Changes in Long-Term Budget Projections Since March 2017

The 30-year projections of federal spending and revenues presented in this report differ from the projections that the Congressional Budget Office published in 2017 because of certain changes in law, revisions to some of the agency's assumptions and methods, the availability of more recent data, and changes to the agency's projections of demographic and economic variables.[1] For the same reasons, CBO's 10-year projections have also changed since 2017, and they serve as the foundation for the 30-year projections. The 10-year projections are typically published in *The Budget and Economic Outlook*; however, since the publication of that report in April, the agency has adjusted them.[2] As a result, the long-term projections in this report are based on those adjusted projections (see Table B-1).

This appendix compares CBO's current long-term budget projections with those published last year. Because most of the projections in the 2017 report ended in 2047, the appendix compares projections only through that year.

Measured as a percentage of gross domestic product (GDP), federal debt held by the public is now projected to be higher through 2041, and lower thereafter, than CBO projected last year. Under the extended baseline, debt is projected to grow from about 78 percent of

GDP this year to 148 percent in 2047; last year, CBO projected that it would rise from 77 percent of GDP in 2018 to 150 percent in 2047 (see Figure B-1).[3] The revised projections of debt resulted from changes in both spending and revenue projections, all of them presented here as a percentage of GDP:

- Projected noninterest spending is lower than CBO anticipated last year, though the difference shrinks toward the end of the 30-year projection period. The main cause is downward revisions to outlays for Social Security and the major health care programs in CBO's projections, though those reductions in mandatory spending are partially offset by increases in discretionary spending.[4]

- Net spending for interest is projected to be higher through the late 2030s than it was in last year's projections and lower thereafter. The initial difference results from higher projected interest rates and greater projected levels of debt held by the public than CBO projected last year. That relationship reverses later in the projection period as deficits become smaller than projected a year ago, a change that leads to lower interest costs and slower accumulation of debt.

- Projected revenues are lower through 2026 than they were in last year's projections, similar for most of the following two decades, and then slightly higher by the end of the 30-year projection period. Those changes reflect provisions of Public Law 115-97, which is referred to here as the 2017 tax act.

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1. See Congressional Budget Office, *The 2017 Long-Term Budget Outlook* (March 2017), www.cbo.gov/publication/52480. The changes in demographic and economic projections are described in Appendix A of this report.

2. In total, the adjustments reduced the projected deficit for 2018 by $12 billion and reduced projected deficits over the 2019–2028 period by a cumulative $17 billion. For the April report, see Congressional Budget Office, *The Budget and Economic Outlook: 2018 to 2028 (*April 2018), www.cbo.gov/publication/53651. For the adjusted projections, see Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), www.cbo.gov/publication/53884.

3. The extended baseline generally reflects current law, following CBO's 10-year baseline budget projections and then extending most of the concepts underlying those baseline projections for the rest of the long-term projection period.

4. Mandatory spending is generally governed by provisions of permanent law, whereas discretionary spending is controlled by annual appropriation acts.

Table B-1.

Comparison of CBO's Adjusted April 2018 Baseline and January 2017 Baseline

Billions of Dollars

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Adjusted April 2018 Baseline											
Revenues	3,339	3,490	3,680	3,829	4,016	4,232	4,448	4,667	5,003	5,301	5,520
Outlays	4,131	4,463	4,683	4,947	5,290	5,505	5,693	6,020	6,324	6,616	7,047
Deficit	-793	-973	-1,003	-1,118	-1,275	-1,273	-1,245	-1,352	-1,321	-1,314	-1,527
Debt Held by the Public at the End of the Year[a]	15,676	16,743	17,804	18,970	20,290	21,609	22,904	24,310	25,687	27,058	28,642
January 2017 Baseline											
Revenues	3,604	3,733	3,878	4,019	4,176	4,346	4,527	4,724	4,931	5,140	n.a.
Outlays	4,091	4,334	4,562	4,816	5,135	5,346	5,554	5,890	6,228	6,548	n.a.
Deficit	-487	-601	-684	-797	-959	-1,000	-1,027	-1,165	-1,297	-1,408	n.a.
Debt Held by the Public at the End of the Year[a]	15,416	16,092	16,845	17,704	18,721	19,776	20,858	22,078	23,430	24,893	n.a.
Difference Between Adjusted April 2018 Baseline and January 2017 Baseline											
Revenues	-265	-243	-199	-190	-160	-114	-79	-57	72	161	n.a.
Outlays	40	129	121	132	155	158	139	130	96	68	n.a.
Deficit[b]	-305	-372	-320	-322	-315	-272	-217	-187	-24	93	n.a.
Debt Held by the Public at the End of the Year[a]	260	650	959	1,266	1,569	1,832	2,046	2,232	2,257	2,165	n.a.

