PETER G. PETERSON FOUNDATION

May 2025

RISING NATIONAL DEBT WILL CAUSE SIGNIFICANT ECONOMIC DAMAGE

Negative Impacts on Growth, Jobs, Investment, and Income

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Executive summary

Under current law, federal debt held by the public is projected to increase from approximately 100 percent of gross domestic product (GDP) in 2025 to 117 percent by 2035. Over the long term, debt is projected to continue to rise to 156 percent by 2055[1] and 206 percent by 2075.[2] This trajectory is driven by annual deficits that exceed $2 trillion, and raises serious concerns about the United States' long-term fiscal sustainability. Absent policy changes, this report finds that rising debt levels will have significant negative implications for the economy.

With analysis by EY's Quantitative Economics and Statistics (QUEST) practice, this report estimates the macroeconomic impacts of the projected increase in federal debt under current law. Estimates are presented relative to a baseline in which the debt-to-GDP ratio remains at the current level: 100 percent. The EY analysis evaluates the economic impact[3] of a scenario in which each percentage point increase in the debt-to-GDP ratio increases interest rates by 2 basis points.[4]

This report finds that the current U.S. debt path will:

- Reduce the size of the U.S. economy by $340 billion in 2035, $1.1 trillion in 2055, and $1.8 trillion in 2075;
- Reduce the number of U.S. jobs by 1.2 million in 2035, 2.7 million in 2055, and 3.6 million in 2075;
- Reduce private investment by 13.6 percent in 2035, 17.1 percent in 2055, and 21.6 percent in 2075; and
- Decrease wages[5] by 0.6 percent in 2035, 3.0 percent in 2055, and 5.3 percent in 2075.

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[1] Congressional Budget Office, *The Long-Term Budget Outlook: 2025 to 2055*, March 2025.

[2] Estimate is from EY analysis based on the long-term data from the Congressional Budget Office.

[3] All figures in this report are relative to the size of the 2026 economy, scaled to account for inflation and economic growth. Dollar values are in constant 2026 dollars.

[4] Laubach (2009) as updated by Gamber and Seliski (2019) and Neveu and Schafer (2024). See Appendix A for further methodology details.

[5] Throughout this report, "wages" refers to wage rates, which is the effective rate of pay per hour (including for salaried workers). This is different from total wages, which can rise or fall if hours worked changes.

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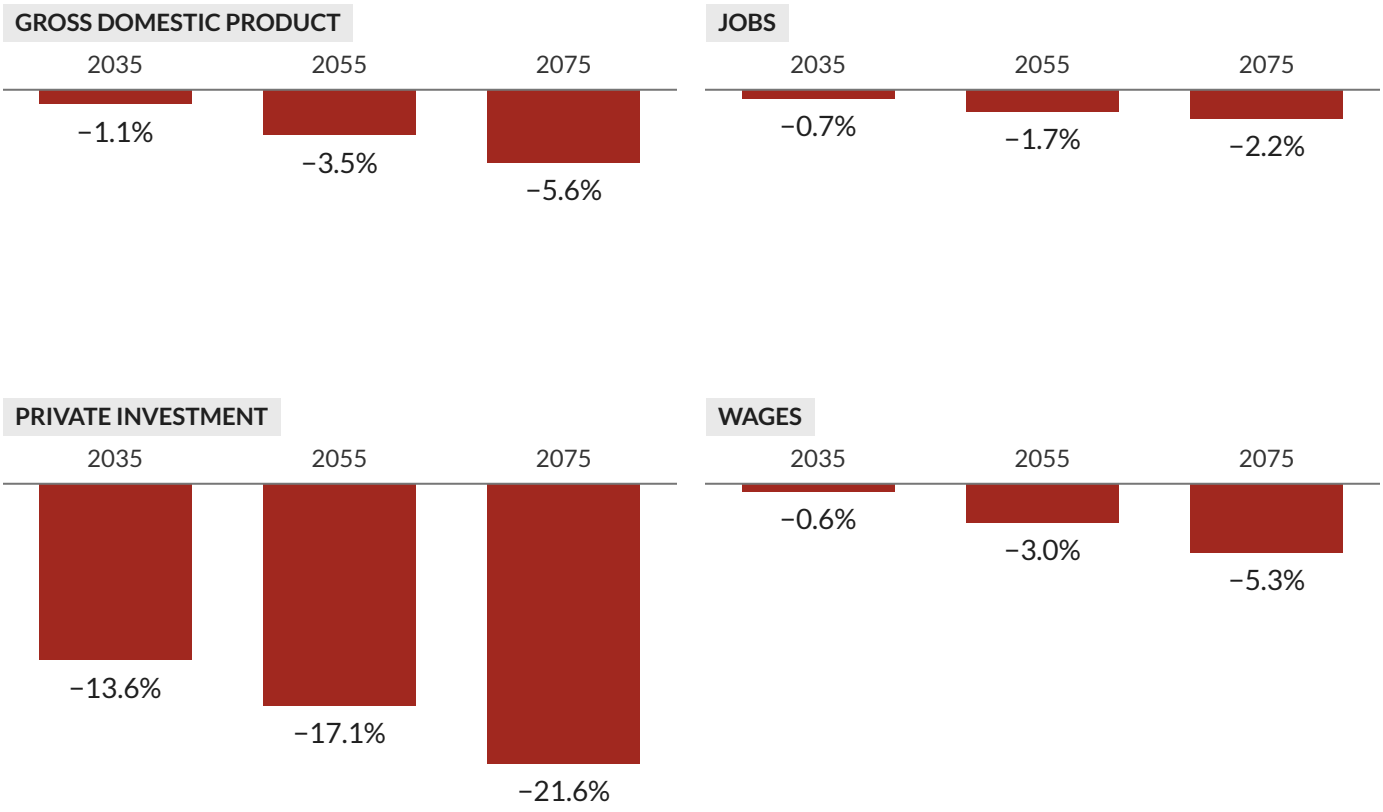
FIGURE ES-1

Federal debt will have a significant effect on the economy

Annual Difference in Economic Indicators Relative to Stabilized Baseline (%)



Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

Background

The gross national debt is currently $36.2 trillion. By the end of 2025, U.S. debt held by the public will be approximately 100 percent of gross domestic product (GDP), and the annual deficit will be 6 percent of GDP ($1.9 trillion).[6] By 2055, the federal debt is projected to increase to 156 percent of GDP, and the annual deficit will reach 7 percent of GDP.[7] The U.S. debt-to-GDP ratio is already approaching levels not seen since the World War II era, with significant negative macroeconomic implications as federal debt levels continue to increase in the coming years.

