



# The Long-Term Budget Outlook Under Alternative Scenarios for the Economy and the Budget

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If current laws governing taxes and spending generally remained unchanged, the federal budget deficit would nearly double in relation to gross domestic product (GDP) over the next 30 years, driving up federal debt, the Congressional Budget Office projects.<sup>1</sup> In CBO's extended baseline projections, debt held by the public rises from 98 percent of GDP in 2023 to 181 percent of GDP in 2053—exceeding any previously recorded level and on track to increase further. Those projections are not predictions of budgetary outcomes; rather, they give lawmakers a point of comparison from which to measure the effects of policy options or proposed legislation.

Economic conditions that differed from those CBO projects and fiscal policy that differed from current law could yield noticeably different results. To show how changes in economic conditions or in current law might affect budgetary and economic outcomes, CBO analyzed eight scenarios that differ from those underlying the agency's long-term baseline projections—six that vary economic outcomes, one that varies budgetary outcomes, and one that limits Social Security benefits.

- If the productivity of labor and capital in the nonfarm business sector grew 0.5 percentage points per year faster or slower than CBO projects, federal debt held by the public in 2053 would be 137 percent of GDP or 228 percent of GDP, respectively.

- If the average interest rate on federal debt was above or below the baseline projection by an amount that started at 5 basis points in 2023 and changed by that amount in each year thereafter, federal debt held by the public in 2053 would be 231 percent of GDP or 143 percent of GDP, respectively. (A basis point is one-hundredth of a percentage point.)
- If government borrowing reduced private investment by twice as much as it does in CBO's long-term projections or had no effect on that investment, federal debt held by the public in 2053 would exceed 250 percent of GDP or would be 145 percent of GDP, respectively.
- If, between 2023 and 2053, discretionary spending and revenues were at their 30-year historical averages as a percentage of GDP, then federal debt held by the public in 2053 would exceed 250 percent of GDP. Under that scenario, discretionary spending would equal 7.1 percent of GDP and revenues would equal 17.2 percent of GDP in every year, 1.4 percentage points more and 1.2 percentage points less, respectively, than they average in CBO's extended baseline projections.
- If Social Security benefits were limited to the amounts payable from dedicated funding sources after the combined trust funds are exhausted (that is, their balances reach zero) in fiscal year 2033, federal debt held by the public in 2053 would be 132 percent of GDP.<sup>2</sup>

1. Congressional Budget Office, *The 2023 Long-Term Budget Outlook* (June 2023), [www.cbo.gov/publication/59014](http://www.cbo.gov/publication/59014).

2. For additional discussion of a scenario in which the program continues to pay benefits as scheduled under current law, regardless of whether the program's two trust funds have sufficient balances to cover those payments, see Congressional Budget Office, *CBO's 2023 Long-Term Projections for Social Security* (June 2023), [www.cbo.gov/publication/59184](http://www.cbo.gov/publication/59184).

CBO's long-term budget and economic projections are subject to significant uncertainty—particularly as debt measured as a percentage of GDP rises to levels far beyond historical experience. Employing its usual models, CBO projects that debt would exceed 250 percent of GDP in the later years of the projection period under some of the scenarios the agency examined. Because of the significant uncertainty about the effects that such high levels of debt could have on the economy, CBO only reports specific economic or budgetary outcomes when debt is below that threshold. CBO does not interpret debt exceeding 250 percent of GDP as having reached a tipping point because the agency cannot predict with any confidence whether or when abrupt macroeconomic changes might occur in response to the amount and trajectory of federal debt.

### Projecting Different Economic Conditions

CBO's long-term budget projections depend on its forecasts of economic factors, including productivity growth and interest rates, as well as the sensitivity of private investment to budget deficits. If economic conditions differed from those in CBO's forecast, budgetary outcomes would diverge from those in the agency's extended baseline projections.

To illustrate the effects of such differences on federal debt, CBO analyzed how its budget and economic projections would change if productivity growth, interest rates, or private investment's sensitivity to deficits were higher or lower than in the agency's extended baseline projections (see Figure 1).

To illustrate the effects of those differences on the economy, CBO focuses on gross national product (GNP) rather than on the more commonly cited GDP (see Figure 2). GNP consists of the income that U.S. residents earn abroad and excludes the income that foreigners earn from domestic sources; thus, GNP is a better measure than GDP of the resources available to U.S. households.<sup>3</sup>

3. The difference between GNP and GDP is particularly important in analyzing the long-term effects of economic changes or fiscal policies. When the federal government runs larger budget deficits, more capital tends to flow into the United States from other countries, offsetting some of the reduction in private investment that stems from the increased government borrowing. However, over time, a growing amount of income must be paid to foreign investors as profits or interest on that invested capital. Therefore, other things being equal, increases in debt reduce GNP (and the income of U.S. households) more than they reduce GDP, and decreases in debt increase GNP more than they increase GDP.

