund's income comes in the form of transfers from the general fund of the Treasury, which are automatically adjusted to cover the differences between the program's spending and specified revenues. (In 2021, for example, transfers to the SMI fund accounted for about 75 percent of its income.) Thus, the balance in the SMI fund cannot be exhausted.

The funding mechanisms used for the two accounts differ slightly.

- The Part B portion of the SMI fund is financed mainly through transfers from the general fund of the Treasury and through monthly premium payments from Medicare beneficiaries. The basic monthly premium for Part B is set to cover approximately 25 percent of the program's expected spending (and is adjusted to maintain a contingency reserve to cover unexpected spikes in spending). Beneficiaries with relatively high income pay a larger premium. The amount transferred from the general fund equals about three times the amount expected to be collected from basic premiums minus the amount collected from the income-related premiums, fees from drug manufacturers, and interest income.
- The Part D portion of the SMI fund is financed mainly through transfers from the general fund, monthly premium payments from beneficiaries, and transfers from states (which are based on the number of people in a state who would have received prescription drug coverage under Medicaid in the absence of Part D). The basic monthly premium for Part D is set to cover 25.5 percent of the program's estimated spending if all participants paid it. But low-income people who receive subsidies available under Part D are not required to pay Part D premiums, and most other beneficiaries pay their premiums directly to their Part D plan. As a result, receipts are projected to cover less than 25.5 percent of the government's costs even though higher-income participants in Part D pay the government a larger premium. The amount transferred from the general fund is set to cover total expected spending for benefits and administrative costs net of the amounts transferred from states and collected from basic and income-related premiums.

At the end of 2021, the SMI fund held $171 billion in GAS securities. Those holdings are projected to increase to $269 billion in 2032. That increase reflects the Centers for Medicare & Medicaid Services's (CMS's) goal of maintaining a contingency reserve that is between 15 percent and 20 percent of annual spending for Part B.

Hospital Insurance Trust Fund

The HI trust fund, which had a balance of $136 billion at the end of 2021, is the smaller of Medicare's two funds. It is used to make payments to hospitals and providers of post-acute care services under Part A of the Medicare program. The fund's income is derived primarily from the Medicare payroll tax (which amounts to 2.9 percent of workers' earnings, divided equally between the worker and the employer, or 3.8 percent for certain high-income earners). In 2021, that tax accounted for 83 percent of the $359 billion in noninterest income credited to the HI trust fund. An additional 7 percent came from part of the income taxes on Social Security benefits collected from beneficiaries. The remaining 10 percent of the HI trust fund's noninterest income consisted of premiums paid by beneficiaries; amounts recovered from overpayments to providers; fines, penalties, and other amounts collected by the Health Care Fraud and Abuse Control program; and other transfers and appropriations. In addition, the trust fund is credited with interest on its balances; that interest amounted to $2.5 billion in 2021.

The HI trust fund's noninterest income is projected to increase from $413 billion in 2022 to $604 billion in 2032—an average annual increase of about 4 percent (see Table B-3 on page 129). But annual expenditures from the fund are projected to grow more rapidly—at an average annual rate of 6 percent—rising from $393 billion in 2022 to $678 billion in 2032.[9] If current laws governing the program remained in place and full benefits continued to be paid, expenditures would outstrip income in all years from 2025 through 2032, CBO estimates (see Figure B-1 on page 130, bottom panel).

The HI trust fund is projected to become exhausted in 2030, three years later than CBO estimated in

9. When October 1 (the first day of the fiscal year) falls on a weekend, as it will in calendar years 2022, 2023, and 2028, some Medicare payments that would ordinarily have been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year.

July 2021.[10] The later exhaustion date results primarily from the agency's projections of higher payroll tax revenues.

After the date of exhaustion, CMS could not make payments in excess of the available receipts. However, because CBO's baseline projections must incorporate the assumption that CMS would continue to pay HI benefits in full, CBO projects that outlays would exceed receipts by $49 billion in 2030, an amount that would increase to $74 billion in 2032.

Following its exhaustion, if the trust fund's outlays were limited to its income, expenditures in 2031 would be 8 percent below the amounts scheduled under current law, and they would be 11 percent below those amounts in 2032, CBO estimates. It is unclear what changes CMS could make to operate the Part A program under those circumstances.

Highway Trust Fund

The Highway Trust Fund comprises two accounts: the highway account, which funds the construction of highways and the enforcement of highway safety programs, and the transit account, which funds mass transit programs. Revenues credited to the Highway Trust Fund are derived primarily from excise taxes on gasoline and certain other motor fuels.[11] Most of those taxes are scheduled to expire after 2028. (However, the baseline projections are required by law to reflect the assumption that expiring excise taxes dedicated to a trust fund will be extended—in this case, beyond 2028.) Almost all spending from the fund is controlled by limitations on obligations set in appropriation acts.