Sources: Congressional Budget Office; staff of the Joint Committee on Taxation.

n.a. = not applicable.

a. The net amount that the Treasury borrows is determined primarily by the annual budget deficit. In addition, several 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.

b. Negative numbers indicate that CBO's projection of the deficit has grown.

Over most of the coming decade, the decrease relative to last year's projections, measured as a share of GDP, is larger for revenues than for noninterest spending (see Figure B-2). The result is that projected deficits through 2025 are now markedly larger than previously projected. Beginning in 2026, however, they are smaller than previously projected.

Changes in Projected Spending

In CBO's extended baseline, noninterest spending as a percentage of GDP is slightly lower than anticipated last year, mainly because the agency's projections of outlays for Social Security and the major health care programs have fallen. CBO's projections of discretionary spending, by contrast, are higher than they were a year ago. Projections of net interest costs are higher than previously projected through the late 2030s and then lower.

Noninterest Spending

As a share of GDP, noninterest spending—that is, spending for Social Security, spending for the major federal health care programs, and other noninterest spending—is projected to be about the same in 2018 as projected last year and lower thereafter. Specifically, it is projected to equal 19.0 percent of GDP in 2018 and to reach 23.0 percent of GDP by 2047 (0.2 percentage points lower than in last year's projection).
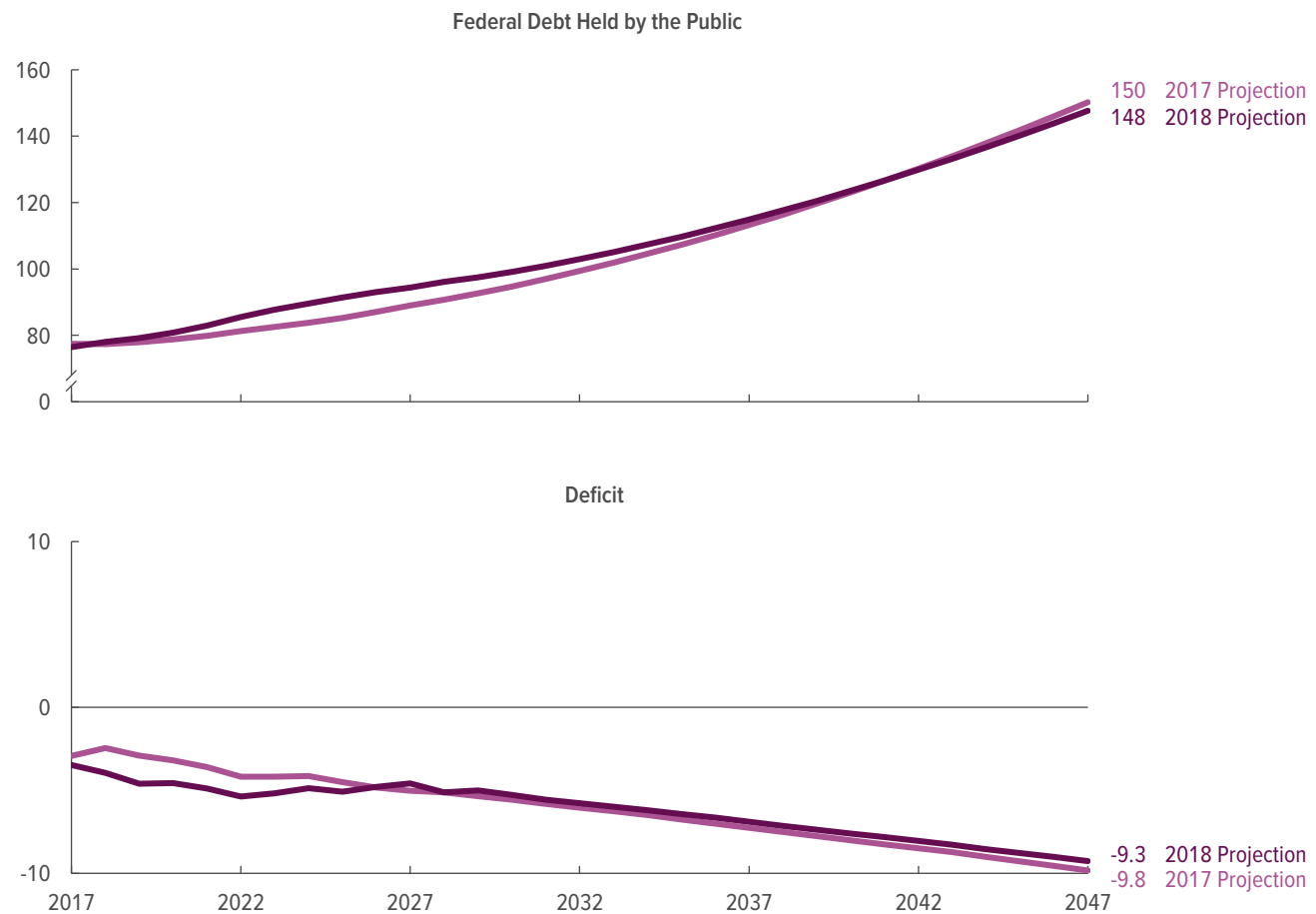
Social Security Spending. CBO projects that outlays for Social Security as a percentage of GDP will be slightly lower than the agency anticipated last year. That change reflects slightly lower projections of nominal outlays over the next 10 years and higher projections of GDP.