### Faster or Slower Growth of Total Factor Productivity

The growth of total factor productivity (TFP)—the average real output (that is, output adjusted to remove the effects of inflation) per unit of combined labor and capital services in the nonfarm business sector—is a key contributor to the growth of GDP. As such, it directly affects the budget deficit and federal debt measured as a percentage of GDP. Furthermore, GDP growth affects the growth of income earned by workers and owners of capital. Because that income determines both tax revenues and spending on some mandatory programs that are linked to wage growth, the growth rate of TFP indirectly affects budget deficits and federal debt.<sup>4</sup> For those reasons, CBO examined the effects of changes in the annual growth rate of TFP on its projections of federal debt measured as a share of GDP.

The agency projected budgetary and economic outcomes using rates of growth for TFP in the nonfarm business sector that are 0.5 percentage points per year faster and 0.5 percentage points per year slower than the rates underlying its extended baseline projections. (In those projections, TFP grows at an average annual rate of 1.1 percent over the next 30 years.) After accounting for the effects of the alternative growth rates for TFP on capital and other macroeconomic factors, CBO made the following projections:

- If nonfarm business productivity grew 0.5 percentage points faster than CBO projects, federal debt held by the public would be 137 percent of GDP in 2053 rather than the 181 percent it amounts to in the extended baseline projections. Real GNP would be 15 percent higher and real GNP per person would be \$17,400 (in 2023 dollars) larger in that year than it is in CBO's extended baseline projections.
- If nonfarm business productivity grew 0.5 percentage points more slowly than projected, federal debt held by the public would be 228 percent of GDP in 2053. Real GNP would be 13 percent lower and real GNP per person would be \$15,000 smaller in that year than it is in CBO's extended baseline projections.

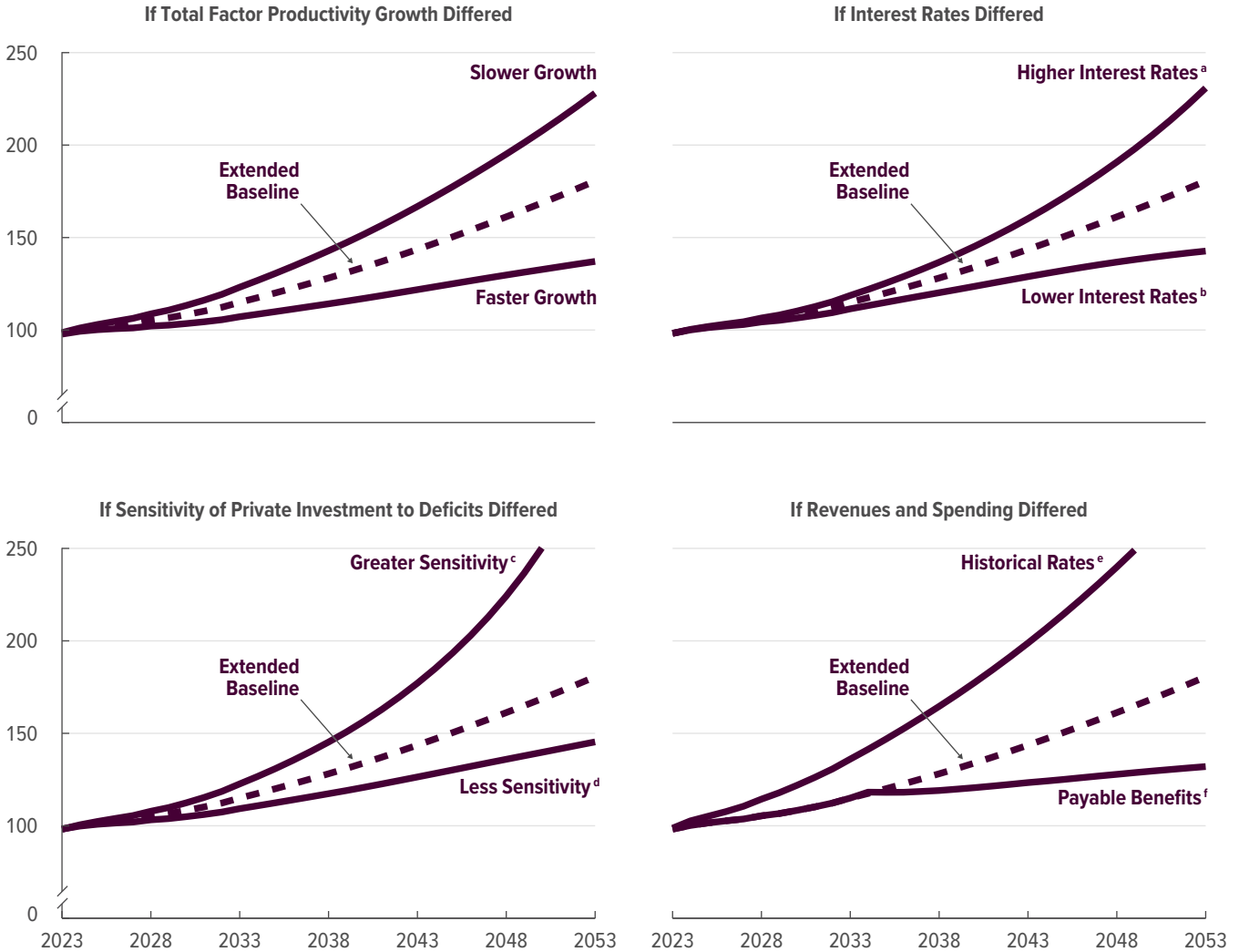
The budgetary effects of faster or slower TFP growth are highly uncertain. That is because of uncertainty in the responses of economic variables to changes in TFP growth and how those responses would affect spending and revenues. Thus, actual effects of changes in TFP growth may diverge from CBO's estimates.