From 2008 through 2021, the fund's outlays exceeded its revenues by a total of $159 billion. As a result, lawmakers have authorized a series of transfers to the Highway Trust Fund to avoid delaying payments to state and local governments. The most recent transfer, in November 2021, of $118 billion from the general fund of the Treasury to the Highway Trust Fund, was authorized by section 80103 of the IIJA. Including that amount, the transfers since 2008 have totaled over $275 billion.

In CBO's baseline projections, the obligation limitations that control most of the spending from the trust fund are assumed to increase each year at the rate of inflation. Under that assumption, both the highway account and the transit account would be exhausted in 2027, four years later than CBO projected in July 2021; the later date is the result of the 2021 transfer from the general fund.

If the fund was exhausted, its spending would then be limited to no more than it collected in receipts. In 2028, the first year after the fund's projected exhaustion, its outlays would be 47 percent below the amounts in the baseline projections, CBO estimates. The gap between the fund's revenues and spending would increase after that; by 2032, the reduction in spending would amount to over 50 percent.

10. Congressional Budget Office, "10-Year Trust Fund Projections" (supplemental material for *The Budget and Economic Outlook: 2021 to 2031*, July 2021), www.cbo.gov/data/budget-economic-data#5.

11. The other revenues credited to the Highway Trust Fund come from excise taxes on trucks and trailers, on truck tires, and on the use of certain kinds of vehicles.

Appendix C: CBO's Economic Projections for 2022 to 2032

The tables in this appendix show the Congressional Budget Office's economic projections for each year from 2022 to 2032. For the projections by calendar year, see Table C-1; for the projections by fiscal year, see Table C-2.

Table C-1.

CBO's Economic Projections, by Calendar Year

Percent

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	Change From Year to Year											
Gross Domestic Product												
Real[a]	5.7	3.8	2.8	1.6	1.5	1.4	1.6	1.7	1.8	1.8	1.7	1.7
Nominal	10.1	9.3	5.5	3.8	3.6	3.5	3.7	3.8	3.9	3.9	3.9	3.8
Inflation												
PCE price index	3.9	5.1	2.7	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Core PCE price index[b]	3.3	4.5	2.8	2.3	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.0
Consumer price index[c]	4.7	6.1	3.1	2.4	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.3
Core consumer price index[b]	3.6	5.1	3.3	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
GDP price index	4.2	5.2	2.7	2.1	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Employment Cost Index[d]	4.0	5.6	4.5	3.8	3.5	3.3	3.2	3.2	3.1	3.1	3.1	3.0
	Calendar Year Average											
Unemployment Rate	5.4	3.8	3.5	3.7	3.9	4.0	4.2	4.5	4.5	4.6	4.5	4.5
Payroll Employment (Monthly change, in thousands)[e]	514	345	123	58	46	35	30	54	65	60	66	63
Interest Rates												
3-month Treasury bills	*	0.9	2.0	2.5	2.6	2.5	2.3	2.3	2.3	2.3	2.3	2.3
10-year Treasury notes	1.4	2.4	2.9	3.1	3.2	3.5	3.7	3.8	3.8	3.8	3.8	3.8
Tax Bases (Percentage of GDP)												
Wages and salaries	44.9	44.7	44.2	44.1	44.0	44.0	44.1	44.1	44.0	44.0	43.9	43.9
Domestic corporate profits[f]	10.1	9.7	9.3	8.8	8.6	8.2	8.0	7.9	7.8	7.8	7.8	7.7
Tax Bases (Billions of dollars)												
Wages and salaries	10,327	11,233	11,725	12,128	12,541	13,001	13,504	14,021	14,548	15,095	15,666	16,258
Domestic corporate profits[f]	2,314	2,426	2,461	2,426	2,451	2,428	2,444	2,500	2,592	2,684	2,772	2,865
Nominal GDP (Billions of dollars)	22,996	25,135	26,529	27,531	28,525	29,517	30,614	31,788	33,032	34,323	35,654	37,026

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Bureau of Labor Statistics; Federal Reserve. See www.cbo.gov/publication/57950#data.

GDP = gross domestic product; PCE = personal consumption expenditures; * = between zero and 0.05 percent.

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

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, calculated by dividing by 12 the change in payroll employment from the fourth quarter of one calendar year to the fourth quarter of the next.

f. Adjusted to remove distortions in depreciation allowances caused by tax rules and to exclude the effect of changes in prices on the value of inventories.