The revisions to nominal outlays over the next 10 years include a downward adjustment of projected spending

Figure B-1.

Comparison of CBO's 2017 and 2018 Projections of Federal Debt Held by the Public and the Deficit in the Extended Baseline

Percentage of Gross Domestic Product

Federal Debt Held by the Public

150 2017 Projection
148 2018 Projection

Deficit

-9.3 2018 Projection
-9.8 2017 Projection

Source: Congressional Budget Office.

The extended baseline generally reflects current law, following CBO's 10-year baseline budget projections and then extending most of the concepts underlying those baseline projections for the rest of the long-term projection period.

on Disability Insurance (DI), which is a component of the Social Security program, and lower projections of average wage rates through 2020. The DI projections are lower mainly because caseloads have been lower than anticipated over the past year, which led CBO to reduce its projection of the number of DI beneficiaries initially as well as projections of growth in the number of beneficiaries over the next several years. The projections of average wage rates are lower because of downward revisions to historical data. (Lower projections of average wage rates reduce projected spending on Social Security benefits because the earnings on which initial benefits are
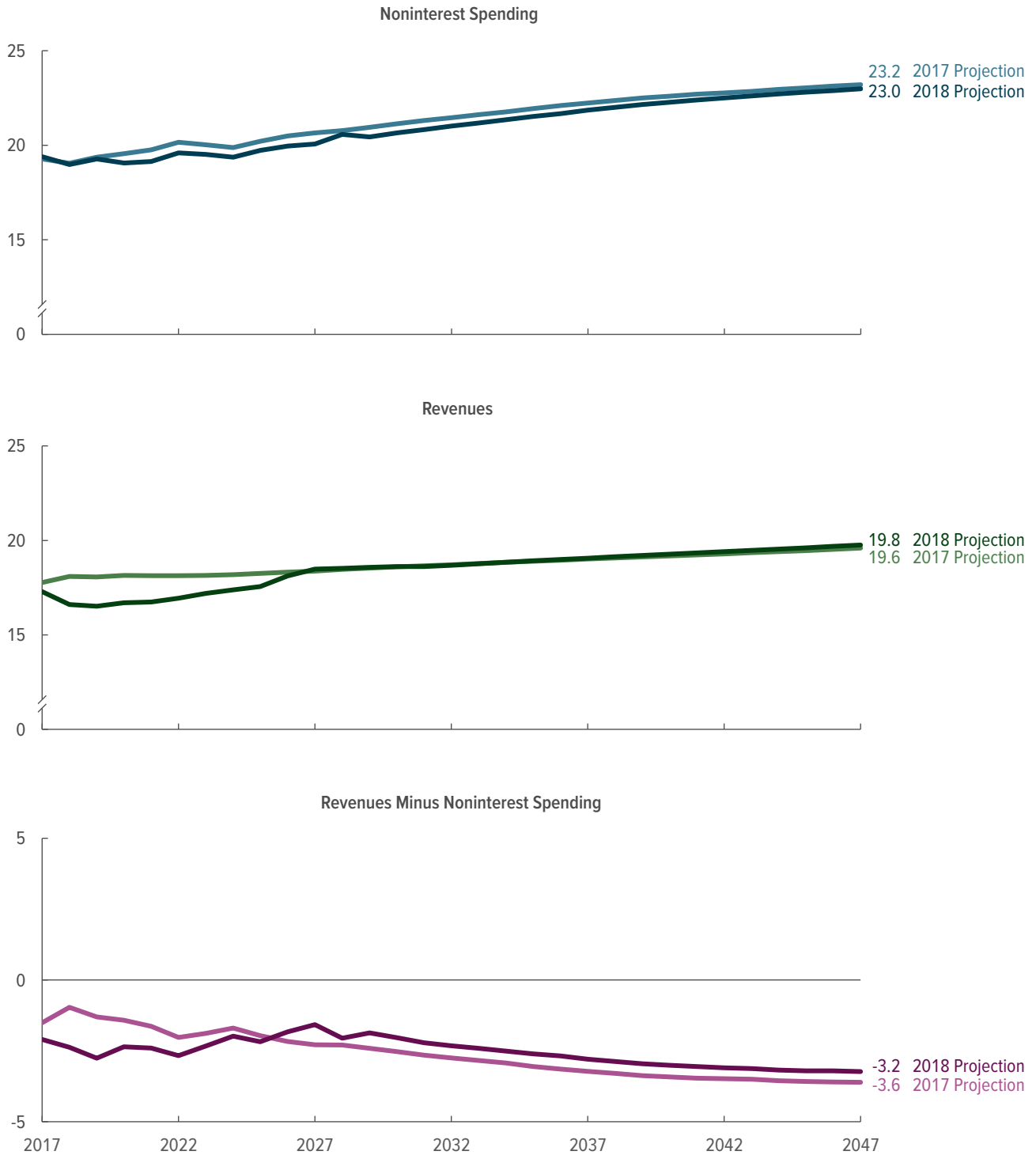
based are indexed to growth in average wages. When that growth is lower, the resulting benefits are also lower.)

