



How Changes in Economic Conditions Might Affect the Federal Budget: 2025 to 2035

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At least once a year, the Congressional Budget Office publishes a report providing the agency's projections of what the federal budget and the economy would look like in the current fiscal year and over the next 10 years if current laws governing taxes and spending generally remained unchanged. The agency uses its economic forecast—which includes projections of income, inflation, interest rates, and other variables—as a basis for projecting revenues from each major revenue source (individual, corporate, payroll, and other taxes), spending for federal budget accounts, the resulting deficits or surpluses, and federal debt. If economic conditions differed noticeably from those in CBO's forecast, budgetary outcomes could diverge from those in the agency's baseline budget projections.

To show how variations in economic conditions might affect its budget projections, CBO analyzed how revenues, outlays, and deficits might change if the values of key economic variables differed from those in the agency's forecast.¹ To do so, CBO generated four economic scenarios that would result in larger budget deficits. In isolation, each of those scenarios would cause the cumulative deficit for the 2026–2035 period to be larger than it is in CBO's baseline projections—by an amount between \$184 billion and \$388 billion. (The total deficit projected for that period is \$21.8 trillion.)

The four scenarios that CBO analyzed are as follows:

- **Slower productivity growth.** If productivity grew at a rate that was 0.1 percentage point slower each year

than it is in the agency's economic forecast, economic growth would slow, which would reduce income and, in turn, federal revenues. Although some of that decrease in revenues would be offset by reductions in outlays, annual deficits would be larger than projected by amounts that would reach \$77 billion in 2035, CBO estimates. The cumulative deficit for the 2026–2035 period would be \$388 billion (or 1.8 percent) larger than it is in CBO's baseline budget projections.

- **Slower growth of the labor force.** If the labor force grew at a rate that was 0.1 percentage point slower each year than the rate in CBO's economic forecast and the unemployment rate was the same as forecast, economic growth would slow, and annual deficits would be larger than those in the agency's baseline budget projections by amounts that would reach \$37 billion in 2035.² The cumulative deficit for the 2026–2035 period would be \$184 billion (or 0.8 percent) larger than it is in the agency's baseline projections.
- **Higher interest rates.** If all interest rates—including those on 3-month Treasury bills and 10-year Treasury notes—were 0.1 percentage point higher each year than they are in CBO's economic forecast, the government's net interest costs would grow progressively over the projection period. If other variables were the same as forecast, higher-than-forecast interest rates would cause deficits to exceed the agency's baseline projections by \$54 billion in 2035 and by \$351 billion (or 1.6 percent) over the 2026–2035 period.

1. This analysis is based on the agency's most recent baseline budget and economic projections. See Congressional Budget Office, *The Budget and Economic Outlook: 2025 to 2035* (January 2025), www.cbo.gov/publication/60870.

2. The labor force is the number of people age 16 or older in the civilian noninstitutionalized population who have jobs or are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The unemployment rate is the percentage of people in the labor force who are unemployed.

- **Higher inflation and interest rates.** If all wage and price indexes grew at a rate that was 0.1 percentage point faster each year than the rate in CBO’s economic forecast but real (inflation-adjusted) values for gross domestic product (GDP), interest rates, and other variables affected by inflation were the same as those underlying CBO’s baseline, annual deficits would be larger than projected by amounts that would climb to \$53 billion in 2035.³ With real GDP unchanged, higher inflation would push up nominal GDP, resulting in more taxable income. Higher inflation would also increase benefit payments from certain programs and, with real interest rates unchanged, would increase nominal interest rates. As in the previous scenario, those higher nominal interest rates would drive up interest payments on federal debt. The cumulative deficit for the 2026–2035 period would be \$324 billion (or 1.5 percent) larger than projected.

Those scenarios and the resulting budgetary and economic effects are referred to as CBO’s rules of thumb. For illustrative purposes, budget deficits are larger in each scenario than they are in the agency’s baseline. Differences between the economic projections and actual outcomes may result in deficits that are larger or smaller than those in CBO’s baseline budget projections. Because the rules of thumb are roughly symmetrical, if productivity or the labor force grew 0.1 percentage point more quickly than projected, or if interest rates or inflation were 0.1 percentage point lower than projected, deficits would be smaller than they are in the agency’s baseline budget projections by about the same amounts.

Background

When economic conditions differ from those in the agency’s forecast, actual budgetary outcomes are likely to differ from CBO’s projections because economic conditions affect federal revenues and outlays in several ways.

- Revenues depend on the total amount of income that is subject to taxation, including wages and salaries, other income received by individuals, and corporate profits. Those types of income generally rise or fall (though not necessarily proportionally) in response to changes in economic growth and inflation.
- The Treasury regularly refinances portions of the government’s outstanding debt and issues more debt to finance new deficits at market interest rates. Thus, the amount that the federal government spends to pay interest on its debt is directly tied to those interest rates.
- Spending for many mandatory programs—that is, programs whose spending is governed by statutory criteria and, in most cases, is not constrained by the annual appropriation process—is affected by economic growth and inflation, either directly (for example, through cost-of-living adjustments) or indirectly (for example, through the number of beneficiaries).
- Although actual spending for discretionary programs—programs whose spending is controlled by appropriation acts—is determined by lawmakers, CBO’s projections of such spending are affected by changes in inflation.⁴

Economic conditions are uncertain and difficult to foresee and, therefore, could differ from those in CBO’s forecast for a variety of reasons. For example, inflation in 2021 and 2022 was much higher than CBO and other forecasters anticipated.⁵ Future changes in policy could also cause economic outcomes to differ from those in CBO’s projections. Changes in immigration policy, for instance, could significantly affect the growth of the labor force. Even the economic effects of policy changes that are already set in law and reflected in the baseline are subject to considerable uncertainty and may diverge from CBO’s projections. Finally, some changes in economic conditions, such as turning points in the business cycle, cannot be accurately predicted.

