Congressional Budget Office

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The Long-Term Budget Outlook Under Alternative Scenarios for Fiscal Policy

Each year, the Congressional Budget Office publishes extended baseline projections—a set of budget projections that incorporate the assumption that current laws generally remain unchanged, extending the agency's 10-year baseline projections beyond the coming decade.[1] In CBO's most recent extended baseline, revenues grow more rapidly than gross domestic product (GDP), rising to levels well above their historical average, because recently enacted tax changes are scheduled to expire and because of the structure of the tax system. In addition, discretionary spending falls substantially in relation to the size of the economy.[2] Nevertheless, federal debt held by the public rises from an amount equal to 78 percent of GDP in 2018 to 118 percent of GDP in 2038.

This report expands on CBO's extended baseline projections by showing how the federal budget and the nation's economy would evolve under three alternative scenarios. In those scenarios, laws would be changed to continue certain policies now in place, leading to even higher debt (see Figure 1).

- In the first scenario, current law is changed to maintain certain major policies that are now in place—including the individual income tax provisions of Public Law 115-97 (originally called the Tax Cuts and Jobs Act and called the 2017 tax act in this report), which are scheduled to expire in 2026 under current law. Most other parts of the tax system's structure are left unchanged, including those that cause revenues to rise as a percentage of GDP. In addition, discretionary spending equals a larger percentage of GDP than under the extended baseline, and that percentage remains roughly flat after 2028. In that scenario, CBO projects, deficits would be larger than they would be under the extended baseline. Federal debt would equal 148 percent of GDP in 2038 and continue to rise in later years.

- The second scenario resembles the first scenario initially, but after 2028, tax policy is assumed to be changed so that revenues remain flat as a percentage of GDP, rather than growing over time. In that scenario, deficits would be even larger than in the first scenario. Debt would equal 151 percent of GDP in 2038 and keep rising thereafter.

- The third scenario is like the second, except that tax policy is assumed to be changed so that revenues remain flat in relation to GDP after 2018 rather than after 2028. In that scenario, deficits would be larger still. Debt would equal 165 percent of GDP in 2038 and keep rising.

1. See Congressional Budget Office, *The 2018 Long-Term Budget Outlook* (June 2018), www.cbo.gov/publication/53919.

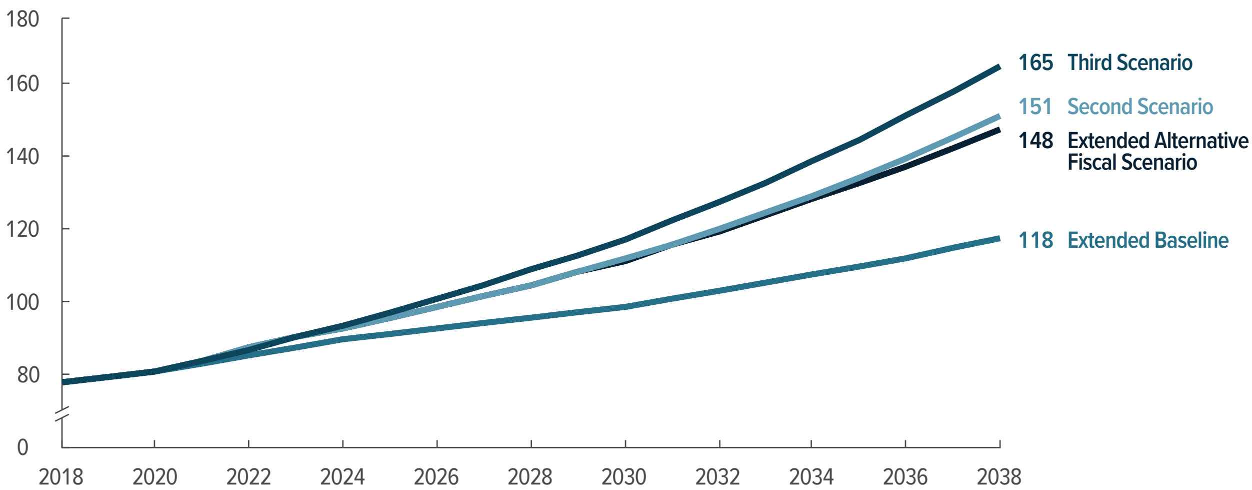
2. Discretionary spending is budget authority that is provided or controlled by appropriation acts and the outlays resulting from that budget authority.