FIGURE 1

Federal debt is on an unsustainable path

Debt Held by the Public (% of GDP)

Source: Congressional Budget Office and EY analysis

[6] Here and throughout, "federal debt" refers to federal debt held by the public. Congressional Budget Office, *The Long-Term Budget Outlook: 2025 to 2055*, March 2025.

[7] Congressional Budget Office, *The Long-Term Budget Outlook: 2025 to 2055*, March 2025.

Over the long term, the gap between federal revenue and outlays is expected to widen, driven primarily by increased outlays on major entitlement programs such as Social Security and Medicare,[8] combined with rising net interest costs and revenue levels that do not grow at the pace of spending. As these federal obligations grow without reform, policymakers will face more and more difficult decisions on how to address the structural imbalance between spending and revenues.

Notably, CBO's current-law projections include the increased revenues generated by the expiration of certain provisions of the Tax Cuts and Jobs Act of 2017. Lawmakers are currently considering the extension of many of these provisions in 2025, which would significantly increase deficits and debt above these current law projections.

The Peter G. Peterson Foundation retained EY's Quantitative Economics and Statistics (QUEST) practice to estimate the macroeconomic impacts of the current-law increase in federal debt. The EY Macroeconomic Model is similar to models used by the Congressional Budget Office (CBO), the Joint Committee on Taxation (JCT), and the U.S. Department of the Treasury. Estimates are presented relative to a baseline in which the debt-to-GDP ratio is stabilized to 100 percent and assume that each percentage point increase in the debt-to-GDP ratio will increase interest rates by 2 basis points. This relationship between rising debt and interest rates is also used by CBO in its Long-Term Budget Outlook and is supported by robust academic literature.[9]

[8] Federal spending on major health care programs is projected to grow from 5.8% of GDP in 2025 to 8.1% of GDP by 2055. Social Security is anticipated to increase from 5.2% to 6.1% as a share of GDP over the same period. Similarly, federal spending on net interest is projected to grow from 3.2% of GDP in 2025 to 5.4% of GDP by 2055. Congressional Budget Office, *The Long-Term Budget Outlook: 2025 to 2055*, March 2025.

[9] Laubach (2009) as updated by Gamber and Seliski (2019) and Neveu and Schafer (2024). Detailed citations are available in the Methodology footnotes.

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Results

The projected increase in federal debt under current law is expected to significantly harm future economic growth, jobs, private investment, and wages.

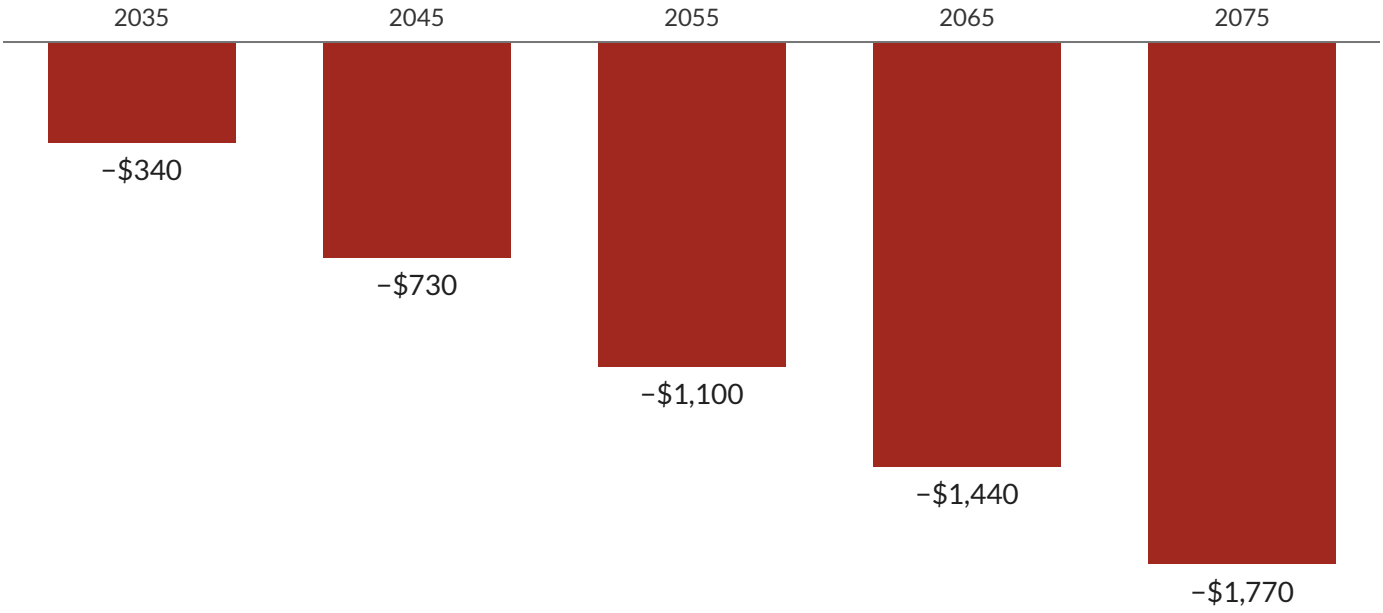
Rising Debt Will Reduce GDP

Allowing debt to rise as projected under current law would result in significantly lower economic growth. Specifically, the growing federal debt is estimated to reduce U.S. GDP relative to the baseline by approximately $340 billion in 10 years, $1.1 trillion in 30 years, and $1.8 trillion in 50 years.