Major Federal Health Care Spending. CBO's current long-term projection of federal spending for the major health care programs, measured as a percentage of GDP, is lower than last year's projection. Spending for Medicare net of offsetting receipts (that is, premiums paid by beneficiaries) is now projected to equal 2.9 percent of GDP in 2018 (0.1 percent of GDP lower than projected last year) and then to rise steadily to 5.8 percent of GDP in 2047 (0.3 percent of GDP

Figure B-2.

Comparison of CBO's 2017 and 2018 Projections of Spending and Revenues in the Extended Baseline

Percentage of Gross Domestic Product

Noninterest Spending

23.2 2017 Projection
23.0 2018 Projection

Revenues

19.8 2018 Projection
19.6 2017 Projection

Revenues Minus Noninterest Spending

-3.2 2018 Projection
-3.6 2017 Projection

Source: Congressional Budget Office.

The extended baseline generally reflects current law, following CBO's 10-year baseline budget projections and then extending most of the concepts underlying those baseline projections for the rest of the long-term projection period.

lower than projected last year). That reduction occurred mostly because CBO has increased its projections of GDP. Outlays for Medicaid and the Children's Health Insurance Program (CHIP), combined with spending to subsidize health insurance purchased through the marketplaces established under the Affordable Care Act and related spending, are projected to be lower than previously anticipated through the late 2030s and higher thereafter, totaling 3.3 percent of GDP in 2047, slightly larger than the sum projected last year. That larger ultimate amount results from faster growth of Medicaid spending in the second and third decades than projected a year ago.