Note: Unless this report indicates otherwise, all years referred to in describing budget projections are federal fiscal years, which run from October 1 to September 30 and are designated by the calendar year in which they end. Years referred to in describing economic projections are calendar years. Numbers in the text and tables may not add up to totals because of rounding. The scenarios described are illustrative and are not based on proposed legislation.

Figure 1.

Federal Debt Held by the Public Under the Extended Baseline and Alternative Scenarios

Percentage of Gross Domestic Product



Source: Congressional Budget Office.

The extended baseline generally reflects current law, following CBO's 10-year baseline budget projections through 2028 and then extending most of the concepts underlying those baseline projections for the rest of the long-term projection period.

In the extended alternative fiscal scenario, current law is changed to maintain certain major policies that are now in place and to provide more typical amounts of annual emergency funding than the sum provided for 2018.

The second scenario initially resembles the extended alternative fiscal scenario, but after 2028, revenues and outlays for refundable tax credits remain flat as a percentage of gross domestic product.

The third scenario is like the second, except that revenues and outlays for refundable tax credits remain flat in relation to gross domestic product after 2018 rather than after 2028.

The estimates include the scenarios' economic effects on the budget.

Under all three scenarios, the nation's economic output in 2038 would be smaller than it would be under CBO's extended baseline.

Those projections through 2038 are all uncertain, but what would happen by 2048 (the last year covered by the extended baseline) is even less certain, because in all three scenarios, debt as a percentage of GDP rises to levels substantially outside historical experience. Employing its usual models, CBO projects that in any of the scenarios, debt would equal more than 200 percent of GDP by 2048—but those models probably understate the increase in debt.

CBO's Extended Baseline

In CBO's extended baseline, the federal budget deficit grows substantially, from 3.9 percent of GDP in 2018 to 7.1 percent in 2038 (see Table 1). The primary deficit—that is, the deficit excluding the costs of servicing the debt—grows from 2.4 percent of GDP in 2018 to 2.9 percent in 2038.

The reason for the increasing deficits is that growing spending outpaces growing revenues. Measured as a share of GDP, spending increases for the major health care programs (primarily Medicare), Social Security, and interest on the government's debt. That spending increase—equaling 7.0 percent of GDP from 2018 to 2038—is only partly offset by declining spending, especially discretionary spending, for other programs and activities. In the extended baseline, discretionary spending falls by 0.9 percent of GDP from 2018 to 2028 and then remains roughly constant. All told, spending is projected to rise by 5.7 percent of GDP from 2018 to 2038.

Table 1.

Budget Projections Under the Extended Baseline and Alternative Scenarios

Percentage of Gross Domestic Product

	2018	2028	2038
		Revenues	
Extended Baseline	16.6	18.5	19.1
Extended Alternative Fiscal Scenario	16.6	17.4	17.9
Second Scenario	16.6	17.4	17.4
Third Scenario	16.6	16.6	16.6
		Spending Excluding Interest Payments	
Extended Baseline	19.0	20.6	22.0
Extended Alternative Fiscal Scenario	19.0	21.1	22.7
Second Scenario	19.0	21.1	22.9
Third Scenario	19.0	21.1	23.0
		Deficit (-) Excluding Interest Payments	
Extended Baseline	-2.4	-2.1	-2.9
Extended Alternative Fiscal Scenario	-2.4	-3.7	-4.8
Second Scenario	-2.4	-3.7	-5.5
Third Scenario	-2.4	-4.5	-6.4
		Total Deficit (-)	
Extended Baseline	-3.9	-5.1	-7.1
Extended Alternative Fiscal Scenario	-3.9	-7.1	-10.5
Second Scenario	-3.9	-7.1	-11.3
Third Scenario	-3.9	-8.1	-12.9
		Federal Debt Held by the Public	
Extended Baseline	78	96	118
Extended Alternative Fiscal Scenario	78	105	148
Second Scenario	78	105	151
Third Scenario	78	109	165

Source: Congressional Budget Office.