4. For details, see Congressional Budget Office, *How Changes in Economic Conditions Might Affect the Federal Budget: 2023 to 2033* (April 2023), pp. 6–7, [www.cbo.gov/publication/58605](http://www.cbo.gov/publication/58605).

Figure 1.

## Federal Debt Under the Baseline and Eight Alternative Scenarios

Percentage of GDP, by Fiscal Year



Data source: Congressional Budget Office. See [www.cbo.gov/publication/59233#data](http://www.cbo.gov/publication/59233#data).

Total factor productivity growth is the growth of real output (that is, output adjusted to remove the effects of inflation) per unit of combined labor and capital services in the nonfarm business sector. The interest rate is the average interest rate on federal debt.

CBO's long-term budget projections, referred to as the extended baseline, typically follow the agency's 10-year baseline budget projections and then extend most of the concepts underlying those projections for an additional 20 years. This year, however, the long-term projections are based on the agency's May 2023 baseline projections but also reflect the estimated budgetary effects of the Fiscal Responsibility Act of 2023 (Public Law 118-5), enacted on June 3, 2023.

GDP = gross domestic product.

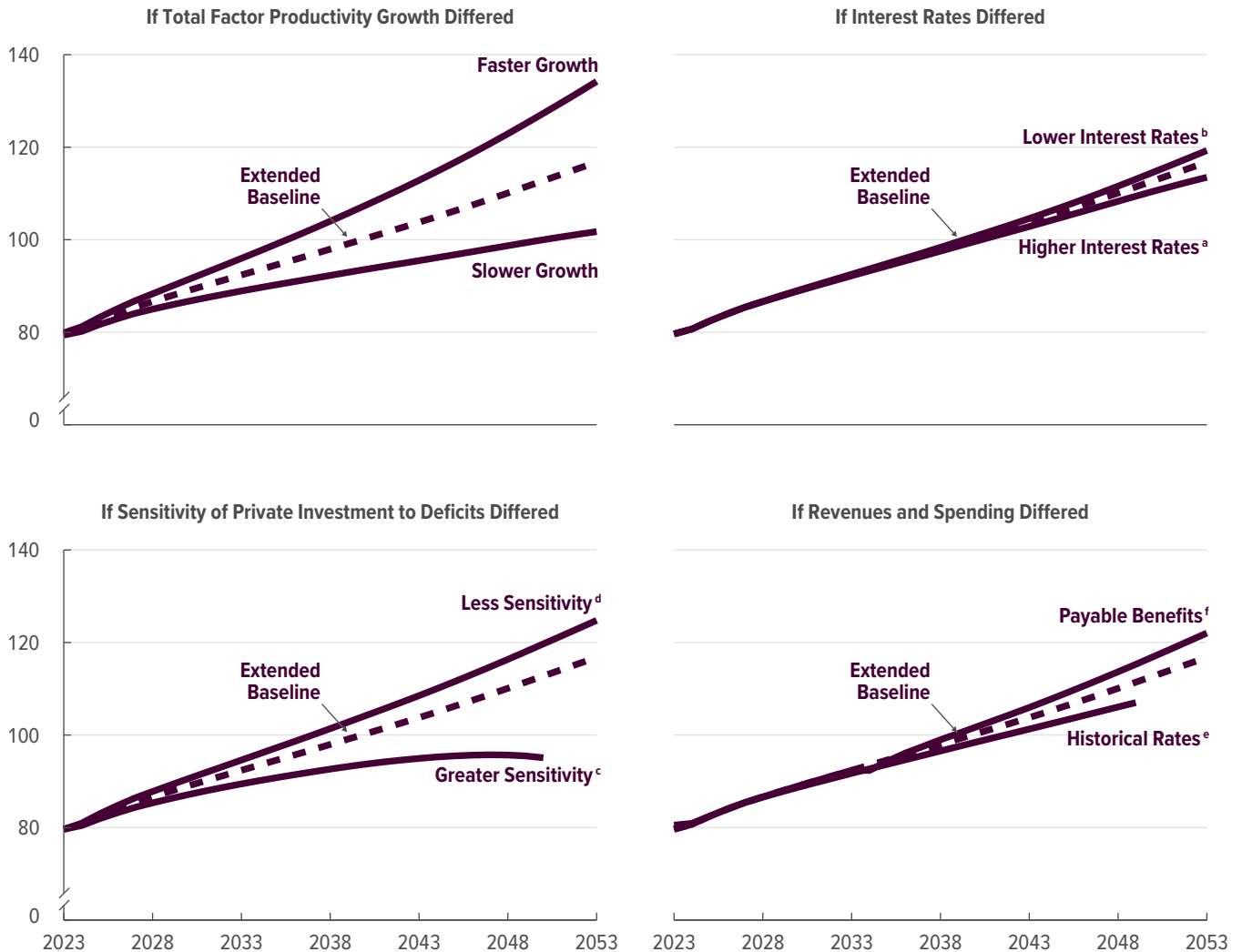
- a. Under this scenario, the average interest rate on federal debt was boosted above the rate underlying CBO's extended baseline by a differential that starts at 5 basis points in 2023 and increases by 5 basis points each year (before macroeconomic effects are accounted for)—that is, the interest rate is 5 basis points higher than the baseline rate in 2023, 10 basis points higher than the baseline rate in 2024, 15 basis points higher than the baseline rate in 2025, and so on. (A basis point is one-hundredth of a percentage point.)
- b. Under this scenario, the average interest rate on federal debt was pushed below the rate underlying CBO's extended baseline by a differential that starts at 5 basis points in 2023 and increases by 5 basis points each year (before macroeconomic effects are accounted for)—that is, the interest rate is 5 basis points lower than the baseline rate in 2023, 10 basis points lower than the baseline rate in 2024, 15 basis points lower than the baseline rate in 2025, and so on.
- c. Under this scenario, the effect of federal borrowing on private investment is twice as large as it is in CBO's extended baseline.
- d. Under this scenario, federal borrowing has no effect on private investment.
- e. Under this scenario, discretionary outlays equal 7.1 percent of GDP and revenues equal 17.2 percent of GDP over the entire projection period.
- f. Under this scenario, Social Security benefits are limited to the amounts payable from dedicated funding sources.