The Economic Variables That CBO Examined

CBO examined how differences in four key economic variables would affect its budget projections. In all four scenarios, the values of the economic variables differ from those in the agency’s forecast by 0.1 percentage point each

3. Wage and price indexes include the GDP price index, the consumer price index for all urban consumers (CPI-U), the chained CPI-U, and the employment cost index for wages and salaries of workers in private industry.

4. For nearly all discretionary spending, the measure that CBO uses to project funding for future years is a weighted mixture of the GDP 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 is spent for other purposes.

5. Congressional Budget Office, *CBO’s Economic Forecasting Record: 2023 Update* (June 2023), www.cbo.gov/publication/59078.

year starting in January 2025.⁶ In the first two scenarios—those that involve slower productivity growth and slower labor force growth—real GDP growth is slower, which affects many other variables that interact with the budget more directly, such as wages and salaries and interest rates.⁷ In the third and fourth scenarios—those that involve higher interest rates and higher inflation—variables that are related to labor and productivity or that are measured in real terms remain unchanged by design.

For simplicity, CBO constructed the scenarios so that the values for the key economic variables differ from those in the agency’s forecast by 0.1 percentage point in a direction that would worsen budget deficits. CBO has produced an interactive workbook that allows users to create their own alternative scenarios for the key variables, including scenarios that would reduce deficits.⁸

The four scenarios analyzed in this report are not intended to indicate how actual economic conditions might differ from CBO’s projections; those differences might be greater than 0.1 percentage point and could occur in either direction. For example, in CBO’s projections, real GDP grows by 1.9 percent in calendar year 2025 (measured from fourth quarter to fourth quarter). However, the agency estimates that there is a two-thirds chance that the rate of real GDP growth will be between

0.1 percent and 3.7 percent that year. In calendar year 2028, CBO projects that real GDP growth will be 1.7 percent but estimates that there is a two-thirds chance that the actual rate of growth will be between –0.6 percent and 4.0 percent.

Similarly, CBO projects that the rate of inflation (as measured by the price index for personal consumption expenditures from fourth quarter to fourth quarter) will be 2.2 percent in calendar year 2025 and estimates that there is a two-thirds chance that the actual rate of inflation will be between 1.0 percent and 3.3 percent. In calendar year 2028, inflation is projected to be 2.0 percent, but CBO estimates that there is a two-thirds chance that the actual rate of inflation will be between 0.3 percent and 3.6 percent that year.

The agency also estimates that there is a two-thirds chance that the average interest rate on 10-year Treasury notes will be within 0.7 percentage points of the forecast rate of 4.1 percent in calendar year 2025 and within 1.4 percentage points of the forecast rate of 3.9 percent in calendar year 2028.

Productivity Growth. In this scenario, productivity growth is 0.1 percentage point slower each year than it is in CBO’s economic forecast, causing real GDP to be 1.4 percent lower in 2035 than the agency forecasts (see Table 1). Slower productivity growth, in turn, would affect other economic variables, such as wage rates and interest rates.

Labor Force Growth. In the second scenario, the labor force’s growth is 0.1 percentage point slower each year than it is in the agency’s economic forecast, causing real GDP to be 0.7 percent lower than forecast in 2035. If the population grew at the rate that CBO projects, the slower growth of the labor force would cause the labor force participation rate to fall below the agency’s current estimates.⁹ That difference would grow by a roughly equal amount each year until the labor force participation rate was 0.6 percentage points lower at the end of 2035 than forecast. Like slower productivity growth, slower labor force growth would affect other economic variables.

Interest Rates. In the third scenario, interest rates are 0.1 percentage point higher each year than those in

6. CBO based its economic projections on information that was available as of December 4, 2024. For the productivity and labor force scenarios, the annual effects of the changes for 2025 are annualized over all four quarters of the fiscal year.

7. The two scenarios in which real GDP differs from amounts in the baseline are produced by incorporating alternative economic conditions into CBO’s incomes model, which is used to project many components of income. All four scenarios are then used to calibrate CBO’s budgetary feedback model. See Congressional Budget Office, “Assessing the Budgetary Implications of Economic Uncertainty With CBO’s Incomes Model and Budgetary Feedback Model” (January 2023), www.cbo.gov/publication/58885. The budgetary feedback model, like the rules of thumb, was constructed to approximate how the federal budget would respond to changes in the economy. However, that model provides a more detailed and unified framework to quantify budgetary feedback from macroeconomic changes that are more complicated than those in the simplified rules of thumb. For more on the budgetary feedback model, see Nathaniel Frenzt and others, *A Simplified Model of How Macroeconomic Changes Affect the Federal Budget*, Working Paper 2020-01 (Congressional Budget Office, January 2020), www.cbo.gov/publication/55884.