To project long-term spending for the major health care programs, CBO used the same method that it used last year. Namely, it combined estimates of the number of people who are projected to receive benefits from those programs with fairly mechanical estimates of the growth of spending per beneficiary (adjusted to account for demographic changes to the beneficiaries in each program). CBO has estimated such growth by combining projected growth in potential GDP per person with projected excess cost growth for each program.[5] (From 2018 to 2027, potential GDP per person is projected to grow at an average rate of about 3.4 percent per year, up from the 3.1 percent estimated last year; from 2018 to 2047, the average growth rate is projected to be about 3.4 percent per year, roughly the same as last year's estimate.)

For each category of spending except CHIP, through 2028, CBO used the rate of excess cost growth implicit in the agency's 10-year baseline projections.[6] For 2029, the rate equals the average rate from 2024 to 2028 (the last 5 years of the 10-year baseline projections). The rates of excess cost growth for Medicare, Medicaid, and private health insurance therefore all differ in 2029. After 2029, the rate for each category moves linearly, by the same fraction of a percentage point each year, from that category-specific rate to a rate of 1.0 percent in 2048.[7]

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5. Potential GDP is the maximum sustainable output of the economy. Excess cost growth is the extent to which health care costs per person, after being adjusted for demographic changes, grow faster than potential GDP per person.

6. Spending for CHIP is projected differently. Outlays for CHIP are projected to be a constant percentage of GDP after 2028.

7. For more information, see Congressional Budget Office, *The 2016 Long-Term Budget Outlook* (July 2016), Chapter 3, www.cbo.gov/publication/51580.

For Medicare, the average annual rate of excess cost growth implicit in CBO's baseline projections is about 1.0 percent from 2019 through 2028, slightly lower than last year's average of 1.1 percent from 2018 through 2027. The rate of excess cost growth for 2029 is 1.2 percent, the same as last year's estimate. Excess cost growth is projected to average 1.1 percent over the full projection period, the same as last year's estimate but lower than the historical average of 1.3 percent from 1985 to 2016.

For Medicaid, the average annual rate of excess cost growth implicit in CBO's baseline projections for the federal share of such spending is 1.5 percent from 2019 through 2028, up by 0.3 percentage points from last year's estimate for 2018 through 2027. The rate for 2029 is 1.6 percent, up by 0.9 percentage points from last year's estimate. That change was the cumulative result of many updates that CBO made to its baseline projections for legislative, economic, and technical reasons—with the largest contribution resulting from an update to CBO's methods that made the agency's estimates of growth in costs per beneficiary more consistent throughout the 10-year projection period. The rate of excess cost growth is projected to average 1.4 percent over the full projection period, which is 0.4 percentage points higher than last year's estimate and 0.4 percentage points higher than the 1985–2016 average.

For private health insurance premiums, which CBO uses as an input to its calculation of marketplace subsidies, the average annual rate of excess cost growth implicit in CBO's baseline projections is about 2 percent from 2019 through 2028 (the same as last year's estimate). The rate for 2029 is also about 2 percent, which again is similar to last year's estimate. The rate is projected to decline from 2029 to 2048 and to be lower in 2048 than its historical average.

Other Noninterest Spending. Over the next 10 years, other noninterest spending—total federal spending on everything other than Social Security, the major federal health care programs, and net interest—is projected to be slightly higher as a percentage of GDP than projected last year and roughly the same thereafter. For most of the next 10 years, the part of that spending that is mandatory is slightly lower than previously projected as a share of GDP because CBO has revised its projections of GDP upward. But that decline is more than offset

Figure B-3.