FIGURE 2

Debt impact: GDP

Annual Difference in GDP Relative to Stabilized Baseline (Billions of 2026 $)



Source: EY analysis

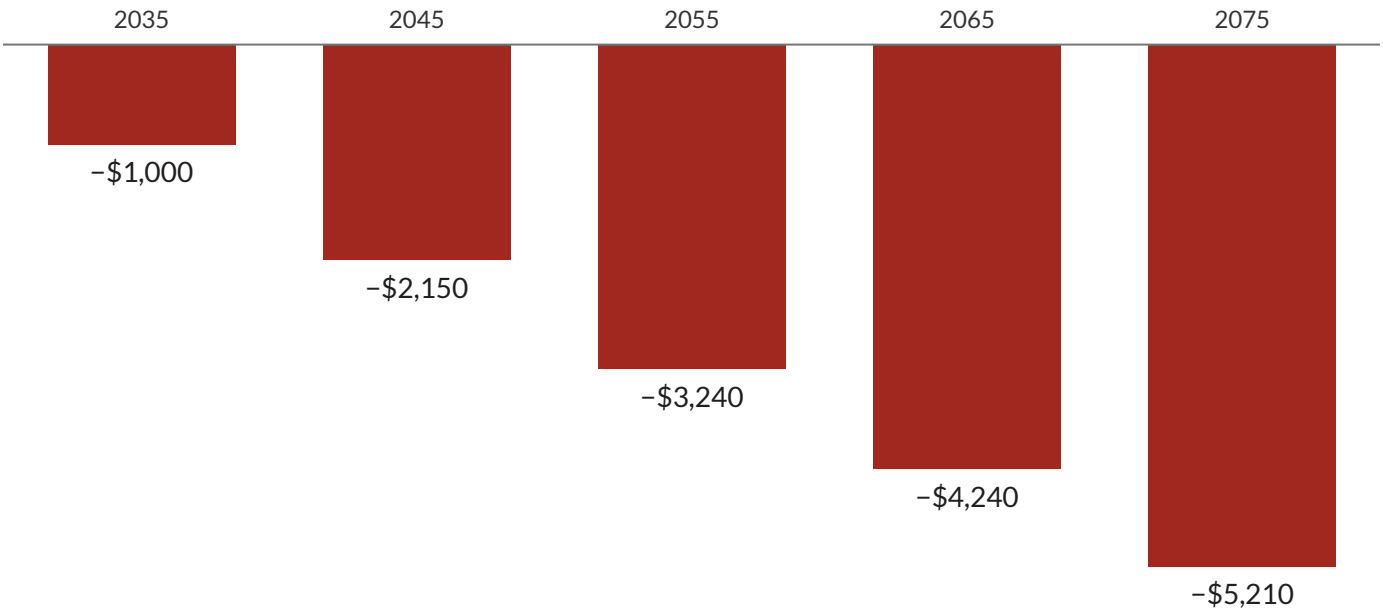
Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

In terms of the impact on individuals, the growing debt will reduce income per person by $1,000 in 10 years, $3,240 in 30 years, and $5,210 in 50 years.

FIGURE 3

Debt impact on GDP reduces per person income

Annual Difference in GDP per Person Relative to Stabilized Baseline (2026 $)



Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

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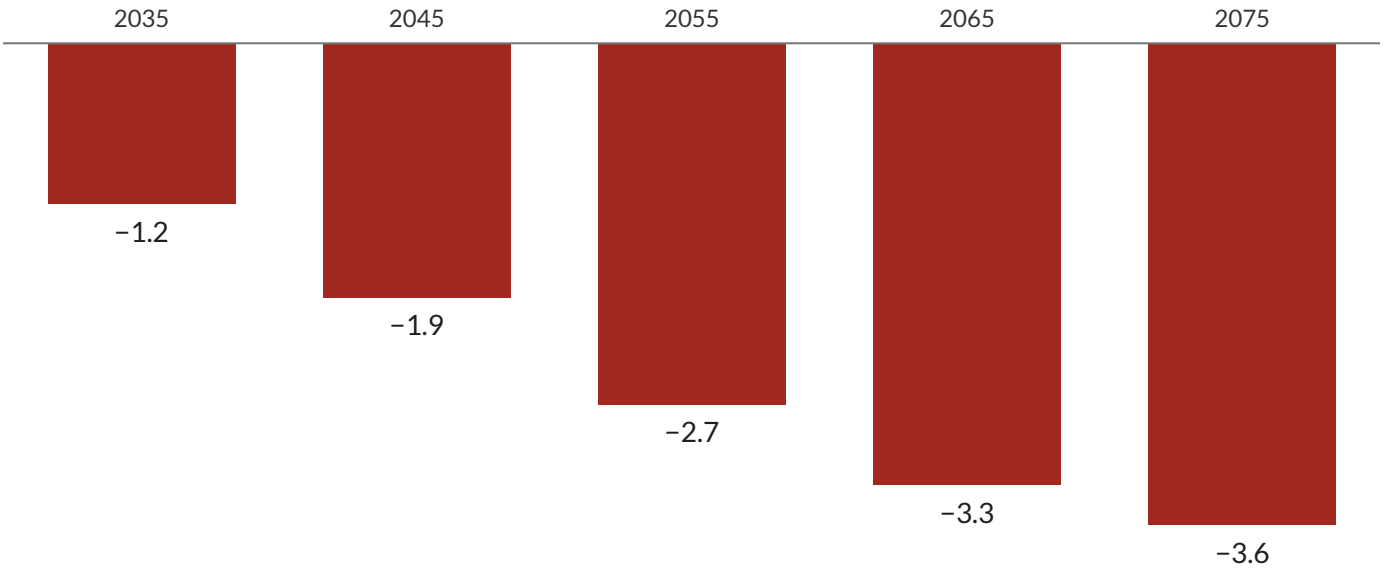
Rising Debt Will Reduce Jobs

Rising debt will also lower U.S. jobs relative to the baseline by 1.2 million jobs in 10 years, 2.7 million in 30 years, and 3.6 million in 50 years.