Figure 2.

## Real GNP per Person Under the Baseline and Eight Alternative Scenarios

Thousands of 2023 Dollars, by Calendar Year



Data source: Congressional Budget Office. See [www.cbo.gov/publication/59233#data](http://www.cbo.gov/publication/59233#data).

Total factor productivity growth is the growth of real output (that is, output adjusted to remove the effects of inflation) per unit of combined labor and capital services in the nonfarm business sector. The interest rate is the average interest rate on federal debt.

CBO's long-term budget projections, referred to as the extended baseline, typically follow the agency's 10-year baseline budget projections and then extend most of the concepts underlying those projections for an additional 20 years. This year, however, the long-term projections are based on the agency's May 2023 baseline projections but also reflect the estimated budgetary effects of the Fiscal Responsibility Act of 2023 (Public Law 118-5), enacted on June 3, 2023.

Whereas GDP, the more common measure of economic output, is the value of all final goods and services produced within the borders of the United States, GNP is the value of all final goods and services produced by labor and capital supplied by residents of the United States, regardless of where that labor and capital are located.

GDP = gross domestic product; GNP = gross national product.

- Under this scenario, the average interest rate on federal debt was boosted above the rate underlying CBO's extended baseline by a differential that starts at 5 basis points in 2023 and increases by 5 basis points each year (before macroeconomic effects are accounted for)—that is, the interest rate is 5 basis points higher than the baseline rate in 2023, 10 basis points higher than the baseline rate in 2024, 15 basis points higher than the baseline rate in 2025, and so on. (A basis point is one-hundredth of a percentage point.)
- Under this scenario, the average interest rate on federal debt was pushed below the rate underlying CBO's extended baseline by a differential that starts at 5 basis points in 2023 and increases by 5 basis points each year (before macroeconomic effects are accounted for)—that is, the interest rate is 5 basis points lower than the baseline rate in 2023, 10 basis points lower than the baseline rate in 2024, 15 basis points lower than the baseline rate in 2025, and so on.
- Under this scenario, the effect of federal borrowing on private investment is twice as large as it is in CBO's extended baseline.
- Under this scenario, federal borrowing has no effect on private investment.
- Under this scenario, discretionary outlays equal 7.1 percent of GDP and revenues equal 17.2 percent of GDP over the entire projection period.
- Under this scenario, Social Security benefits are limited to the amounts payable from dedicated funding sources.

### Higher or Lower Interest Rates on Federal Debt Held by the Public

CBO also projected budgetary and economic outcomes under two scenarios in which interest rates on federal debt are higher or lower than the rates underlying the agency's extended baseline projections. For the first scenario, CBO boosted the average interest rate on federal debt above the baseline by an amount that starts at 5 basis points in 2023 and increases by that amount in each year thereafter (before incorporating macroeconomic effects, which are described below).<sup>5</sup> For the second scenario, the average interest rate on federal borrowing was pushed below the baseline rate by those same amounts each year.