Table C-2.

CBO's Economic Projections, by Fiscal Year

Percent

	Actual, 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
						Change From Year to Year						
Gross Domestic Product												
Real[a]	3.6	4.4	3.0	1.8	1.5	1.4	1.5	1.7	1.8	1.8	1.7	1.7
Nominal	6.8	10.4	6.3	4.0	3.6	3.5	3.6	3.8	3.9	3.9	3.9	3.9
Inflation												
PCE price index	2.8	5.5	3.1	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Core PCE price index[b]	2.5	4.7	3.1	2.4	2.2	2.1	2.0	2.0	2.1	2.1	2.1	2.0
Consumer price index[c]	3.3	6.6	3.6	2.5	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.3
Core consumer price index[b]	2.7	5.3	3.7	2.7	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3
GDP price index	3.1	5.7	3.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Employment Cost Index[d]	3.5	5.5	4.8	3.9	3.6	3.3	3.2	3.2	3.1	3.1	3.1	3.0
						Fiscal Year Average						
Unemployment Rate	6.0	3.9	3.6	3.6	3.8	4.0	4.2	4.4	4.5	4.6	4.5	4.5
Payroll Employment (Monthly change, in thousands)[e]	534	423	171	64	46	40	34	42	65	59	66	64
Interest Rates												
3-month Treasury bills	0.1	0.6	1.8	2.4	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.3
10-year Treasury notes	1.3	2.1	2.8	3.0	3.1	3.4	3.7	3.8	3.8	3.8	3.8	3.8
Tax Bases (Percentage of GDP)												
Wages and salaries	45.1	44.8	44.3	44.1	44.0	44.0	44.1	44.1	44.1	44.0	43.9	43.9
Domestic corporate profits[f]	9.8	9.8	9.4	8.9	8.6	8.3	8.0	7.9	7.8	7.8	7.8	7.7
Tax Bases (Billions of dollars)												
Wages and salaries	10,082	11,062	11,616	12,028	12,434	12,880	13,378	13,890	14,415	14,956	15,520	16,109
Domestic corporate profits[f]	2,200	2,413	2,473	2,429	2,442	2,439	2,434	2,481	2,567	2,661	2,750	2,841
Nominal GDP (Billions of dollars)	22,365	24,694	26,240	27,291	28,271	29,266	30,332	31,487	32,716	33,996	35,318	36,680

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Bureau of Labor Statistics; Federal Reserve. See www.cbo.gov/publication/57950#data.

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

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

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, calculated by dividing by 12 the change in payroll employment from the fourth quarter of one fiscal year to the fourth quarter of the next.

f. Adjusted to remove distortions in depreciation allowances caused by tax rules and to exclude the effect of changes in prices on the value of inventories.

List of Tables and Figures

Tables

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 2021. At that time, members of the panel were Katharine Abraham, Alan Auerbach, David Autor, Olivier Blanchard, 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, Aysegül Sahin, James Stock, Kevin Warsh, and Mark Zandi. Constance Hunter and David Wilcox attended the panel's meeting as guests, and Lewis Alexander 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/57950); 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
May 2022

Economic Projections

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

Grace Berry · Motor vehicle sector, model and data management

Aaron Betz · Effects of fiscal policy

Erin Deal (formerly of CBO) · Housing, model and data management

Daniel Fried · Net exports, exchange rates, energy prices

Edward Gamber · Labor markets, current-quarter analysis

Ron Gecan · Energy prices

Mark Lasky · Business investment, housing

Junghoon Lee · Effects of fiscal policy

Chandler Lester · Inflation, house prices

Vinay Maruri · Financial markets

Michael McGrane · Financial markets

Christine Ostrowski · Consumer spending, income

Jeffrey Schafer · Interest rates, monetary policy

John Seliski · Federal, state, and local government spending and revenues; effects of fiscal policy

Robert Shackleton · Potential output, productivity

Revenue Projections

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.

Kathleen Burke · Individual income taxes, wage distribution

Paul Burnham · Retirement income

Dorian Carloni · Business taxation

Madeleine Fox · Customs duties

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

Bilal Habib · Tax modeling

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

Kurt Seibert · Payroll taxes, depreciation, tax modeling

Jennifer Shand · Corporate income taxes

Naveen Singhal · Capital gains realizations, tax modeling

Ellen Steele · Refundable tax credits

James Williamson · Retirement income, estate and gift taxes

Spending Projections

The spending projections were prepared by the Budget Analysis Division, with contributions from analysts in other divisions. That work was supervised by Theresa Gullo, Leo Lex, Sam Papenfuss, Christina Hawley Anthony, Megan Carroll, Chad Chirico, Elizabeth Cove Delisle, Kathleen FitzGerald, Justin Humphrey, Paul Masi, Sarah Masi, David Newman, and Susan Willie of the Budget Analysis Division, as well as by Carrie H. Colla and Chapin White of the Health Analysis Division and by Sebastien Gay of the Financial Analysis Division.