Comparison of CBO's 2017 and 2018 Projections of Net Spending for Interest in the Extended Baseline
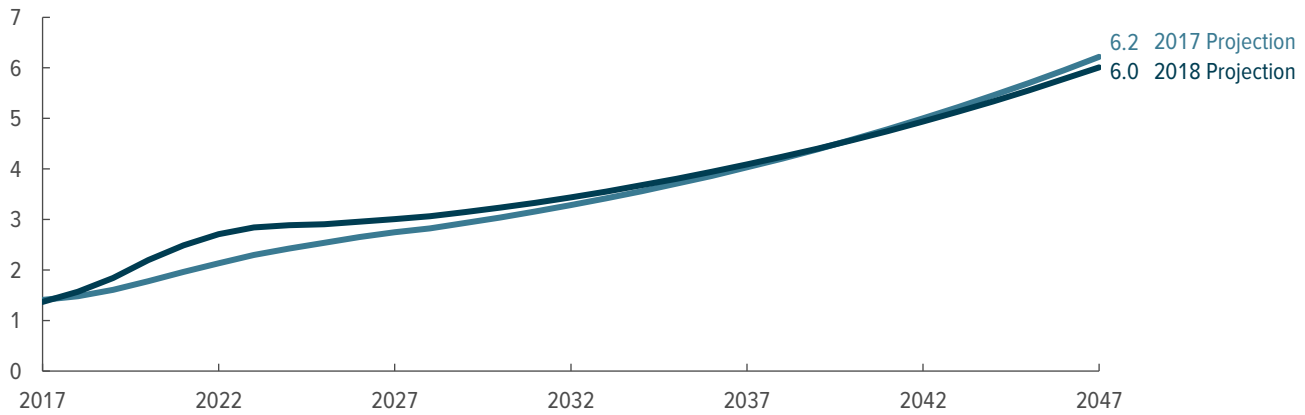
Percentage of Gross Domestic Product

Source: Congressional Budget Office.

The extended baseline generally reflects current law, following CBO's 10-year baseline budget projections and then extending most of the concepts underlying those baseline projections for the rest of the long-term projection period.

by an increase in projected discretionary spending. That increase stems primarily from legislative changes that increased funding for defense and nondefense spending limited by caps on annual appropriations and that increased funding for emergency requirements.

Beyond 2028, other noninterest spending as a share of GDP is projected to be about the same as projected last year, reflecting lower projections of other mandatory spending offset by higher projections of discretionary spending. The projections of other mandatory spending as a percentage of GDP are lower because such spending is projected to be slightly smaller after 10 years, and CBO projects that it will decline in relation to GDP at the same rate by which it is projected to fall between 2023 and 2028, although at a slightly slower rate than last year. The projections of discretionary spending are higher than they were last year because such spending, at the end of the 10-year period, is now higher than it was in last year's projections. (CBO assumes that discretionary spending will remain roughly constant as a share of GDP after 2028.)

Interest Costs
In CBO's projections, net interest costs are higher through the late 2030s and lower thereafter than they were a year ago (see Figure B-3). Those costs are higher initially because the agency's projections of interest rates and federal debt held by the public are likewise higher.

After the late 2030s, smaller deficits and eventually smaller debt result in lower net interest costs. For the coming decade, net interest costs are projected to average 2.5 percent of GDP; last year, the projected average was 2.2 percent. They are projected to equal 3.1 percent of GDP by 2028 (up 0.2 percentage points from last year's projections) and 6.0 percent of GDP by 2047 (down 0.2 percentage points from last year's projections).

Changes in Projected Revenues
In CBO's current projections, revenues measured as a percentage of GDP are lower through 2026 than they were in last year's projections, similar for most of the following two decades, and then slightly higher by the end of the 30-year projection period. They equal 16.6 percent of GDP this year (which is 1.5 percentage points lower than last year's estimate) and then rise to 18.1 percent of GDP in 2026 (which is 0.2 percentage points lower than last year's estimate). Those downward revisions are the result of recently enacted legislative changes and increased projections of GDP. In particular, provisions of the 2017 tax act temporarily reduced individual income tax rates, nearly doubled the standard deduction, modified or eliminated certain deductions or exemptions, and temporarily allowed firms to deduct the cost of capital investments immediately.