FIGURE 4

Debt impact: Jobs

Annual Difference in Number of Jobs Relative to Stabilized Baseline (Millions Scaled to 2026 Economy)



Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

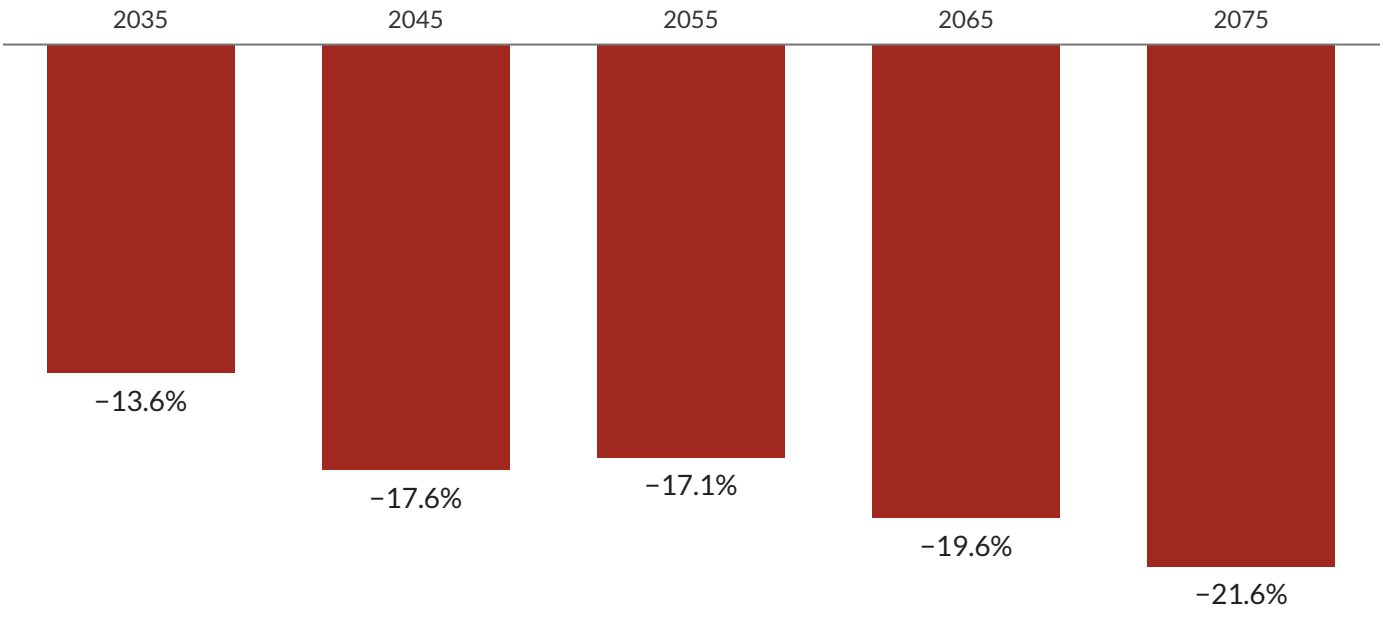
Rising Debt Will Reduce Investment

These macroeconomic effects unfold gradually as the accumulation of debt over time puts upward pressure on long-term interest rates. These sustained increases in the amount of federal borrowing are projected to lead investors to demand higher yields, due to increased risk and supply/demand effects. This in turn has a compounding effect on the federal budget, as increased interests rates cause higher costs, resulting in more borrowing, and so on. Further, this growing federal demand for capital is in effect a form of dis-savings, which means less overall capital will be available for other productive uses within the economy. This dynamic is known as "crowding out" which reduces private investment, dampening long-term economic growth and job creation. Overall, the crowding out effect from increasing levels of debt will decrease private investment relative to the report's baseline by 13.6 percent after 10 years, 17.1 percent after 30 years, and 21.6 percent after 50 years.

FIGURE 5

Debt impact: Investment

Annual Difference in Investment Relative to Stabilized Baseline (%)



Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

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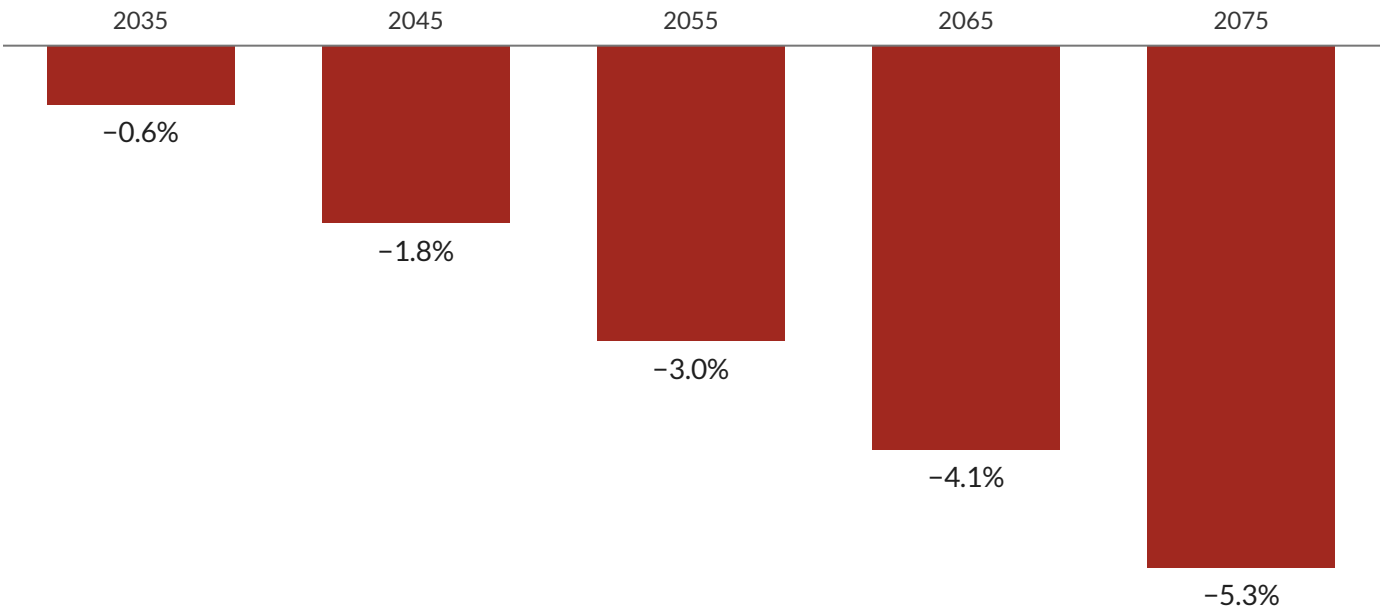
Rising Debt Will Reduce Wages