Defense, International Affairs, and Veterans' Affairs

Sunita D'Monte · International affairs

Caroline Dorminey · Defense (procurement)

Paul B. A. Holland · Veterans' education benefits, reservists' education benefits

Etaf Khan · Veterans' health care and employment training services, international food assistance

William Ma · Defense (operation and maintenance, intelligence programs, other defense programs)

Christopher Mann · Defense (facilities, energy, nuclear programs)

Aldo Prosperi · Defense (research and development, cybersecurity)

David Rafferty · Military retirement, compensation for radiation exposure and energy employees' occupational illness

Dawn Sauter Regan · Defense (military personnel)

Matt Schmit · Military health care

Logan Smith · Veterans' compensation and pensions, other benefits for disabled veterans

Finance, Housing, and Education

Kathleen Gramp · Orderly Liquidation Fund

David Hughes · Commerce, Small Business Administration, Universal Service Fund

Wendy Kiska · Federal Deposit Insurance Corporation, Orderly Liquidation Fund

Leah Koestner · Student loans, higher education programs

Vinay Maruri · Federal Deposit Insurance Corporation

Michael McGrane · Fannie Mae and Freddie Mac

Noah Meyerson · Pension Benefit Guaranty Corporation

Zunara Naeem · Housing assistance

Jeffrey Perry · Student loans, Fannie Mae and Freddie Mac, Federal Housing Administration

Garrett Quenneville · Elementary and secondary education, Pell grants

Stephen Rabent (formerly of CBO) · Deposit insurance, credit unions, Postal Service

Robert Reese · Federal Housing Administration

Mitchell Remy · Fannie Mae and Freddie Mac, Federal Housing Administration

Jon Sperl · Community and regional development, Federal Emergency Management Agency, Bureau of Indian Affairs, judicial branch, administration of justice

Aurora Swanson · Fannie Mae and Freddie Mac

Lindsay Wylie (formerly of CBO) · Law enforcement, justice assistance, homeland security, Postal Service

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Julia Christensen (formerly of CBO) · Food and Drug Administration, prescription drugs

Katherine Feinerman · Health insurance coverage

Ryan Greenfield · Prescription drugs, National Institutes of Health, Food and Drug Administration

Cornelia Hall · Medicare

Stuart Hammond · Medicare, Federal Employees Health Benefits program

Caroline Hanson · Health insurance coverage

Jared Hirschfield · Health insurance marketplaces, private health insurance

Ben Hopkins · Health insurance coverage

Geena Kim (formerly of CBO) · Medicaid, health insurance coverage

Brian Klein-Qiu · Medicare

Sean Lyons · Health insurance coverage

Rachel Matthews · Centers for Medicare & Medicaid Services

Eamon Molloy · Health insurance coverage

Hudson Osgood · Medicare, Public Health Service

Romain Parsad · Health insurance coverage

Allison Percy · Health insurance coverage

Lisa Ramirez-Branum · Medicaid, health insurance coverage

Lara Robillard · Medicare

Asha Saavoss · Medicare, Public Health Service

Sarah Sajewski · Medicare, Public Health Service

Robert Stewart · Medicaid, Children's Health Insurance Program, Indian Health Service

Carolyn Ugolino · Health insurance marketplaces, private health insurance

Emily Vreeland · Health insurance marketplaces, private health insurance

Ellen Werble · Prescription drugs, Public Health Service

Kate Young · Medicaid, prescription drugs

Chris Zogby · Health insurance coverage

Income Security

Susan Yeh Beyer · Child nutrition and other nutrition programs, Smithsonian Institution, arts and humanities

Meredith Decker · Unemployment insurance, job training programs

Jennifer Gray · Supplemental Nutrition Assistance Program and other nutrition programs, Social Services Block Grant, support programs for children and families

Wendy Kiska · Pension Benefit Guaranty Corporation

Justin Latus · Supplemental Security Income, Administration on Aging

Susanne Mehlman · Temporary Assistance for Needy Families, child support enforcement, foster care, child care programs, Low Income Home Energy Assistance Program