The extended baseline generally reflects current law, following CBO's 10-year baseline budget projections through 2028 and then extending most of the concepts underlying those baseline projections for the rest of the long-term projection period.

In the extended alternative fiscal scenario, current law is changed to maintain certain major policies that are now in place and to provide more typical amounts of annual emergency funding than the sum provided for 2018.

The second scenario initially resembles the extended alternative fiscal scenario, but after 2028, revenues and outlays for refundable tax credits remain flat as a percentage of gross domestic product.

The third scenario is like the second, except that revenues and outlays for refundable tax credits remain flat in relation to gross domestic product after 2018 rather than after 2028.

The estimates include the scenarios' economic effects on the budget.

Revenues take a different path in the extended baseline. They are roughly flat over the next few years in relation to GDP and rise slowly after that. Then they jump in 2026, because most of the provisions of the 2017 tax act that lowered individual income taxes, starting in 2018, are set to expire at the end of calendar year 2025. Beyond 2028, revenues continue to rise in relation to the size of the economy (although they do not keep pace with spending). That increase is largely driven by a phenomenon called real bracket creep, in which income for some taxpayers is pushed into higher and higher tax brackets because the brackets are indexed to inflation, as measured by the chained consumer price index, but the income is rising faster than inflation. Also contributing to the increase are certain tax increases enacted in the Affordable Care Act, which generate growing amounts of revenue in relation to the size of the economy.[3] All told, revenues in 2038 are projected to exceed revenues in 2018 by 2.5 percent of GDP.

Because the growing deficits would be financed by borrowing, debt held by the public is projected to rise from 78 percent of GDP today to 118 percent in 2038. Such debt represents the amount that the federal government has borrowed in financial markets, by issuing Treasury securities, to pay for its operations and activities.

Measuring quantities as percentages of GDP is particularly useful for comparing amounts of debt in different years. That approach accounts for changes in price levels, population, output, and income—all of which affect the nation's ability to finance the debt. By placing discussions about debt in the context of the nation's resources, measuring debt as a percentage of GDP provides a simple and meaningful way to assess the budget's sustainability.

In CBO's extended baseline, productivity grows, making output and income per person higher in the future than they are now. Expressed in 2019 dollars, real (that is, inflation-adjusted) gross national product (GNP) grows from about $64,000 per person in 2019 to $80,000 per person in 2038. Interest rates on 10-year Treasury securities average 3.8 percent over the next decade and rise to 4.2 percent in 2038.

Although output and income per person grow in the extended baseline, the high and rising debt that is projected would have serious negative consequences for the budget and the nation:

- Reducing national saving and income in the long term;
- Increasing the government's interest costs, putting more pressure on the rest of the budget;
- Limiting lawmakers' ability to respond to unforeseen events; and
- Increasing the likelihood of a fiscal crisis—a situation in which the interest rate on federal debt rises abruptly, dramatically increasing the cost of government borrowing.

CBO's Alternative Scenarios

This report presents budgetary and economic outcomes under three alternative scenarios. (That is, they are alternatives to the extended baseline, in which current laws generally do not change.) In each scenario, spending (and especially discretionary spending) is higher, and revenues are lower, than in the extended baseline; deficits and debt are therefore larger. CBO has assessed how the larger deficits and debt in the three scenarios would affect the economy and how those economic effects would, in turn, feed back into the federal budget.

In the first scenario, which CBO calls the *extended alternative fiscal scenario*, current law is changed so that certain major policies that are now in place continue; also, amounts of emergency funding are provided that are more typical than the sums provided for 2018.[4] Over the next 10 years, the scenario incorporates the following features:

- More than 50 expiring revenue provisions are extended, including the individual income tax provisions of the 2017 tax act;
- Delays in implementing certain taxes established by the Affordable Care Act are extended or made permanent, including the excise tax on high-cost, employment-based health insurance;
- Scheduled limits on discretionary appropriations do not take effect, and instead, most appropriations grow each year from their 2018 amount at the rate of inflation; and

3. As referred to in this report, the Affordable Care Act comprises the Patient Protection and Affordable Care Act (P.L. 111-148), the health care provisions of the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152), and the effects of subsequent judicial decisions, statutory changes, and administrative actions.