The economic consequences of rising federal debt will also negatively affect the take-home pay of American workers. As GDP growth slows, increasing demand for debt competes with other more productive investments, and interest rates rise, profits will fall and wage rates will end up lower than they would be in an economy less burdened by debt. As a result, debt will reduce the average wage rate relative to the report's baseline by 0.6 percent after 10 years, 3.0 percent after 30 years, and 5.3 percent after 50 years in the 2-basis-points scenario.

FIGURE 6

Debt impact: Wages

Annual Difference in Wages Relative to Stabilized Baseline (%)



Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

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EY appendices

The EY appendices include: A) Methodology, B) Scenarios modeled in this analysis, C) Description of the EY Macroeconomic Model, D) Macroeconomic impacts, and E) Caveats and limitations.

Please note: All estimates assume that the increase in federal debt does not trigger a fiscal crisis and that financial markets continue to function without disruption. Additionally, if the responsiveness of interest rates is higher than assumed in this analysis, the macroeconomic impacts would be even larger in magnitude.

Appendix A. Methodology

A key parameter in modeling the macroeconomic impacts of rising federal debt is the sensitivity of interest rates to changes in the debt-to-GDP ratio. This relationship drives two key outcomes:

1. Higher interest rates increase net interest costs, which are determined by both the size of the debt and the cost of servicing it. As debt service costs rise, they contribute to further debt accumulation thereby compounding fiscal pressures over time.

2. Higher interest rates also contribute to the crowding out of private investment, amplifying the broader negative macroeconomic impacts of elevated debt levels.

The academic literature offers a range of estimates on how responsive interest rates are to changes in the federal debt-to-GDP ratio. Laubach (2009) initially found that a one percentage-point increase in the projected debt-to-GDP ratio was associated with a 3 to 4 basis point rise in interest rates.[1] However, this estimate declined to approximately 2.2 basis points and lost statistical significance when controlling for trend economic growth. CBO economists Gamber and Seliski (2019), using an extended dataset, initially observed a negative relationship, but after accounting for Federal Reserve and foreign holdings of U.S. debt identified a positive and statistically significant relationship in the range of 1.9 to 2.4 basis points.[2] More recently, CBO economists Neveu and Schafer (2024) updated those findings through 2023 and estimated a benchmark sensitivity of approximately 2 basis points, again controlling for central bank and foreign holdings.[3] Their recursive regression analysis shows the estimate has remained relatively stable: near 2 basis points since 2010.

The 2-basis-point estimate is incorporated into the CBO's long-term budget outlook modeling and serves as the higher-end scenario in this analysis.[4] For purposes of comparison, a second scenario is included that draws on the interest rate responsiveness implied by other macroeconomic models — used most notably in the JCT's overlapping generations model — which assumes a more modest response of approximately 1 basis point for every one percentage-point increase in the debt-to-GDP ratio.[5] Together, these scenarios provide a range of plausible outcomes for evaluating the macroeconomic effects of rising federal debt.

Also note the macroeconomic impacts of an increase in federal debt depend on how the increase in federal debt is generated (e.g., increase in outlays, reduction in revenue). This analysis assumes that the increase in federal debt is generated by an increase in outlays that is generally reflective of the current mix of federal outlays relative to a baseline where the debt-to-GDP ratio is constant at approximately 100 percent.

Appendix B. Scenarios

Scenario: 2-basis-point increase

Figure B-1 displays the projected debt held by the public as a share of GDP under the 2-basis-point increase scenario. This scenario projects the debt-to-GDP ratio to increase to 118 percent in 2035, 136 percent in 2045, 156 percent in 2055, 180 percent in 2065, and 206 percent in 2075.

It is important to note that there are various factors incorporated into CBO's long-term interest rate projections (e.g., age of the population, inflow of foreign capital, etc.), and that the effect of increased federal debt on interest rates is not the only consideration for interest rate projections. As such, while CBO's interest rate projections include the 2-basis-point increase per percentage-point increase in the debt-to-GDP ratio, CBO also incorporates these other factors. However, holding all else equal, in 2075, the 106-percentage-point increase in the debt-to-GDP ratio is associated with a 2.1 percentage-point increase in the long-run interest rate, relative to the baseline.