Noah Meyerson · Old-Age and Survivors Insurance, Social Security trust funds

Emily Stern · Disability Insurance, rehabilitation services

Sree Yeluri · Refugee and Entrant Assistance, Child Care and Development Block Grant

Natural and Physical Resources

Tiffany Arthur · Agriculture

Madeleine Fox · Natural resources

Kathleen Gramp · Energy, Outer Continental Shelf receipts, spectrum auction receipts

Sofia Guo · Workplace and mine safety

Evan Herrnstadt · Spectrum auction receipts

David Hughes · Recreational resources

Aaron Krupkin · Energy, air and water transportation

Michael McGrane · Fannie Mae and Freddie Mac

Erik O'Donoghue · Agriculture

Matthew Pickford · General government, legislative branch

Stephen Rabent (formerly of CBO) · Pollution control and abatement

Robert Reese · Federal Housing Administration, other natural resources, highways, mass transit, Amtrak

Janani Shankaran · Science and space exploration, conservation and land management, spectrum auction receipts

Aurora Swanson · Water resources

Other Areas and Functions

Shane Beaulieu · Computer applications and data systems

Barry Blom · Budget projections

Breanna Browne-Pike · Appropriation bills (Labor, Health and Human Services, and Education; Legislative Branch)

Joanna Capps · Appropriation bills (Labor, Health and Human Services, and Education; Legislative Branch)

Aaron Feinstein · Other interest, monthly Treasury data, historical data

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

Amber Marcellino · Federal civilian retirement

George McArdle · Appropriation bills (Military Construction and Veterans Affairs; State and Foreign Operations)

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

Dan Ready · Various federal retirement programs, national income and product accounts, federal pay

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

Esther Steinbock · Appropriation bills (Energy and Water Development; Transportation and Housing and Urban Development)

J'nell Blanco Suchy · Appropriation bills (Homeland Security; Interior and Environment), authorization bills

Patrice Watson · Computer applications and data systems

Olivia Yang · Budget projections and appropriation bills

Long-Term Projections

The long-term projections were prepared by the Labor, Income Security, and Long-Term Analysis Division and the Macroeconomic Analysis Division. That work was supervised by Molly Dahl, Robert Arnold, and Devrim Demirel. The projections were prepared by Aaron Betz, Yiqun Gloria Chen (formerly of CBO), Damir Cosic, Daniel Crown, Daniel Fried, Edward Gamber, Mark Lasky, Chandler Lester, Kyoung Mook Lim, Michael McGrane, Jaeger Nelson, Christine Ostrowski, Charles Pineles-Mark, Jeffrey Schafer, John Seliski, Robert Shackleton, and Jordan Trinh.

Writing

Barry Blom prepared the visual summary. Barry Blom wrote Chapter 1, with assistance from Avi Lerner and Joshua Shakin. Jeffrey Schafer wrote Chapter 2, with contributions from Nabeel Alsalam and Junghoon Lee. Amber Marcellino wrote Chapter 3, with assistance from Avi Lerner and Dan Ready. Joshua Shakin wrote Chapter 4, with assistance from Kathleen Burke. Dan Ready wrote Chapter 5 with assistance from Madeleine Fox and Molly Saunders-Scott. Aaron Feinstein wrote Appendix A, with contributions from Ellen Steele. Avi Lerner wrote Appendix B. Grace Berry compiled Appendix C.

Reviewing, Editing, Fact-Checking, and Publishing

Mark Doms, Mark Hadley, Jeffrey Kling, and Robert Sunshine reviewed the report. The editing and publishing were handled by CBO's editing and publishing group, supervised by Benjamin Plotinsky and John Skeen, and the agency's communications team, supervised by Deborah Kilroe.

Christine Bogusz, Scott Craver, Christian Howlett, Loretta Lettner, Bo Peery, Benjamin Plotinsky, and Caitlin Verboon edited the report; R. L. Rebach and Jorge Salazar created the graphics and prepared the text for publication; and Annette Kalicki published the report on CBO's website.

Grace Berry, Fiona Forrester, Daniel Fried, Edward Gamber, Mark Lasky, Chandler Lester, William Ma, Amy McConnel, Omar Morales, Christine Ostrowski, Tess Prendergast, Aldo Prosperi, Robert Shackleton, Emily Stern, and Olivia Yang fact-checked the report. Ann E. Futrell, Kate Kelly, and Lara Robillard coordinated the preparation of tables of baseline projections; Aaron Betz coordinated the preparation of figures and tables related to economic projections. Grace Berry, Omar Morales, Tess Prendergast, Dan Ready, and Olivia Yang compiled data and supplemental information, and Annette Kalicki and Simone Thomas coordinated the presentation of those materials.