- Under the scenario with higher interest rates, federal debt held by the public would reach 231 percent of GDP in 2053 rather than the 181 percent of GDP it equals in the extended baseline projections. Real GNP would be 3 percent lower and real GNP per person would be \$3,300 smaller in that year than it is in CBO's extended baseline projections.
- Under the scenario with lower interest rates, federal debt held by the public would be 143 percent of GDP in 2053. Real GNP would be 2 percent higher and real GNP per person would be \$2,500 larger in that year than it is in CBO's extended baseline projections.

The boost to interest rates under the first scenario increases projections of the government's interest costs and thus deficits. Larger deficits—and the increased federal borrowing required to finance them—reduce the amount of resources available for private investment.<sup>6</sup> The decrease in private investment reduces the amount of capital and increases the return on investment because more workers make use of each unit of capital. When the return on capital grows, interest rates—including the rates that the federal government pays on debt held by the public—rise further. Thus, macroeconomic effects push interest rates above the initial boost that was built into the scenario.

In the extended baseline projections, the average interest rate on federal debt is 4.0 percent in 2053. That rate is 5.8 percent in that year under the scenario with higher interest rates. Of the 1.8 percentage-point difference between the rates in 2053, about 0.3 results from macroeconomic effects (larger deficits, less investment and capital, and additional increases in interest rates) rather than from the initial boost to interest rates.

The lower interest rates under the second scenario result in smaller interest payments and smaller deficits than those in CBO's extended baseline projections. Those smaller deficits spur private investment, increasing the amount of capital per worker and decreasing the return on capital—and, ultimately, interest rates. The average interest rate on federal debt declines to 2.2 percent in 2053 under that scenario.

The budgetary and economic effects of higher or lower interest rates are uncertain because they depend on the amount of debt accrued at those rates and on the macroeconomic effects of those rates. Furthermore, any particular effects (relative to CBO's baseline projections) would depend on what circumstances caused interest rates to change. For simplicity—and to avoid presuming which circumstances caused interest rates to change—CBO's analysis does not account for those particular effects on the economy or the budget.

### Greater or Lesser Sensitivity of Private Investment to Deficits

When the federal government borrows money in financial markets, it decreases the amount of resources available for private investment. In CBO's assessment, every additional dollar of deficit-financed spending reduces private investment by 33 cents.<sup>7</sup> Less private investment reduces the capital stock and economic output over time.

CBO examined two cases in which the sensitivity of private investment to deficits differs from that in CBO's baseline.

- First, CBO examined the economic and budgetary outcomes that would occur if government borrowing had twice the effect on private investment as it does in CBO's long-term projections. In the case of greater sensitivity to deficits, every dollar of change in the deficit would reduce private investment by 66 cents. Under such a scenario, federal debt held by the public would exceed 250 percent of GDP in 2053.

5. That is, the interest rate was boosted above the baseline rate by 5 basis points in 2023, 10 basis points in 2024, 15 basis points in 2025, and so on.

6. For additional discussion of the effects of federal borrowing on private investment, see Jonathan Huntley, *The Long-Run Effects of Federal Budget Deficits on National Saving and Private Domestic Investment*, Working Paper 2014-02 (Congressional Budget Office, February 2014), [www.cbo.gov/publication/45140](http://www.cbo.gov/publication/45140).

7. Ibid.

- Second, CBO examined outcomes under a scenario in which government borrowing had no effect on private investment. In that scenario, federal debt held by the public would be 145 percent of GDP in 2053 rather than the 181 percent it amounts to in the extended baseline projections.

Those different degrees of sensitivity have economic and budgetary implications because they alter the relationship between private investment and government borrowing. In the first case, in which debt held by the public reaches 250 percent of GDP in 2050, private investment would be smaller than it is projected to be in CBO's baseline.<sup>8</sup> Less investment would lower the capital stock and reduce output over time. It also would decrease the amount of capital used by each worker, thereby increasing the return on capital and the return on investments (including government bonds). In CBO's assessment, greater sensitivity of private investment to deficits would cause the interest rate on 10-year Treasury notes to be 2.5 percentage points higher in 2050 relative to the agency's extended baseline projections. Real GNP would be 16 percent lower and real GNP per person would be \$17,700 smaller in that year than it is in CBO's extended baseline projections.

Under the second scenario, private investment would be larger than it is projected to be in CBO's baseline. More investment would boost the capital stock and output over time. It also would increase the amount of capital used by each worker, thereby reducing the return on capital and the return on investments (including government bonds). In CBO's assessment, less sensitivity of private investment to deficits would cause the interest rate on 10-year Treasury notes to be 0.9 percentage points lower in 2053 relative to the agency's extended baseline projections. Real GNP under that scenario would be 7 percent higher and real GNP per person would be \$8,000 larger in that year than it is in CBO's extended baseline projections.