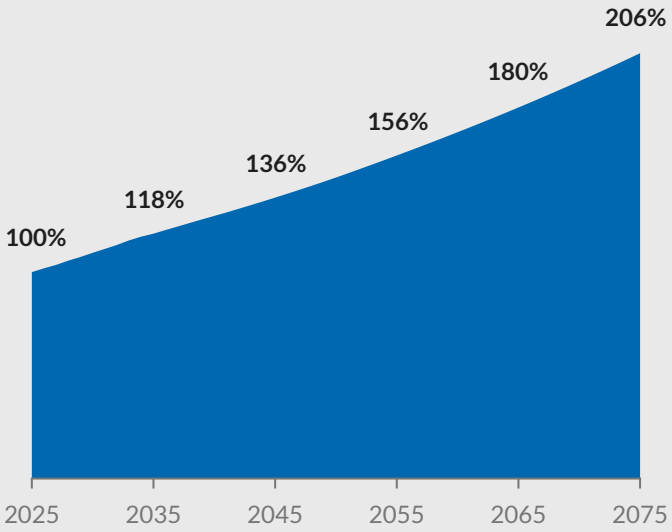
Scenario: 1-basis-point increase

Figure B-2 displays the projected debt held by the public as a share of GDP under the 1-basis-point increase scenario. This scenario projects the debt-to-GDP ratio to increase to 118 percent in 2035, 133 percent in 2045, 148 percent in 2055, 163 percent in 2065, and 178 percent in 2075. Holding all else equal, in 2075, the 78-percentage-point increase in the debt-to-GDP ratio is associated with a 0.8 percentage-point-increase in the long-run interest rate, relative to the baseline.

FIGURE B-1

Federal debt under the 2-basis-point scenario

Debt Held by the Public (% of GDP)



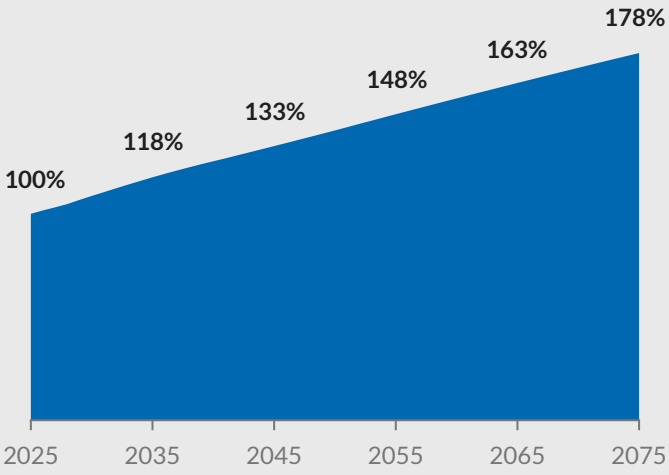
Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

FIGURE B-2

Federal debt under the 1-basis-point scenario

Debt Held by the Public (% of GDP)



Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

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Appendix C. EY Macroeconomic Model

The EY Macroeconomic Model used for this analysis is similar to some of those used by the CBO, JCT, and U.S. Department of the Treasury.[6] In this model, changes in tax policy affect the incentives to work, save and invest, and to allocate capital and labor among competing uses. Representative individuals and firms incorporate the after-tax return from work, savings, and investment, into their decisions on how much to produce, save, and work.

The general equilibrium methodology accounts for changes in equilibrium prices in factor (i.e., capital and labor) and goods markets and simultaneously accounts for the behavioral responses of individuals and businesses to changes in taxation (or other policies). Behavioral changes are estimated in an overlapping generations (OLG) framework, whereby representative individuals with perfect foresight incorporate changes in current and future prices when deciding how much to consume and save in each period of their lives.

High-level description of model's structure

Production

Firm production is modeled with the constant elasticity of substitution (CES) functional form, in which firms choose the optimal level of capital and labor subject to the gross-of-tax cost of capital and gross-of-tax wage rates. The model includes industry-specific detail through use of differing costs of capital, factor intensities, and production function scale parameters. Such a specification accounts for differential use of capital and labor between industries as well as distortions in factor prices introduced by the tax system. The cost of capital measure models the extent to which the tax code discriminates by asset type, organizational form, and source of finance.

The industry detail included in this model corresponds approximately with three-digit North American Industry Classification System (NAICS) codes and is calibrated to a stylized version of the U.S. economy. Each of 36 industries has a corporate and pass-through sector except for owner-occupied housing and government production. Because industry outputs are typically a combination of value added (i.e., the capital and labor of an industry) and the finished production of other industries (i.e., intermediate inputs), each industry's output is modeled as a fixed proportion of an industry's value added and intermediate inputs to capture inter-industry linkages. These industry outputs are then bundled together into consumption goods that consumers purchase.

Consumption

Consumer behavior is modeled through use of an OLG framework that includes 55 generational cohorts (representing adults aged 21 to 75). Thus, in any one year, the model includes a representative individual optimizing lifetime consumption and savings decisions for each cohort aged 21 through 75 (i.e., 55 representative individuals) with perfect foresight. The model also distinguishes between two types of representative individuals: those that have access to capital markets (savers) and those that do not (non-savers or rule-of-thumb agents).

Non-savers and savers face different optimization problems over different time horizons. Each period non-savers must choose the amount of labor they supply and the amount of goods they consume. Savers face the same tradeoffs in a given period, but they must also balance consumption today with the choice of investing in capital or bonds. The model assumes 50 percent of U.S. households are permanently non-savers and 50 percent are permanently savers across all age cohorts.

The utility of representative individuals is modeled as a CES function, allocating a composite commodity consisting of consumption goods and leisure over their lifetimes. Representative individuals optimize their lifetime utility through their decisions of how much to consume, save, and work in each period subject to their preferences, access to capital markets, and the after-tax returns from work and savings in each period. Representative individuals respond to the after-tax return to labor, as well as

their overall income levels, in determining how much to work and thereby earn income that is used to purchase consumption goods or to consume leisure by not working. In this model the endowment of human capital changes with age — growing early in life and declining later in life — following the estimate of Altig et al. (2001).[7]

Government

The model includes a simple characterization of both federal and state and local governments. Government spending is assumed to be used for either: (1) transfer payments to representative individuals, or (2) the provision of public goods. Transfer payments are assumed to be either Social Security payments or other transfer payments. Social Security payments are calculated in the model based on the 35 years in which a representative individual earns the most labor income. Other transfer payments are distributed on a per capita basis. Public goods are assumed to be provided by the government in fixed quantities through the purchase of industry outputs as specified in a Leontief function.