Measured as a share of GDP, revenues in 2027 are projected to be largely the same as in last year's projections,

following the scheduled expiration of most of the individual income tax provisions of the 2017 tax act.[8] From 2027 to 2038, projected revenues average 18.8 percent of GDP (which is equal to last year's estimate). But by 2047, revenues are projected to be 0.2 percentage points higher than projected a year ago. That is because individual income taxes are now projected to grow more quickly through most of the projection period as a result of a change in the price index that is used to adjust tax brackets.[9] As a consequence, income will be pushed into higher tax brackets more quickly than projected a year ago.

Those effects are partially offset by a change in CBO's projection of the distribution of earnings. Specifically, the agency has lowered its projection of the share of earnings that will accrue to the highest earners over the next 30 years (though it still projects that earnings will grow more quickly for higher-income people than for others). The change causes a smaller share of income to be taxed at higher rates under the individual income tax, reducing receipts from that tax source. That decrease is largely offset by an increase in projected payroll taxes, as a smaller increase in the share of income accruing to the highest earners results in more earnings falling below the maximum amount subject to Social Security payroll taxes.

Changes in Social Security's Projected Finances

A common measure of the sustainability of a program that has a trust fund and a dedicated revenue source is its estimated actuarial balance over a given period—that is, the sum of the present value of projected tax revenues and the current trust fund balance minus the sum of the present value of projected outlays and a year's worth of

benefits at the end of the period.[10] When that balance is negative, it is a deficit.

The 75-year actuarial deficit currently projected for Social Security is 1.5 percent of GDP (which is the same as estimated last year) or 4.4 percent of taxable payroll (which is smaller than last year's estimate of 4.5 percent). That reduction resulted from a number of factors. CBO has lowered its projection of nominal outlays for Social Security over the next 10 years and increased its projection of the share of earnings that are subject to Social Security payroll taxes over the next 30 years.[11] In addition, the agency projects slightly higher interest rates over the 75-year period. Partially offsetting those effects is an increase in the actuarial deficit that results each year from incorporating another year of relatively large deficits into the analysis.[12]

Another commonly used measure of Social Security's sustainability is its trust funds' date of exhaustion. CBO projects that if current law did not change, the Disability Insurance Trust Fund would be exhausted in fiscal year 2025, the Old-Age and Survivors Insurance (OASI) Trust Fund would be exhausted in calendar year 2032, and the combined trust funds would be exhausted in calendar year 2031. Last year, those exhaustion dates were two years earlier for the DI trust fund, one year earlier for the OASI trust fund, and one year earlier for the combined funds. The changes in those dates are the result of the lower projections of nominal outlays from the trust funds, the higher projections of interest rates on balances in the trust funds, and higher projections of revenues into the trust funds. The revenues are projected to be higher because of increased projections of earnings relative to last year and because the projected share of earnings that is subject to Social Security payroll taxes has grown.

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8.   For more information about the effects of the 2017 tax act, see *The Budget and Economic Outlook: 2018 to 2028* (April 2018), Appendix B, www.cbo.gov/publication/53651, and Box 1 on page 26 of this report.

9.   Beginning in 2018, the measure used for adjusting most parameters of the tax system will be changed from the standard consumer price index for urban consumers (CPI-U) to the chained CPI-U. The chained CPI-U tends to grow more slowly than the standard CPI-U because it uses a formula that better accounts for households' tendency to substitute similar goods and services for each other when relative prices change and because, unlike the CPI-U, it is little affected by statistical bias related to the sample sizes that the Bureau of Labor Statistics uses in computing each index. Historically, inflation as measured by the chained CPI-U has been 0.25 percentage points lower, on average, than inflation as measured by the standard CPI-U. CBO's projections reflect that average difference between the two measures.

10. A present value is a single number that expresses a flow of past and future income or payments in terms of an equivalent lump sum received or paid at a specific time. The value depends on the rate of interest, known as the discount rate, used to translate past and future cash flows into current dollars at that time. To account for the difference between the trust fund's current balance and the balance desired for the end of the period, the balance at the beginning is added to projected tax revenues, and an additional year of costs at the end of the period is added to projected outlays.

11. Beyond the 30-year projection period, the share of earnings subject to Social Security payroll taxes is held constant in CBO's projections.

12. The actuarial deficit includes the trust fund balance at the beginning of the projection period, and that balance represents the present value of all income and costs to the trust funds since their beginning.