8. Congressional Budget Office, “Workbook for *How Changes in Economic Conditions Might Affect the Federal Budget: 2025 to 2035*” (March 2025), www.cbo.gov/publication/61183.

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

Table 1.

Differences Between the Illustrative Scenarios and CBO's Economic Forecast in 2035

Percent

	Level of real GDP	Level of nominal GDP	Size of the labor force	Interest rate on 10-year Treasury notes (percentage points)	Level of the GDP price index	Level of the employment cost index ^a
Slower productivity growth	-1.4	-1.4	-0.2	-0.11	0	-1.2
Slower labor force growth	-0.7	-0.7	-1.0	-0.05	0	0.4
Higher interest rates	0	0	0	0.10	0	0
Higher inflation and interest rates	0	1.1	0	0.10	1.1	1.1

Data source: Congressional Budget Office. See www.cbo.gov/publication/61198#data.

In the scenario for each rule of thumb, the economic variable analyzed differs from that in CBO's economic forecast by 0.1 percentage point in the direction that would worsen the budget outlook, but that variable could be higher or lower than forecast.

Each rule of thumb is roughly symmetrical. If, for example, productivity growth was 0.1 percentage point faster than projected, real GDP would increase by about the same amount that it decreases in the table.

GDP = gross domestic product.

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

CBO's forecast. Inflation is held equal to the forecast rate, so this rule of thumb shows the effects of higher real interest rates. In this scenario, only changes in interest payments by the federal government are included, whereas the other scenarios involve changes to the projected amounts of all interest payments, including those made or received by individuals or businesses.

Inflation and Interest Rates. In the fourth scenario, inflation and interest rates are 0.1 percentage point higher each year than they are in the agency's economic forecast. All economic indicators that are measured as nominal values, such as GDP and taxable income, increase in response to higher inflation, and all interest rates are 0.1 percentage point higher than they are in the economic forecast, as in the third scenario. Indicators that are measured as real values, such as real GDP, real income, and real interest rates, are the same as they are in CBO's economic forecast. Although real interest rates remain unchanged in this scenario, the interactive workbook allows users to change inflation and interest rates independently, thus allowing real rates to differ.

Applying the Rules of Thumb

CBO's rules of thumb provide an approximate idea of how changes in those economic variables would affect the federal government's revenues and outlays if current laws generally remained unchanged. The rules of thumb are roughly symmetrical and scalable, which means that they

can be used to analyze scenarios in which values for those variables differ from the ones presented here, with some caveats.

Symmetry. Each rule of thumb is roughly symmetrical. Thus, if the growth of productivity or the labor force was 0.1 percentage point faster than in CBO's economic forecast, or if interest rates or inflation were 0.1 percentage point lower, the effects would be about the same as those shown here but with the opposite sign.

Scalability. In addition to being symmetrical, the rules of thumb are roughly scalable—that is, an increase or decrease in the value of a given economic variable will produce a roughly proportional increase or decrease in the resulting budgetary effects. For example, if productivity growth was 0.2 percentage points slower each year than it is in CBO's economic forecast rather than 0.1 percentage point slower, as it is in the scenario discussed here, the effects on the cumulative deficit would be roughly double.

The Range of Deviations From CBO's Forecast. The scalability of the rules of thumb is limited. The more the values of economic variables differ from those in CBO's forecast, the less accurate estimates produced using the rules of thumb are likely to be. Although the productivity and labor force scenarios incorporate a broad set of interactions among several economic variables,

all four rules of thumb are nevertheless simplified and do not account for more complex interactions among variables—such as the interactions among real GDP growth, inflation, and the unemployment rate.

That limitation becomes more pertinent as the difference between the value of an economic variable in a given scenario and in CBO's baseline economic forecast increases. Certain elements of the tax code and some provisions of law related to mandatory programs also make it likely that, as such differences increase, estimates produced using the rules of thumb will become less accurate.

Year-by-Year Differences in Deviations From CBO's Forecast. The rules of thumb are based on scenarios in which the values of variables differ from the values in CBO's economic forecast by the same amount each year. The rules of thumb can be used to estimate the effects of scenarios in which the differences vary slightly from year to year, but they cannot be used to accurately estimate the effects of significant variations in those differences over the 2026–2035 period.

For example, if the rate of labor force growth differed from the value in CBO's forecast by 0.5 percentage points in 2035 but was the same as the forecast value in all other years, the average annual difference would be a little less than 0.05 percentage points. But CBO's estimate of the budgetary effects over the same period would not be one-half the amount shown in the scenario for slower labor force growth (in which labor force growth is 0.1 percentage point slower each year than it is in the agency's forecast), nor would the agency's estimate of the budgetary effect in 2035 be five times the value for 2035 in that scenario. Both estimates would be considerably smaller. The interactive workbook associated with this report shows how different annual deviations from CBO's economic forecast would affect budgetary outcomes.