Government spending in the model can be financed by collecting taxes or borrowing. Borrowing, however, cannot continue indefinitely in this model. Eventually, the debt-to-GDP ratio must stabilize so that the government's fiscal policy is sustainable. The model allows government transfers, government provision of public goods, or government tax policy to be used to achieve a selected debt-to-GDP ratio after a selected number of years. This selected debt-to-GDP ratio could be, for example, the initial debt-to-GDP ratio or the debt-to-GDP ratio a selected number of years after policy enactment.

Modeling the United States as a large open economy

The model is an open economy model that includes both capital and trade flows between the United States and the rest of the world. International capital flows are modeled through the constant portfolio elasticity approach of Gravelle and Smetters (2006).[8] This approach assumes that international capital flows are responsive to the difference in after-tax rates of return in the United States and the rest of the world through a constant portfolio elasticity expression. Trade is modeled through use of the Armington assumption, wherein products made in the United States versus the rest of the world are imperfect substitutes.

TABLE C-1

Key model parameters

Intertemporal substitution elasticity	0.400
Intratemporal substitution elasticity	0.487
Leisure share of time endowment	0.309
International capital flow elasticity	3.000
Capital-labor substitution elasticity	1.000
Adjustment costs	2.000

Source: EY analysis

Note: Key model parameters are generally from Joint Committee on Taxation, *Macroeconomic Analysis Of H.R. 7024, The "Tax Relief For American Families And Workers Act of 2024," As Ordered Reported By The Committee on Ways And Means, On January 19, 2024*, January 24, 2024 (JCX-6-24); Joint Committee on Taxation, *Macroeconomic Analysis of the Conference Agreement for H.R. 1, The 'Tax Cuts and Jobs Act,'* December 22, 2017 (JCX-69-17); and Jane Gravelle and Kent Smetters, "Does the Open Economy Assumption Really Mean that Labor Bears the Burden of a Capital Income Tax?" *Advances in Economic Analysis and Policy*, 6(1) (2006): Article 3.

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Appendix D. Macroeconomic Impacts

Results are presented at 10-year intervals over a 50-year horizon to illustrate the long-term macroeconomic implications under each scenario. Estimates are presented relative to the size of the 2026 U.S. economy.

The macroeconomic impacts of an increase in federal debt depend on how the increase in federal debt is generated (e.g., increase in outlays, reduction in revenue). This analysis assumes that the increase in federal debt is generated by an increase in outlays that is generally reflective of the current mix of federal outlays relative to a baseline where the debt-to-GDP ratio is constant at approximately 100 percent.[9]

TABLE D-1

Macroeconomic impacts of the increase in the debt-to-GDP ratio

Effects under 2-basis-points scenario

	2035	2045	2055	2065	2075
GDP	-1.1%	-2.3%	-3.5%	-4.5%	-5.6%
Investment	-13.6%	-17.6%	-17.1%	-19.6%	-21.6%
After-tax wage rate	-0.6%	-1.8%	-3.0%	-4.1%	-5.3%
Labor supply	-0.7%	-1.2%	-1.7%	-2.0%	-2.2%
Private capital	-2.3%	-5.5%	-8.3%	-10.7%	-13.0%
Annual impacts relative to 2026 US economy					
GDP (Billions of $)	-$340	-$730	-$1,100	-$1,440	-$1,770
Jobs (Millions)	-1.2	-1.9	-2.7	-3.3	-3.6

Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

TABLE D-2

Macroeconomic impacts of the increase in the debt-to-GDP ratio

Effects under 1-basis-point scenario

	2035	2045	2055	2065	2075
GDP	-0.5%	-1.0%	-1.5%	-1.8%	-2.1%
Investment	-6.1%	-8.0%	-6.9%	-7.5%	-7.5%
After-tax wage rate	-0.3%	-0.8%	-1.3%	-1.7%	-2.0%
Labor supply	-0.3%	-0.5%	-0.7%	-0.8%	-0.9%
Private capital	-1.0%	-2.4%	-3.7%	-4.5%	-5.3%
Annual impacts relative to 2026 US economy					
GDP (Billions of $)	-$150	-$320	-$470	-$580	-$680
Jobs (Millions)	-0.5	-0.8	-1.1	-1.3	-1.4

Source: EY analysis

Note: Estimates are relative to the baseline level of current debt-to-GDP of 100%. See appendices for assumptions and detail on modeling. Figures are rounded.

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Appendix E. Caveats and limitations

Any modeling effort is only an approximate depiction of the economic forces it seeks to represent, and the economic models developed for this analysis are no exception. Although various limitations and caveats might be listed, several are particularly noteworthy:

- **Estimated macroeconomic impacts are based on a stylized depiction of the U.S. economy.** The macroeconomic model used for this analysis is, by its very nature, a stylized depiction of the U.S. economy. As such, it cannot capture all of the detail of the U.S. economy, the existing U.S. tax system, or the tax policy changes.
- **Estimates are limited by available public information.** The analysis relies on information reported by government agencies (primarily the CBO, JCT, and the U.S. Bureau of Economic Analysis). The analysis did not attempt to verify or validate this information using sources other than those described in this technical appendix.
- **Full employment model.** The EY Macroeconomic Model is an overlapping generations general equilibrium model that assumes that all resources throughout the economy are fully employed; that is, there is no slackness in the economy (i.e., a full employment assumption with no involuntary unemployment). As such, this type of general equilibrium models tends to be more focused on the longer-term incentive effects of policy changes. For this type of model, any increase in labor supply is a voluntary response to a change in income or the return to a job that makes households choose to substitute between consumption and leisure. This is a common assumption used in many macroeconomic models, including some used by the CBO, JCT, and the U.S. Department of the Treasury to analyze tax policy.
- **Macroeconomic estimates are sensitive to how a policy change is funded.** Because tax and spending policies must ultimately be funded (e.g., tax cuts must ultimately be paid for), it is not possible to separate entirely the impact of an increase in federal debt from how it is generated. This analysis assumes that the increase in federal debt is generated by an increase in outlays that is generally reflective of the current mix of federal outlays relative to a baseline where the debt-to-GDP ratio is constant at approximately 100 percent. Making a different assumption about how the federal debt is generated could lead to different results than those estimated.
- **Estimated macroeconomic impacts limited by calibration.** This model is calibrated to represent the U.S. economy and then forecast forward. However, because any particular year may reflect unique events, no particular baseline year is completely generalizable.
- **Industries are assumed to be responsive to normal returns on investment.** The industries comprising the United States economy in the EY Macroeconomic Model are assumed to be responsive to the normal returns on investment. This contrasts to industries that earn economic profits and thereby have an increased sensitivity to statutory or average tax rates rather than marginal effective tax rates.
- **The exact responsiveness of interest rates to an increase in the debt-to-GDP ratio is uncertain.** Estimates vary across studies depending on time period, model specification, and controls for factors such as foreign and Federal Reserve holdings of U.S. debt. Additionally, interest rate responses may be influenced by broader macroeconomic conditions, investor expectations, and global demand for safe assets. As a result, the scenarios presented should be interpreted as illustrative rather than predictive, reflecting a plausible range of long-run outcomes rather than precise forecasts.