8. Assessing the economic effects of debt that exceeds 250 percent of GDP would require CBO to reevaluate the economic relationships in its current models. In those models, the responses of private saving, capital inflows, and interest rates to changes in fiscal policy are based on the nation's historical experience with federal borrowing. But in certain alternative paths, debt as a percentage of GDP grows to levels well outside that experience.

## Keeping Discretionary Spending and Revenues at Their Historical Averages

In CBO's extended baseline projections, discretionary spending is smaller and revenues are larger, on average, than they have been as a share of GDP over the past 30 years.<sup>9</sup> For this report, CBO analyzed a historical-rate scenario in which discretionary spending and revenues (measured as a percentage of GDP) are set for the entire projection period to the average values they had over the past 30 years.<sup>10</sup>

Under this scenario, discretionary outlays are set to 7.1 percent of GDP, an amount that would exceed the amount in the extended baseline projections by an average of 1.4 percentage points between 2023 and 2053. Discretionary spending under this scenario (measured as a percentage of GDP) exceeds such spending in the extended baseline by 0.6 percentage points in 2023; that difference rises to 1.7 percentage points in 2053.<sup>11</sup>

Also under this scenario, revenues are set to 17.2 percent of GDP, an amount that would be lower than the amount in the extended baseline projections by an average of 1.2 percentage points between 2023 and 2053.<sup>12</sup> Measured as a percentage of GDP, revenues under this scenario are lower than in the extended baseline

9. When constructing its baseline projections of spending and revenues, CBO follows procedures specified in law as well as long-standing guidelines. For example, the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177) requires CBO to incorporate the assumption that future discretionary funding will match the amounts most recently provided, with adjustments for inflation, through the first 10 years of the projection period. For later years, in the extended baseline, CBO assumes that after a five-year transition period, discretionary spending would grow at the rate of nominal GDP.

10. For a more detailed discussion of the budgetary effects through 2032 of a similar illustrative scenario, see Congressional Budget Office, *The Budget and Economic Outlook: 2022 to 2032* (May 2022), pp. 101–104, [www.cbo.gov/publication/57950](http://www.cbo.gov/publication/57950).

11. In the extended baseline projections, discretionary spending equals 6.5 percent of GDP in 2023. It generally decreases as a share of the economy through 2037, when it reaches 5.4 percent of GDP, and remains at that amount thereafter. Such spending averages 5.7 percent of GDP over the 30-year projection period.

12. CBO's projections of revenues reflect the assumption that certain provisions affecting the tax code—including changes in statutory tax rates—will expire as scheduled under current law.

projections by 1.1 percentage points in 2023 and by 1.9 percentage points in 2053.<sup>13</sup>

### Outcomes Under the Scenario

Under the historical-rate scenario, debt held by the public would exceed 250 percent of GDP by the end of the projection period. In CBO's projections, debt reaches 249 percent of GDP in 2049, 84 percentage points larger than it is in the agency's extended baseline projections in that year (see Figure 1 on page 3). The primary deficit (which excludes interest costs) would be 3.6 percentage points larger in 2049 than it is in CBO's extended baseline projections. Once the rising costs of debt service were added, the total deficit in 2049 under this scenario would be 7.7 percentage points larger than the baseline amount.

In terms of output, real GNP under the historical-rate scenario would be 4 percent smaller in 2049 than it is in CBO's baseline projections, and real GNP per person would be \$4,400 less in that year (see Figure 2 on page 4).

### How CBO Projected Those Outcomes

Fiscal policy underlying the historical-rate scenario would differ significantly from fiscal policy under current law. For simplicity—and to avoid presuming which fiscal policies lawmakers might implement to alter the deficit—CBO analyzed the scenario without specifying the underlying tax and spending policies. CBO assumed that, under the scenario, transfer payments to people would be the same as they are under current law. In addition, the effective marginal tax rates on labor and capital income were assumed to move proportionally for all households as revenues shifted to meet the specified targets.

Those changes in fiscal policy are projected to affect the economy in ways that would feed back into the budget. CBO has not analyzed every way in which that could occur. Instead, for the simplified analysis presented in this report, CBO considered these five effects:

- Policies that increased spending and reduced revenues would elevate overall demand for goods and services over the next few years, thereby increasing output and employment in the short term.

13. In the extended baseline projections, revenues equal 18.3 percent of GDP in 2023. They generally increase as a share of the economy through 2053, reaching 19.1 percent of GDP in that year. Revenues average 18.4 percent of GDP over the projection period.

- Effective marginal tax rates on income from labor would be lower under the historical-rate scenario than they are in the extended baseline projections. Those lower rates would encourage people to work and save more and thus increase output.<sup>14</sup>
- Effective marginal tax rates on income from most types of capital would also be lower under the historical-rate scenario. Those lower rates would encourage saving and investment and thus further boost output.<sup>15</sup>
- Higher amounts of discretionary spending would increase federal investment in infrastructure and in research and development. Greater federal investment would boost private-sector productivity and output.<sup>16</sup>
- Federal debt would be larger under the historical-rate scenario than it is in the extended baseline projections. The increase in federal borrowing would draw money away from investment in capital goods and services, reducing the stock of private capital and decreasing output.