Reasonable Ranges for Deviations. To assess the scalability of the rules of thumb, CBO compared estimates produced from the simplified calculations in its online workbook with estimates made from a broader set of models that the agency uses to assess the effects of economic changes on the budget. CBO found that scaling the four rules of thumb, within certain limits, produced reasonable approximations of the estimates generated by CBO's economic and budget models. Specifically, the rules of thumb were scalable as long as the annual differences from the forecast values were within the following ranges:

- For productivity growth, between –0.5 percentage points and 0.5 percentage points;
- For labor force growth, between –0.75 percentage points and 0.75 percentage points;
- For interest rates, between –1.0 percentage point and 1.0 percentage point; and
- For inflation and interest rates, between –1.0 percentage point and 1.0 percentage point.

In general, differences outside of those ranges in any given year would generate budgetary effects that could not be reasonably approximated by the rules of thumb and would thus require a more detailed analysis.

Caveats. If economic conditions changed in such a way that they reflected the changes incorporated in two or more of the simplified scenarios, the budgetary effects would most likely differ from the sum of the effects in the individual rules of thumb. For example, if productivity growth and labor force growth were both slower than they are in CBO's economic forecast, the two effects would interact and could lower output growth by more or less than would be suggested by simply adding them.

The rules of thumb capture the budgetary effects of specified changes in the economy, but they do not account for the source of those changes, which could include changes in policy. For example, proposed legislation might call for an increase in government spending that would affect inflation. The rule of thumb for inflation approximates the budgetary effects that would result from the estimated changes in inflation—but it does not incorporate the budgetary effects of the increased spending itself, nor does it account for effects on the economy other than the change in inflation.

In addition, some changes in policy could alter how changes in the economy affect the federal budget. For example, a new tax policy that changed tax rates would probably affect the relationship between changes in the economy and revenues. Consequently, changes in the economy would have budgetary effects different from those that would be estimated using the rules of thumb.

Changes in Productivity Growth and Labor Force Growth

The growth of productivity and the growth of the labor force are important determinants of real GDP growth. Faster productivity growth and faster labor force growth

Table 2.

How Changes in Productivity Growth and Labor Force Growth Might Affect CBO's Baseline Budget Projections

Billions of dollars

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total	
												2026–2030	2026–2035
Productivity growth is 0.1 percentage point slower each year													
Changes in revenues	-4	-11	-19	-28	-37	-47	-59	-71	-85	-100	-116	-142	-572
Changes in outlays													
Mandatory	*	*	-1	-2	-2	-3	-4	-5	-7	-8	-10	-9	-43
Net interest													
Lower interest rates	-1	-2	-5	-7	-11	-15	-19	-24	-29	-35	-40	-39	-186
Debt service	*	*	1	1	2	3	4	6	7	9	11	7	45
Subtotal, net interest	-1	-2	-4	-6	-9	-12	-15	-18	-22	-25	-29	-32	-141
Total change in outlays	-1	-3	-5	-8	-11	-15	-19	-24	-28	-33	-39	-41	-184
Increase (-) in the deficit	-4	-9	-14	-20	-26	-33	-40	-48	-57	-66	-77	-100	-388
Labor force growth is 0.1 percentage point slower each year													
Changes in revenues	-2	-4	-7	-10	-14	-18	-22	-27	-32	-38	-44	-54	-216
Changes in outlays													
Mandatory	*	1	1	2	2	3	4	4	5	6	7	9	36
Net interest													
Lower interest rates	*	-1	-2	-4	-5	-7	-9	-11	-14	-17	-19	-19	-89
Debt service	*	*	*	1	1	1	2	3	4	5	6	4	22
Subtotal, net interest	*	-1	-2	-3	-4	-6	-7	-9	-10	-12	-14	-15	-67
Total change in outlays	*	*	-1	-1	-2	-3	-4	-4	-5	-6	-6	-7	-31
Increase (-) in the deficit	-2	-4	-7	-9	-12	-15	-19	-23	-27	-32	-37	-47	-184

Data source: Congressional Budget Office. See www.cbo.gov/publication/61198#data.

The rules of thumb capture the budgetary effects of specified changes in the economy, but they do not account for the source of those changes. The source could be a change in fiscal policy, which would have additional budgetary effects. In addition, such a change in fiscal policy would probably have broader economic effects than those underlying the budgetary estimates shown here.

Each rule of thumb is roughly symmetrical. If, for example, productivity growth was 0.1 percentage point faster each year than projected, deficits would shrink by about the same amount that they grow each year in the table.

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

both lead to greater economic growth and thus reduce budget deficits. Slower productivity growth and slower labor force growth both reduce the growth of GDP, thereby worsening budget deficits.¹⁰

Slower Productivity Growth

The first rule of thumb illustrates the budgetary effects of productivity growth that is weaker than CBO currently

anticipates.¹¹ Specifically, if productivity grew at a rate that was 0.1 percentage point slower each year than the rate in the agency's economic forecast, annual deficits would be larger than projected by amounts that would reach \$77 billion in 2035, CBO estimates. The cumulative deficit for the 2026–2035 period would be \$388 billion larger than it is in CBO's baseline budget projections (see Table 2).

In this scenario, slower-than-anticipated productivity growth leads to slower GDP growth because both labor

10. For further discussion about how changes in the labor force participation rate—which lead to changes in labor force growth—and changes in productivity affect GDP, as well as about the uncertainty of such projections, see Congressional Budget Office, *The 2016 Long-Term Budget Outlook* (July 2016), Chapter 7, www.cbo.gov/publication/51580.