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Endnotes

[1] Laubach, Thomas. 2009. "New Evidence on the Interest Rate Effects of Budget Deficits and Debt," *Journal of the European Economic Association*, vol. 7, no. 4 (June), pp. 858–885.

[2] Gamber, Edward, and John Seliski. 2019. The Effect of Government Debt on Interest Rates, Working Paper 2019-01 (Congressional Budget Office, March).

[3] Neveu, Andre, and Jeffrey Schafer. 2024. Revisiting the Relationship Between Debt and Long-Term Interest Rates, Working Paper 2024-05 (Congressional Budget Office, December).

[4] Congressional Budget Office, *The Long-Term Budget Outlook: 2025 to 2055*, March 2025.

[5] Nelson, Jaeger, et al. "Macroeconomic effects of reducing oasi benefits: A comparison of seven overlapping-generations models." National Tax Journal 72.4 (2019): 671–692.

[6] For example, see: Shinichi Nishiyama, "Fiscal Policy Effects in a Heterogeneous-Agent Overlapping-Generations Economy With an Aging Population," Congressional Budget Office, Working Paper 2013-07, December 2013; Joint Committee on Taxation (JCT), *Macroeconomic Analysis of the 'Tax Reform Act of 2014,'* February 2014 (JCX-22-14); JCT, *Macroeconomic Analysis of Various Proposals to Provide $500 Billion in Tax Relief*, March 2005 (JCX-4-05); and, U.S. Department of the Treasury, *The President's Advisory Panel on Federal Tax Reform, Simple, Fair, & Pro-Growth: Proposals to Fix America's Tax System*, November 2005.

[7] David Altig, Alan Auerbach, Laurence Koltikoff, Kent Smetters, and Jan Walliser, "Simulating Fundamental Tax Reform in the United States," *American Economic Review*, 91(3) (2001): 574–595.

[8] Jane Gravelle and Kent Smetters, "Does the Open Economy Assumption Really Mean That Labor Bears the Burden of a Capital Income Tax?" *Advances in Economic Analysis and Policy*, 6(1) (2006): 1–42.

[9] Specifically, this analysis assumes a temporary, stylized increase in federal outlays increases the deficit and, in turn, the debt-to-GDP ratio. This stylized increase in federal outlays is broadly reflective of current trends in the composition of federal outlays and assumes that it is 7% investment and 93% government consumption and transfers. The 7% reflects recent trends in nondefense federal investment (CBO 2019; CBO 2021). Defense investment is included in government consumption and transfers because, according to CBO, it "primarily affects national security rather than productivity" (CBO 2016).

There is no consensus in the academic literature on the responsiveness of private output with respect to changes in the stock of public capital. This report is consistent with the CBO's review of the academic literature and related analysis that estimated a 1% increase in public capital would be associated with an increase in private output of between 0.04% and 0.09% in the long run (CBO 2016). In particular, the central estimate of this analysis is calibrated such that a 1% increase in public capital is associated with a 0.065% increase in private output (i.e., the midpoint of the 0.04% to 0.09% range).

An additional area of uncertainty is the time horizon in which funding for public infrastructure investment is spent and when this public infrastructure investment, in turn, impacts productivity in the private sector (CBO 2016). Specifically, while public infrastructure can generally be used and impact the productivity of the private sector once it is built, large increases in federal infrastructure can be subject to significant delays. For example, in the aftermath of the American Recovery and Reinvestment Act of 2009, less than 10% of infrastructure funds had been spent by the end of fiscal year 2009 (CBO 2011). This analysis follows assumptions used by CBO for a stylized increase in government investment,

namely 50% becomes productive within 5 years, 80% within 10 years, and 100% within 20 years.

Note that lump-sum net transfers and government consumption expenditures (i.e., 93% of the assumed increase in federal outlays) are generally considered "nondistortionary and support the goal of deviating from the proposed policy change as little as possible" (Moore and Pecoraro 2020). That is, they, in effect, isolate the macroeconomic impacts of the increase in the debt-to-GDP ratio as much as is possible in a general equilibrium model with forward-looking, rational agents.

It is important to note that this analysis models a stylized increased in federal outlays. Depending on the specifics of a policy proposal, the effects could be significantly different than those reported in this analysis. Any specific policy proposal should be explicitly modeled to examine its economic impacts.

See Congressional Budget Office, Policies for Increasing Economic Growth and Employment in 2012 and 2013, 2011; Congressional Budget Office, The Macroeconomic and Budgetary Effects of Federal Investment, 2016; Congressional Budget Office, Federal Investment, 1962 to 2018, 2019; Congressional Budget Office, Budgeting for Federal Investment, 2021; and Rachel Moore and Brandon Pecoraro, "Quantitative analysis of a wealth tax for the United States: Exclusions and expenditures," Journal of Macroeconomics 78 (2023).