Changes to fiscal policy also could alter incentives in other ways, possibly affecting the economy significantly in the long term. For example, changes to tax policy might alter businesses' choices about how they were structured, and those choices might, in turn, alter the effective marginal tax rate on capital income. Similarly, changes in the tax treatment of mortgage debt would affect households' decisions about how much to save. Because this analysis is simplified, it does not account for any changes in individuals' or businesses' incentives or activities that might result from certain policies.

14. The effective marginal tax rate on labor income is the share (averaged among all taxpayers by assigning them weights proportional to their labor income) of an additional dollar of such income that is paid in federal individual income taxes and payroll taxes.

15. The effective marginal tax rate on capital income is the share of the return on an additional dollar of investment made in a particular year that will be paid in federal taxes over the life of that investment.

16. For more information, 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](http://www.cbo.gov/publication/57327).

## Limiting Social Security Benefits to Payable Amounts

CBO's extended baseline projections reflect the assumption that the Social Security Administration will pay benefits as scheduled under current law regardless of the status of the program's trust funds.<sup>17</sup> That approach is consistent with the requirement that CBO's 10-year baseline budget projections incorporate the assumption that funding for such programs is sufficient to make all payments required by law. Without legislative action, the combined Old-Age, Survivors, and Disability Insurance (OASDI) trust funds are projected to be exhausted in fiscal year 2033. At that time, the program would have insufficient funds to pay beneficiaries the full amounts to which they were entitled under current law.<sup>18</sup>

Under the payable-benefits scenario, Social Security benefits would be limited to the amounts payable from dedicated funding sources beginning in 2034, after the OASDI funds' exhaustion. To project the effects of that change, CBO estimated the total reduction in annual Social Security benefits that would be necessary for the program's outlays to match its revenues in each year after 2033. The required reduction would amount to 25 percent in 2034 and would rise gradually to 28 percent in 2053, relative to the amounts in CBO's extended baseline projections.

For this analysis, CBO assumed that once the combined trust funds were exhausted, Old-Age and Survivors Insurance and Disability Insurance benefits paid to all existing and new beneficiaries would be reduced by those percentages. (It is unclear how much payments for specific beneficiaries would be reduced if total benefits were limited to the amounts payable from dedicated funding.) In addition, the reduction in benefits would not be announced until the beginning of 2034 and people

would not expect it (a simplifying assumption that matters for the projection of macroeconomic effects).

### Outcomes Under the Scenario

The payable-benefits scenario would reduce budget deficits and debt significantly. Under that scenario, the abrupt and large reduction in benefits in 2034 would have both short-term effects and long-term effects on the economy. For instance, in the short term, the reduction in benefits would cause GDP to decline, though in the long term the effects of the reduction in benefits on people's behavior and other aspects of the economy would cause GDP to rise. Those changes would affect different groups of people to varying degrees.

**Budgetary Effects.** In 2053, the primary deficit under the payable-benefits scenario would be smaller than it is in CBO's extended baseline projections—0.9 percent of GDP instead of 3.3 percent of GDP. Adding interest costs raises the total deficit in 2053 to 5.4 percent of GDP under the payable-benefits scenario, compared with 10.0 percent of GDP in the extended baseline projections. For the payable-benefits scenario, debt held by the public would be 132 percent of GDP in 2053, CBO projects, rather than 181 percent (see Figure 1 on page 3).

**Economic Effects.** In the short term, the significant and abrupt decline in Social Security payments would cause consumer spending to decrease, savings to increase by a corresponding amount, and overall demand for goods and services to decline. As a result, real GNP would be 1.2 percent lower in 2034 and 0.3 percent lower in 2035 than it is in the extended baseline projections, CBO estimates. In response, in CBO's view, the Federal Reserve would lower interest rates to boost overall demand and prevent inflation from falling below its longer-term goal of 2 percent. In addition, the increase in the saving rate—and other factors—would further reduce interest rates. Taken together, those effects would cause the interest rate on 10-year Treasury notes to be 0.6 percentage points less in 2034 and 0.4 percentage points less in 2035 than it is in the extended baseline projections, in CBO's estimation.

In the long run, though, output would be higher than it is in the extended baseline, mainly as a result of three factors. First, the supply of labor would expand. Second, private investment would increase following a rise in private savings as some workers chose to save more while

17. Social Security is financed by payroll taxes and income taxes on benefits that are credited to the Old-Age and Survivors Insurance trust fund and the Disability Insurance trust fund. Although the two trust funds are legally separate, in this analysis CBO considers them as combined trust funds, known as the Old-Age, Survivors, and Disability Insurance trust funds.

18. The balances of the trust funds represent the total amount that the government is legally authorized to spend. For more details 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 for Congress RL33514 (Congressional Research Service, September 28, 2022), [www.crs.gov/Reports/RL33514](http://www.crs.gov/Reports/RL33514).



working to offset the effect of smaller benefits on their income and spending in retirement. Third, the amount of funds available for private investment would grow, owing to smaller budget deficits and an associated reduction in borrowing by the federal government, which would reduce interest rates and boost output.