11. The measure of productivity underlying this rule of thumb is total factor productivity, calculated as the average real output per unit of combined labor and capital services.

and capital produce less per unit than projected in CBO's current economic forecast. If workers produced less, the average hourly wage rate would be lower; therefore, the supply of labor would be slightly smaller than it is in the agency's forecast. As a result, total labor income would be lower.

Meanwhile, if capital produced less output, the returns on that capital would decline, further decreasing total taxable income. Lower returns on capital would also drive down private investment. And because Treasury securities compete with other investments for investors' money, those lower rates of return on private investments imply that rates on Treasury securities would also be lower. (That decrease in interest rates is partially offset by greater government borrowing to finance larger deficits, which decreases the resources available for private investment and therefore puts upward pressure on interest rates.) Other variables, such as the unemployment rate and inflation, could be affected as well; however, this simplified scenario does not include the effects of changes in those variables.

If actual productivity growth was 0.1 percentage point slower each year than it is projected to be, GDP and total income would be 1.4 percent lower in 2035 than they are in the current forecast, CBO estimates. Interest rates on Treasury securities would be lower than the rates in the agency's baseline every year. In 2035, interest rates would be 0.1 percentage point lower than the rates in CBO's baseline (see Table 1 on page 4).

Effects on Tax Revenues. If the rate of economic growth in each year was lower than CBO projects as a result of slower productivity growth, taxable income would also grow more slowly than projected. Consequently, tax revenues would fall below CBO's baseline budget projections by increasing amounts over time, resulting in a shortfall of \$116 billion in 2035. From 2026 to 2035, the drop in revenues stemming from the slower growth of income would add a total of \$572 billion to deficits.

Effects on Mandatory Spending. Over the 2026–2035 period, slower income growth would also lead to a \$43 billion net decrease in mandatory outlays for programs whose spending is either directly or indirectly linked to average wage growth. Outlays for Medicare, Medicaid, unemployment insurance, and Social Security would decrease by \$48 billion; that decrease would be partially offset by a \$5 billion increase in outlays for the

refundable portions of the earned income tax credit, the child tax credit, and the American Opportunity Tax Credit.¹²

Effects on Net Interest Costs. Because slower productivity growth would push interest rates down, the total interest that the federal government would pay from 2026 to 2035 on the amount of debt in CBO's baseline would decrease by \$186 billion. However, the net growth in deficits stemming from the above changes to revenues and outlays would require the federal government to borrow more. That additional borrowing would add \$45 billion to interest costs from 2026 to 2035. Together, those effects result in cumulative net interest outlays that would be \$141 billion less than the amount in the agency's baseline projections for the 2026–2035 period.¹³

Slower Labor Force Growth

The second rule of thumb illustrates the budgetary effects of labor force growth that is slower than CBO anticipates. Specifically, if the annual growth of the labor force was 0.1 percentage point slower than it is in CBO's economic forecast and the unemployment rate remained unchanged, annual deficits would be larger than those in the agency's baseline budget projections by amounts that would grow each year, reaching \$37 billion in 2035, CBO estimates. The cumulative deficit for the 2026–2035 period would be \$184 billion larger than it is in the agency's baseline projections (see Table 2 on page 6). The budgetary effects in this scenario would be considerably smaller than those in the scenario involving slower productivity growth because the resulting economic effects would be smaller (see Table 1 on page 4).

In this scenario, slower-than-projected growth in the labor force would push the average wage rate above CBO's current estimate. Higher wage rates would bring about a small boost in labor income and in the supply of labor, which would partially offset the effects of the decline in labor force growth. Nevertheless, total labor income would be less than it is in CBO's baseline. Meanwhile, the number of workers using a given

12. Tax credits reduce a taxpayer's income tax liability. If a refundable credit exceeds a taxpayer's liability, all or a portion of the excess is refunded to the taxpayer and recorded as an outlay in the budget.

13. Changes in interest rates could affect federal credit programs, the budgetary effects of which are calculated following the procedures specified in the Federal Credit Reform Act of 1990. Those effects are complicated and are not included in the rules-of-thumb scenarios.

amount of capital would fall below the number in CBO's economic forecast, so the returns on that capital would decline as well. As described above, the resulting decline in the rates of return on private investment would imply that interest rates on Treasury securities would be lower than they are in CBO's economic forecast; those lower rates would be offset in part by higher rates from increased government borrowing to finance larger deficits. Other variables—including the unemployment rate, inflation, the distribution of labor income, and rates of retirement—could also be affected, but this rule of thumb does not reflect the effects of such changes.

In CBO's estimation, if the growth of the labor force was 0.1 percentage point slower than anticipated, GDP growth would also be slower in each year. In 2035, GDP and labor income would be 0.7 percent lower than they are in CBO's forecast. Interest rates would also be lower, as in the productivity scenario, but the effects would be smaller; rates on most Treasury securities would end up 5 basis points lower than the rates in CBO's forecast.¹⁴

Effects on Tax Revenues. The slower economic growth would cause taxable labor income and profits to grow more slowly than projected, resulting in less tax revenues than the amounts in CBO's baseline. That shortfall would increase over time, reaching \$44 billion in 2035 and totaling \$216 billion over the 2026–2035 period.