4. Over the next 10 years, spending and tax policies under this scenario are identical to those in the *alternative fiscal scenario*, which is described in *The Budget and Economic Outlook: 2018 to 2028*—but the budgetary outcomes are different in this report, because they incorporate a simplified analysis of the estimated effects of the changes in fiscal policy on the economy and the effects of those economic changes on the budget. For more details, see Congressional Budget Office, *The Budget and Economic Outlook: 2018 to 2028* (April 2018), Table 4-5, www.cbo.gov/publication/53651.

- Lawmakers provide inflation-adjusted emergency appropriations for nondefense discretionary programs equal to the average amount of such funding from 2012 through 2017, rather than the much larger amount projected in the 10-year baseline.

Beyond the next 10 years, discretionary spending as a percentage of GDP stays roughly at its 2028 level in the scenario.[5] Also, beyond the next 10 years, extending the expiring tax provisions is assumed to lower revenues each year by the same percentage of GDP as in 2028.

Despite the extension of expiring tax provisions, revenues as a share of GDP show an upward trend, mostly because of real bracket creep; they reach 17.9 percent of GDP in 2038. That upward trend differs from historical experience, however. Over the past 50 years, largely because of legislated changes, federal revenues as a percentage of GDP have fluctuated around their 50-year average of 17.4 percent with no evident long-term trend.

CBO therefore analyzed two scenarios in which revenues follow a path that is more consistent with that experience. In those scenarios, noninterest spending (excluding outlays for refundable tax credits) follows the same path that it does in the extended alternative fiscal scenario.[6] But in the second alternative scenario, revenues, after following the same path that they do in the extended alternative fiscal scenario over the next 10 years, then remain at 17.4 percent of GDP. In the third alternative scenario, revenues remain flat at the level projected for 2018—16.6 percent of GDP.

How CBO Analyzed Outcomes Under the Alternative Scenarios

The three alternative scenarios represent significant changes to the fiscal policy scheduled under current law. CBO has not analyzed every way in which those changes would affect the economy in the long term. For the simplified analysis in this report, CBO has analyzed three of those effects.[7]

- Effective marginal tax rates on labor income would be lower in the scenarios than they are in the extended baseline, encouraging working and saving and thereby increasing output (see Table 2).[8]
- Effective marginal tax rates on capital income would also be lower in the scenarios than in the extended baseline, encouraging saving and investment and again increasing output.[9]
- But federal debt would be greater than it is in the extended baseline—drawing money away from (or "crowding out") investment in capital goods and services, reducing the stock of private capital, and making output smaller than it would have been otherwise.

In addition to those three effects, any given set of changes to fiscal policy would alter people's incentives in other ways, possibly resulting in significant long-term changes to the economy. For example, a particular set of changes to tax policy might alter businesses' choices about how they were structured, and those choices might then change the effective marginal tax rate on capital income. But again, this analysis is simplified, so it does not incorporate those effects.

CBO also analyzed the short-term outcomes of the scenarios. Policies that increase spending or reduce revenues—as the policies in all three scenarios would—boost the overall demand for goods and services in the few years after they occur, thereby making output and employment in the short term higher than they would have been otherwise.

5. Beyond the next 10 years, in both the extended baseline and the extended alternative fiscal scenario, discretionary spending as a percentage of GDP remains at its 2028 level before economic effects on the budget are incorporated. See Congressional Budget Office, *The 2018 Long-Term Budget Outlook* (June 2018), Table 2, www.cbo.gov/publication/53919.

6. Certain tax credits are refundable; that is, if the amount of the credit exceeds the filer's tax liability, the government pays the filer the excess. Those payments are recorded as outlays in the federal budget. Nevertheless, in the second and third scenarios, they follow the same path that revenues do.

7. For a general explanation of how CBO analyzes the effects of fiscal policies, see Congressional Budget Office, *How CBO Analyzes the Effects of Changes in Federal Fiscal Policies on the Economy* (November 2014), www.cbo.gov/publication/49494.

8. The effective marginal tax rate on labor income is the share of an additional dollar of such income that is paid in federal individual income taxes and payroll taxes—averaged among taxpayers, with weights proportional to their labor income.