In CBO's assessment, increases in private investment, the supply of labor, and the capital stock would cause output and wages to be higher and interest rates to be lower in the long term under the payable-benefits scenario than they are in the extended baseline projections. Specifically, in 2053, real GNP would be 5 percent bigger and real GNP per person would be \$5,300 more, CBO estimates (see Figure 2 on page 4). The interest rate on 10-year Treasury securities would be 0.5 percentage points smaller under this scenario than it is in CBO's extended baseline projections.

The effects on the economy would differ for people depending on their wealth and employment status. Beneficiaries with little or no wealth would immediately reduce their spending. Most beneficiaries with wealth would also reduce their spending but by a smaller relative amount, slowing the rate at which they draw down that wealth to make their resources last longer. The abrupt and large reduction in benefits would cause changes in employment as well. Some Social Security beneficiaries might return to work to supplement their income. And workers, including some older workers, would choose to work more hours and perhaps delay claiming Social Security in order to increase their income and savings.

Additionally, on average, lifetime spending would decrease and lifetime hours worked would increase for most people; those changes would be greater for people with lower lifetime income than for those with higher lifetime income (measured relative to income levels under CBO's extended baseline projections). Changes in lifetime spending would stem not only from the direct effects of a drop in Social Security benefits, but also from macroeconomic effects that would boost wages in the long run. On average, higher wages and increased hours worked would partially offset the direct effect of reduced benefits on lifetime spending.

The reduction in Social Security benefits and the associated effects on the economy in the long run would generally decrease income and wealth for generations

born earlier and increase them for those born later. In particular, those who are born later would experience the associated increase in output for more time than those who are born earlier would.

### How CBO Projected Those Outcomes

Projections under the payable-benefits scenario do not differ from those in the extended baseline until 2034, when the reduction in benefits would begin. (Because the reduction is assumed to be unexpected, workers would not adjust their saving and hours worked beforehand.) From 2035 onward, in CBO's view, people would expect their Social Security benefits to be reduced permanently.

CBO analyzed the macroeconomic effects of the reduction in Social Security benefits using a suite of models. Although CBO has not analyzed every way in which the payable-benefits scenario would affect the economy, the agency analyzed four key channels for this report.

- The reduction in benefits would decrease retirees' income, pushing down the overall demand for goods and services and causing output to be lower in 2034 and 2035 than it is in the extended baseline projections.
- The reduction in benefits would cause some people to work more and some people to remain in the labor force longer than they would have otherwise. Both of those factors would expand the supply of labor and thus the economy's output in the long term.
- In CBO's assessment, some workers who have not yet retired would respond to the prospect of smaller benefit payments by boosting their saving and reducing their spending.<sup>19</sup> Those changes would lessen the effect that smaller future benefit payments would have on people's future income and spending. The resulting increases in saving and the labor supply would boost the capital stock and GDP.
- Federal debt would be lower than it is in the extended baseline projections—increasing the amount of money available for private investment in capital goods and services, boosting the stock of private capital, and expanding output more than would otherwise occur.

19. In this analysis, CBO did not address the potential effects of households moving their savings into or out of tax-deferred or taxable savings accounts.

The economic and budgetary effects of the policies underlying the payable-benefits scenario are highly uncertain. That uncertainty arises mainly from two sources: uncertainty about future economic conditions and demographic trends, and uncertainty about how reductions in Social Security benefits would affect the economy and the budget. (It is both uncertain what

specific actions the Social Security Administration would take if a trust fund was insolvent and uncertain what effects any specific reduction in benefits would have.) If those factors differed from the assumptions underlying CBO's projections, budgetary and economic outcomes would differ from those the agency estimated.

This report supplements the series of reports on the state of the budget and the economy that the Congressional Budget Office issues every year. The agency's annual report about its long-term budget projections generally includes an analysis of alternative scenarios like those described in this report, but CBO did not have enough time this year to incorporate such an analysis into that publication ([www.cbo.gov/publication/59014](http://www.cbo.gov/publication/59014)). In keeping with CBO's mandate to provide objective, impartial analysis, this report makes no recommendations.

Damir Cosic prepared the report with guidance from Molly Dahl and Jaeger Nelson, as well as Richard DeKaser, Devrim Demirel, Edward Harris, John McClelland, and Julie Topoleski. Aaron Betz, Dorian Carloni, Xinzhe Cheng, Mark Lasky, Junghoon Lee, Kyoung Mook Lim, Kerk Phillips, and Jordan Trinh (formerly of CBO) contributed to the analysis in this report. Alia Abdelkader, Daniel Crown, and Lucy Yuan fact-checked the report.

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CBO seeks feedback to make its work as useful as possible. Please send comments to [communications@cbo.gov](mailto:communications@cbo.gov).



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