Effects on Mandatory Spending. The greater-than-projected wage rates and the smaller-than-projected number of workers would, on net, add a total of \$36 billion to mandatory outlays from 2026 to 2035. Social Security benefits are based on beneficiaries' wages, and Medicare and Medicaid pay for health care services that become more costly as wages rise. Higher wages would therefore boost mandatory outlays from those programs by \$45 billion. But because there would be fewer workers and higher wages, \$9 billion of that amount would be offset by a decrease in outlays for unemployment insurance benefits and for the refundable portions of the earned income tax credit, the child tax credit, and the American Opportunity Tax Credit.

Effects on Net Interest Costs. From 2026 to 2035, the lower interest rates that resulted from the slower growth

of the labor force would reduce the amount of interest that the federal government would pay on the amount of debt in CBO's baseline by \$89 billion. However, the reduction in revenues and the slight increase in mandatory spending would result in deficits larger than those in CBO's baseline, requiring the federal government to borrow more than projected. That additional borrowing would add \$22 billion to interest costs. Overall, CBO estimates that net interest outlays over the 2026–2035 period would be \$67 billion less than they are in the agency's baseline budget projections.

Changes in Interest Rates and Inflation

Changes in interest rates and inflation affect the federal budget. All else being equal, higher interest rates would increase the flow of interest payments to and from the federal government. Higher inflation and interest rates would raise both revenues and outlays over the 2026–2035 period, though the effects on outlays would be larger. Lower interest rates and inflation would have the opposite effects.

Higher Interest Rates

The third rule of thumb illustrates the budget's sensitivity to an increase in interest rates when all other economic variables are left unchanged, including the amounts of interest paid and received by individuals and businesses. In this scenario, all interest rates on Treasury securities—including the rate on 3-month Treasury bills and the rate on 10-year Treasury notes—are 0.1 percentage point higher each year than they are in CBO's economic forecast. In this scenario, in CBO's estimation, deficits would exceed those in CBO's baseline budget projections by amounts that would grow each year, reaching \$54 billion in 2035. The cumulative deficit for the 2026–2035 period would be \$351 billion larger than it is in the agency's baseline projections (see Table 3).

Effects on Interest Costs. Most of the growth in deficits resulting from higher interest rates would arise because the government's costs of borrowing would be greater. As the Treasury replaced maturing securities and increased its borrowing to cover future deficits, the budgetary effects of higher interest rates would mount. CBO estimates that in this scenario, the added costs of higher interest rates on the amount of federal debt in the baseline would reach \$46 billion in 2035 and would total \$304 billion for the 2026–2035 period.

14. One basis point is equivalent to one one-hundredth of a percentage point, or 0.01 percentage point. Basis points are commonly used as a unit of measure for differences of less than 1 percentage point.

Table 3.

How Changes in Interest Rates and Inflation Might Affect CBO’s Baseline Budget Projections

Billions of dollars

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total	
												2026–2030	2026–2035
Interest rates are 0.1 percentage point higher each year													
Changes in revenues	-3	-3	-2	-1	*	1	1	2	2	2	3	-5	5
Changes in outlays													
Higher interest rates ^a	5	13	17	22	26	29	33	36	39	43	46	107	304
Debt service	*	1	1	2	3	4	5	7	8	10	11	11	52
Total change in outlays	5	13	19	24	29	34	38	43	47	52	57	118	355
Increase (-) in the deficit	-8	-16	-20	-25	-29	-33	-37	-41	-45	-50	-54	-123	-351
Inflation and interest rates are 0.1 percentage point higher each year													
Changes in revenues	2	7	14	20	27	34	42	50	58	67	77	101	395
Changes in outlays													
Mandatory	*	3	7	11	16	21	26	32	39	45	52	59	254
Discretionary	0	1	3	4	6	9	11	13	15	18	21	23	101
Net interest													
Higher interest rates ^a	5	13	17	22	26	29	33	36	39	43	46	107	304
Higher inflation	2	2	2	2	1	1	1	1	1	1	2	8	15
Debt service	*	*	1	2	2	3	5	6	7	9	10	9	46
Subtotal, net interest	7	15	20	25	30	34	39	43	48	53	58	124	364
Total change in outlays	8	19	30	41	52	64	76	89	102	116	130	206	719
Increase (-) in the deficit	-6	-12	-16	-21	-25	-30	-34	-39	-44	-49	-53	-105	-324

Data source: Congressional Budget Office. See www.cbo.gov/publication/61198#data.

The rules of thumb capture the budgetary effects of specified changes in the economy, but they do not account for the source of those changes. The source could be a change in fiscal policy, which would have additional budgetary effects. In addition, such a change in fiscal policy would probably have broader economic effects than those underlying the budgetary estimates shown here.

Each rule of thumb is roughly symmetrical. If, for example, inflation was 0.1 percentage point lower each year than projected, deficits would shrink by about the same amount that they grow each year in the table.

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

a. Estimate excludes minor changes to projected Medicare payments resulting from changes to the market baskets, which include interest rates, that Medicare payments are indexed to. The effects of rate changes on the market baskets would increase Medicare outlays by less than \$200 million over the 2025–2035 period.

The larger deficits generated by an increase in interest rates would require the Treasury to borrow more than it borrows in CBO’s baseline projections. That additional borrowing would raise the cost of servicing the debt by amounts that would increase each year and reach \$11 billion in 2035. From 2026 to 2035, the additional borrowing would add a total of \$52 billion to the cost of servicing the federal debt.