9. 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 taxes over the life of that investment.

Table 2.

Effective Marginal Federal Tax Rates Under the Extended Baseline and Alternative Scenarios

Percent

	2018	2028	2038
	Marginal Tax Rate on Labor Income		
Extended Baseline	27.2	30.8	31.5
Extended Alternative Fiscal Scenario	27.2	28.7	29.5
Second Scenario	27.2	28.7	28.7
Third Scenario	27.2	27.2	27.2
	Marginal Tax Rate on Capital Income		
Extended Baseline	14.7	16.5	16.5
Extended Alternative Fiscal Scenario	14.7	15.2	15.3
Second Scenario	14.7	15.2	15.2
Third Scenario	14.7	14.7	14.7

Source: Congressional Budget Office.

The extended baseline generally reflects current law, following CBO's 10-year baseline budget projections through 2028 and then extending most of the concepts underlying those baseline projections for the rest of the long-term projection period.

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The second scenario initially resembles the extended alternative fiscal scenario, but after 2028, revenues and outlays for refundable tax credits remain flat as a percentage of gross domestic product.

The third scenario is like the second, except that revenues and outlays for refundable tax credits remain flat in relation to gross domestic product after 2018 rather than after 2028.

The effective marginal tax rate on labor income is the share of an additional dollar of such income that is paid in federal individual income taxes and payroll taxes—averaged among taxpayers, with weights proportional to their labor income. 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 taxes over the life of that investment.

CBO estimated the effects of the scenarios on both GDP and GNP. Each of those measures has its uses. GDP is important because, by accounting for effects on domestic economic and income growth, it helps one assess the ability of the nation's economy to finance the government's activities. GNP differs from GDP by including the income that U.S. residents earn abroad and excluding the income that nonresidents earn from domestic sources; it is therefore a better measure of the income available to U.S. residents. Under the scenarios, the amount of federal debt owned by foreigners is larger than it is under the extended baseline, and so are inflows of foreign capital, which are attracted by lower effective marginal tax rates on capital income in the United States. Those differences imply that the amount of net foreign income earned by U.S. residents would be smaller under the scenarios than under the extended baseline, reducing GNP in relation to GDP. As a result, the long-term effects of rising federal debt on the overall economy appear smaller when measured in relation to GDP than when measured in relation to GNP.

The magnitude of the effects on the economy is uncertain. CBO has therefore reported not only a central estimate for the outcome in each scenario but also a range of likely outcomes.[10]

Budgetary and Economic Outcomes Under the Alternative Scenarios From 2019 to 2038

Under all three alternative scenarios, primary deficits would be larger than under the extended baseline,

10. For certain key variables in its economic models, CBO has developed ranges of values that are based on research on those variables; each range is intended to cover roughly the middle two-thirds of the likely values for the variable. To calculate the ranges of estimates for the effects of each set of fiscal policies, CBO used the ranges of values for each variable. To calculate the central estimates, it used values for the variables at the midpoints of those ranges.

Table 3.

Effects of Alternative Scenarios on Real GNP and Interest Rates

	Real GNP (Percent)		Interest Rates on 10-Year Treasury Securities (Percentage points)	
	2028	2038	2028	2038
Extended Alternative Fiscal Scenario				
Central estimate	-0.1	-1.2	0.1	0.2
Range	-0.4 to 0.2	-2.5 to -0.2	0.1 to 0.2	0.1 to 0.5
Second Scenario				
Central estimate	-0.1	-1.3	0.1	0.3
Range	-0.4 to 0.2	-2.7 to -0.2	0.1 to 0.2	0.1 to 0.5
Third Scenario				
Central estimate	*	-1.7	0.2	0.4
Range	-0.4 to 0.4	-3.7 to -0.1	0.1 to 0.2	0.2 to 0.8

Source: Congressional Budget Office.

All effects shown are in relation to CBO's extended baseline, which generally reflects current law, following CBO's 10-year baseline budget projections through 2028 and then extending most of the concepts underlying those baseline projections for the rest of the long-term projection period.

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Gross national product differs from gross domestic product, the more commonly used measure of the output of the economy, by including the income that U.S. residents earn abroad and excluding the income that nonresidents earn from domestic sources.