Effects on Revenues. As part of conducting monetary policy, the Federal Reserve buys and sells Treasury and other securities. The Federal Reserve also pays interest on reserves (deposits that banks hold at the central bank). The

interest the Federal Reserve earns on its portfolio of securities and the interest it pays on reserves affect its remittances to the Treasury, which are counted as revenues.

If all interest rates were 0.1 percentage point higher than CBO projects, the Federal Reserve’s remittances over the next few years would be smaller than projected because higher interest payments on reserves would outstrip the additional earnings from interest on its portfolio. Over time, however, the current holdings in the portfolio would mature and be replaced with higher-yielding investments; as a result, after 2029, the Federal Reserve’s remittances would be larger. Overall, rates that were



0.1 percentage point higher than those in CBO's economic forecast would (all else being equal) cause revenues from the Federal Reserve's remittances over the 2026–2035 period to be \$5 billion greater than projected.¹⁵

Higher Inflation and Interest Rates

The fourth rule of thumb illustrates the budgetary effects of inflation and nominal interest rates that are 0.1 percentage point higher each year than they are in CBO's baseline. All economic variables that are measured as nominal values, such as GDP, taxable income, and wage rates, increase by the same percentage in response to higher inflation. As a result, those that are measured as real values, such as real GDP and real interest rates, remain unchanged. In this scenario, all wage and price indexes grow 0.1 percentage point faster each year than they do in CBO's economic forecast, and all interest rates are 0.1 percentage point higher each year, as they are in the third rule of thumb. As a result, higher inflation would increase both revenues and outlays, although the effect on outlays would be greater, resulting in larger budget deficits, on net.

In this scenario, total revenues from 2026 to 2035 would be \$395 billion more than they are in the agency's baseline budget projections, and total outlays would be \$719 billion more, CBO estimates. The cumulative deficit for the 2026–2035 period would be \$324 billion larger than projected (see Table 3 on page 9).

Effects on Revenues. Larger increases in prices and nominal wage rates generally lead to greater labor income, profits, and other income, which in turn generate larger collections of individual income taxes, payroll taxes, and corporate income taxes. Many provisions in the individual income tax system—including the income thresholds for the tax brackets—are adjusted, or indexed, for inflation. Therefore, the share of taxpayers' income that is taxed at certain rates does not change much when income increases because of higher inflation, so tax collections tend to rise roughly proportionally with income under those circumstances. However, not all parameters of the individual income

tax system are indexed for inflation. For example, the income thresholds for the surtax on investment income are fixed in nominal dollars, so if income rose because of inflation, the surtax would apply to a larger share of taxpayers' income.

For payroll taxes, rates are mostly the same for all income levels, and the maximum amount of earnings subject to the Social Security tax rises with average wages in the economy. Higher nominal wages would therefore lead to a roughly proportional increase in payroll tax revenues. Similarly, nearly all corporate profits are taxed at a single statutory rate—21 percent. Consequently, an increase in profits resulting from higher inflation would generate a roughly proportional increase in corporate tax revenues. Finally, higher nominal interest rates would first reduce and then increase revenues from the Federal Reserve's remittances to the Treasury. All told, inflation and interest rates that were 0.1 percentage point higher than forecast each year would add \$395 billion in revenues to the amounts in the agency's baseline budget projections from 2026 to 2035.

Effects on Mandatory Spending. Higher inflation and interest rates would also increase the cost of a number of mandatory programs, adding \$254 billion to projected spending over the 2026–2035 period, CBO estimates. Benefits for many mandatory programs, including Social Security, are automatically adjusted each year to reflect increases in prices. Specifically, those benefits are adjusted for changes in the consumer price index, one of the index's components, or another measure of inflation. Many of Medicare's payment rates are also adjusted annually for inflation. Spending on some other programs, such as Medicaid, is not formally indexed to changes in prices but nevertheless tends to grow with inflation because the costs of providing benefits under those programs increase as nominal wages and prices rise. In addition, to the extent that benefit payments in retirement and disability programs are linked to wages, increases in nominal wages resulting from higher inflation would boost future outlays for those programs.

Effects on Discretionary Spending. CBO's baseline budget projections reflect the assumption that discretionary funding will increase with inflation (as measured by a weighted average of the GDP price index and wages and salaries for workers in private industry) from the

15. The Federal Reserve's deferred assets could affect when changes to its income and costs are reflected in changes in the amount of remittances. Those effects are not reflected in the estimates presented here. For more information about the Federal Reserve's remittances and deferred assets, see Congressional Budget Office, "Recent Changes to CBO's Projections of Remittances From the Federal Reserve" (February 2023), www.cbo.gov/publication/58913.

amounts currently provided.¹⁶ For most discretionary programs, inflation that was 0.1 percentage point higher each year than the rates underlying CBO's economic forecast would boost projected funding (and therefore outlays) each year over the 2026–2035 period.¹⁷ Some appropriations—particularly those provided by the Infrastructure Investment and Jobs Act—are already provided for 2026. Inflation that was higher than the rates projected in CBO's economic forecast would not change that specified funding but would affect funding projected for the years following those advance appropriations.¹⁸ In total, inflation that was 0.1 percentage point higher each year than the rates underlying CBO's economic forecast would increase discretionary outlays in CBO's baseline over the 2026–2035 period by a total of \$101 billion.

Effects on Net Interest Costs. Higher inflation would increase net outlays for interest, primarily because all interest rates would be 0.1 percentage point higher each year. Higher inflation would also increase the cost to the government of inflation-indexed securities.¹⁹ The direct effect of such higher interest rates and inflation would add \$319 billion in interest costs to CBO's baseline pro-

jections of outlays. Moreover, the effects of higher inflation on noninterest spending (net of the effects on revenues) would increase federal debt, boosting interest costs by an additional \$46 billion over the 2026–2035 period.

How the Rules of Thumb Have Changed Since Last Year

The previous edition of this report, describing rules of thumb based on the same four scenarios, was published in April 2024.²⁰ The rules of thumb reported this year and last year differ because of changes in CBO's assessment of how the economy and the budget would respond in each scenario and because of changes in the underlying economic forecast and budget projections.

Those changes caused CBO to revise its estimates of how much the cumulative deficit would increase over the budget window (2025 to 2034 in the previous report and 2026 to 2035 in this one) in each of the four scenarios:

- For the scenario involving slower productivity growth, the estimated increase in the deficit over the budget window was \$304 billion in last year's report and is \$388 billion in this year's;
- For the scenario involving slower growth of the labor force, the estimated increase in the deficit over the budget window was \$142 billion in last year's report and is \$184 billion in this year's;
- For the scenario involving higher interest rates, the estimated increase in the deficit over the budget window was \$324 billion in last year's report and is \$351 billion in this year's; and
- For the scenario involving higher inflation and interest rates, the estimated increase in the deficit over the budget window was \$263 billion in last year's report and is \$324 billion in this one.

CBO's economic forecast, which underlies its rules of thumb, has changed since last year. The economy is larger this year than it was last year, so projections of the size of the economy over the budget window are also larger. The increased size of the economy increases the size of the budgetary effects in each scenario.

The effects on revenues are larger in this year's report than they were in last year's mostly because the budget window

16. A continuing resolution provides discretionary funding for most programs through March 14, 2025. In accordance with the Deficit Control Act of 1985, CBO's projections of discretionary funding for 2025 are annualized—that is, calculated as if the funding provided by the continuing resolution was in effect for the entire year. Additionally, most discretionary funding for 2025 is subject to caps that were established by the Fiscal Responsibility Act of 2023. Because annualized defense funding exceeds the cap on such funding currently in place, CBO adjusted its projections of that funding for 2025 downward to comply with the cap. For a detailed explanation of the caps established by that law, see Congressional Budget Office, *The Budget and Economic Outlook: 2024 to 2034* (February 2024), Box 1-2, www.cbo.gov/publication/59710.

17. In this analysis, transportation-related programs affected by obligation limitations are classified as discretionary programs. An obligation limitation is a restriction—typically included in an appropriation act—on the amount, purpose, or period of availability of budget authority. The limitation often affects budget authority that has been provided in an authorization act. Although the budget authority for many transportation programs is mandatory, the outlays governed by the obligation limitations for those programs are considered discretionary.

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

19. The principal of inflation-indexed securities is adjusted for changes in the CPI-U (unadjusted to account for seasonal differences). The adjustments are made daily but are not paid until maturity.

20. Congressional Budget Office, *How Changes in Economic Conditions Might Affect the Federal Budget: 2024 to 2034* (April 2024), www.cbo.gov/publication/60072.

now includes an additional year after various provisions of the 2017 tax act (Public Law 115-97) are set to expire. In CBO's estimation, after 2026, increases in effective marginal tax rates under current law will cause changes in the economy to have a larger effect on revenues.

The estimated effects of changes in interest rates are smaller in the scenarios with slower productivity growth and labor force growth and larger in the two other scenarios. The effects of differences in interest rates in the productivity and labor force scenarios are smaller because of changes in the scenario's effects on the yield curve—that is, the interest rate paid by Treasury securities with

differing lengths of time to maturity. The projected mix of securities underlying CBO's projections of net outlays for interest also have shorter-term maturities in this year's baseline than they did in last year's; as a result, the effects of higher interest rates manifest faster, on average.

Finally, higher-than-forecast inflation has a greater effect on deficits in this year's report than it did in last year's. That difference is largely explained by the Fiscal Responsibility Act's caps on discretionary funding in 2025, which lessened the effect of inflation on CBO's projections of discretionary spending last year.

This report supplements *The Budget and Economic Outlook: 2025 to 2035*, which is available on the Congressional Budget Office's website at www.cbo.gov/publication/60870. In keeping with CBO's mandate to provide objective, impartial analysis, the report makes no recommendations.

Dan Ready prepared the report with assistance from Breanna Browne-Pike, Nathaniel Frentz, and Matthew Wilson and with guidance from Christina Hawley Anthony, Barry Blom, John McClelland, and Jaeger Nelson. Jeffrey Schafer provided comments, and Avi Lerner and Youstiena Shafeek fact-checked the report.

Jeffrey Kling reviewed the report. Rebecca Lanning edited it, and R. L. Rebach created the tables and prepared the text for publication. The report is available at www.cbo.gov/publication/61198.

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



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