The ranges reflect alternative assessments of two factors: how much deficits crowd out investment in capital goods such as factories and computers (because a larger portion of private saving is being used to purchase government securities); and how much people respond to changes in after-tax wages by adjusting the number of hours they work.

GNP = gross national product; * = between -0.05 percent and 0.05 percent.

because noninterest spending would be higher and revenues would be lower (see Table 1 on page 3). The primary deficit in 2038, which would equal 2.9 percent of GDP under the extended baseline, would be 4.8 percent of GDP under the extended alternative fiscal scenario, and it would be even higher under the other two scenarios: 5.5 percent of GDP under the second scenario and 6.4 percent of GDP under the third. Once the rising costs of debt service were added, the total deficit in 2038 would be, not the 7.1 percent of GDP projected under the extended baseline, but 10.5 percent, 11.3 percent, or 12.9 percent of GDP, respectively.

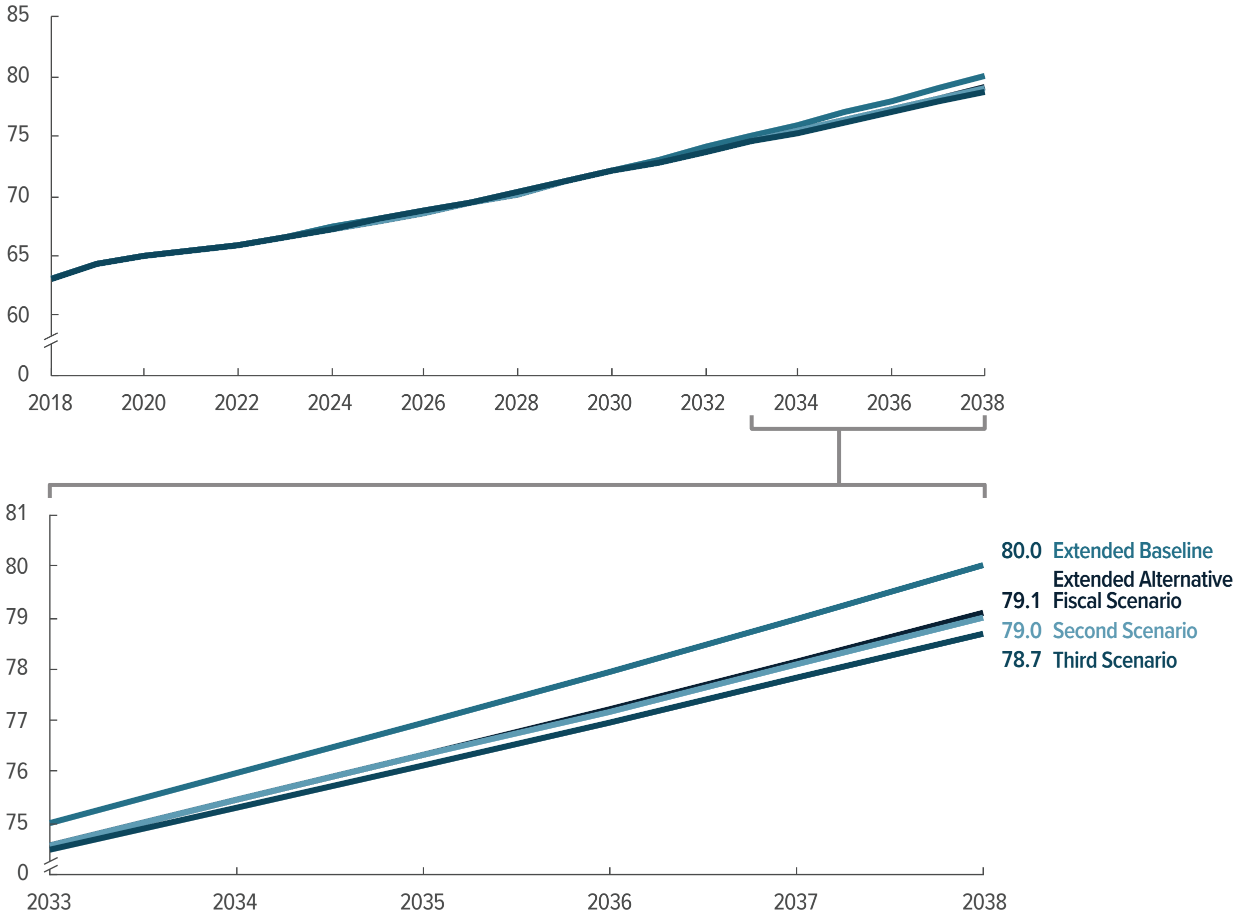
On balance, in CBO's assessment, the three long-term economic effects discussed earlier would make output lower and interest rates higher under the scenarios than under the extended baseline (see Table 3). Under the extended alternative fiscal scenario, CBO projects the following outcomes:

- Real GNP would be 1.2 percent lower in 2038 than projected under the extended baseline (or from 0.2 percent to 2.5 percent lower, according to CBO's ranges of likely values for key variables).
- The interest rate on 10-year Treasury securities in 2038 would be 0.2 percentage points higher than projected under the extended baseline (or between 0.1 and 0.5 percentage points higher, according to the ranges of likely values for key variables).

Figure 2.

Real GNP per Person Under the Extended Baseline and Alternative Scenarios

Thousands of 2019 Dollars



Source: Congressional Budget Office.

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Gross national product differs from gross domestic product, the more commonly used measure of the output of the economy, by including the income that U.S. residents earn abroad and excluding the income that nonresidents earn from domestic sources.

GNP = gross national product.

The negative economic effects would be even greater under the second and third scenarios. In particular, under the second scenario, real GNP would be 1.3 percent lower than in the extended baseline in 2038; under the third scenario, it would be 1.7 percent lower. Nevertheless, real GNP under all three scenarios would be considerably higher in 2038 than in 2019 because of continued growth in productivity (see Figure 2).

Under all three alternative scenarios, debt as a percentage of GDP would be much higher than the 118 percent of GDP projected under the extended baseline (see Figure 1 on page 2). In 2038, it would equal 148 percent of GDP under the first scenario, 151 percent under the second, and 165 percent under the third.

In addition to having the effects on output, income, and interest rates reported here, the scenarios would also worsen the other consequences mentioned above that are associated with high and rising federal debt in CBO's extended baseline: increasing pressure on the noninterest portions of the budget, limiting lawmakers' ability to respond to unforeseen events, and increasing the likelihood of a fiscal crisis. Those consequences would be especially acute under the scenarios because the debt would be so large and would rise so rapidly. Such a situation would ultimately be unsustainable.

Budgetary and Economic Outcomes Under the Alternative Scenarios for Later Years

Under the alternative scenarios, deficits and debt as a share of GDP would continue rising unsustainably after 2038. Those increases would be largest in the third scenario and would be smallest, but still very large, in the extended alternative fiscal scenario. Assessing the economic effects of such large and rising debt would probably require reevaluating the economic relationships in CBO's current models. In particular, in CBO's models, the responses of private saving, capital inflows, and interest rates to fiscal policy are based on the nation's historical experience with federal borrowing. But in these alternative scenarios, debt as a percentage of GDP grows to levels well outside that experience.

Nevertheless, to provide some sense of the possible outcomes, CBO employed its usual models to produce longer-term projections of deficits and debt under the three scenarios—but the actual outcomes would probably be worse than the range of estimates that those models indicate. Under the extended alternative fiscal scenario, according to the models, the primary deficit in 2048 would be 5.4 percent of GDP. (In the extended baseline, it is 3.3 percent of GDP.) It would be even higher under the other two scenarios: 6.9 percent of GDP under the second scenario and 7.9 percent of GDP under the third. Such deficits imply that debt would also be much higher in 2048 than in 2038; it would equal about 210 percent of GDP under the extended alternative fiscal scenario, 230 percent of GDP under the second scenario, and 260 percent of GDP under the third. (In the extended baseline, debt in 2048 equals 152 percent of GDP.) The magnitude of those effects on debt is probably underestimated; in particular, interest rates (and therefore interest costs) would probably be higher than CBO's current models suggest.

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. In keeping with CBO's mandate to provide objective, impartial analysis, this report makes no recommendations.

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