The Consequences of Higher Interest Rates to the Federal Budget

A Report from the U.S. House Committee on the Budget, Republican Leader Jason Smith

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Executive Summary

The federal debt held by the public is currently projected to grow to $134 trillion in 2051—in 2000, it was $3 trillion. Interest rates are a key variable to the federal budget outlook since a component of the federal budget is interest payments on the debt. This report looks at the impact on the federal budget of five illustrative scenarios for interest rates. The projections in this analysis are based on current law spending and revenue projections. The analysis does not account for President Joe Biden's fiscal year (FY) 2023 budget that would increase spending by 66 percent over the next 10 years as compared to the previous decade—adding significantly worse debt to the long-term budget outlook and the scenarios outlined in this report.

This report looks at the federal debt held by the public and debt interest payments under the following scenarios:

CBO Baseline Interest Rate Forecast – 3.0 Percent Average. Under the Congressional Budget Office's (CBO) most recent projections, the federal public debt will increase from $24 trillion today to $134 trillion by 2051. These projections are also known as the CBO "baseline" and assume what will occur under current law. Under this scenario, **interest payments on the debt climb from $331 billion in 2021 to almost $6 trillion per year in 2051.**

CBO Higher Interest Rate Scenario – 3.9 Percent Average. Under CBO's higher interest rate scenario—which was provided in CBO's most recent Long-Term Budget Outlook—the federal public debt climbs from $24 trillion today to $173 trillion by 2051. Under this scenario, **interest payments on the debt are projected to grow from $331 billion in 2021 to $10 trillion per year in 2051.**

Interest Rate at 50-Year Average – 5.7 Percent. Under a scenario where interest on the debt returns to this level for the next three decades, the federal public debt would be projected to grow from $24 trillion today to $215 trillion in 2051. **Interest payments on the debt would be projected to grow from $331 billion in 2021 to $11 trillion per year by 2051.**

Interest Rate at Level of 1990s – 6.9 Percent. Under a scenario where interest on the debt returns to this level for the next three decades, the federal public debt would be projected to grow from $24 trillion today to $280 trillion in 2051. **Interest payments on the debt would be projected to grow from $331 billion in 2021 to $18 trillion per year by 2051.**

Interest Rate at 1982 Level – 10.8 Percent. Under a scenario where interest on the debt averages this level for the next three decades, the federal public debt would be projected to grow from $24 trillion today to $693 trillion in 2051. **Interest payments on the debt would be projected to grow from $331 billion in 2021 to $67 trillion per year by 2051.**

Introduction

The federal debt held by the public has increased by 600 percent since 2000, growing from over $3 trillion to $24 trillion. Over the same period, the debt has tripled as a share of the United States' gross domestic product (GDP), increasing from slightly more than one-third of the U.S. economy in 2000 to approximately equaling the size of the U.S. economy today.[1] By 2051, the debt is projected to grow by an additional nearly 500 percent, reaching $134 trillion—more than twice the size of the U.S. economy and the equivalent of $1.4 million per family of four.[2]

A key variable in the federal budget outlook, and the American people's ability to finance a growing debt, is the future of interest rates. Today, the federal government pays 1.4 percent interest on the federal debt, the lowest level in American history. **In recent memory, rates have been far higher, averaging 6.0 percent in the 1970s, 9.1 percent in the 1980s, and 6.9 percent in the 1990s. Over the last 50 years the average is 5.7 percent, with a peak of 10.8 percent in 1982.**

The consequences of interest rates to the federal budget are an increasing concern given the spending and debt trajectory currently being discussed in Washington. That is why in January 2022, House Budget Committee Republican Leader Jason Smith (MO-08) requested CBO to study the impact of rising inflation and rising interest rates on the federal debt and provide an analysis. CBO provided a largely qualitative analysis in March 2022 built around existing data the agency had previously compiled on a higher interest rate scenario which made it important that the House Budget Committee do an additional analysis that would broaden the scope of study.

The policies put forward by the Biden Administration and Congressional Democrats would substantially worsen the federal budget outlook. Deficits would exceed one trillion dollars every year under the FY 2022 budget resolution enacted by the Democratic Majority as well as the FY 2023 budget recently proposed by President Biden, and the federal debt would grow by another $16 trillion.[3] This is assuming interest rates remain at historically low levels. In 2021, to enact part of the Democrats' agenda, the U.S. House of Representatives passed $7.5 trillion in new spending.[4] The President's FY 2023 budget proposes $73 trillion in spending over the next decade—a 66 percent increase over the previous 10 years. Such plans and proposals would substantially increase the size of the national debt beyond current projections and thus further inflate the effect of rising interest rates on the nation's budget outlook.

Spending on the scale envisioned by President Biden and Congressional Democrats—and in the case of the $2 trillion American Rescue Plan Act, spending enacted—will further fuel inflationary pressures that have already driven the highest spike in consumer prices in over 40 years. This rise in inflation—currently at a rate of 8.5 percent—has driven the Federal Reserve to

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[1] Congressional Budget Office, "Budget and Economic Outlook: 2021 to 2031," July 2021, https://www.cbo.gov/data/budget-economic-data.

[2] Congressional Budget Office, "The 2021 Long-Term Budget Outlook," March 2021, https://www.cbo.gov/system/files/2021-03/56977-LTBO-2021.pdf.

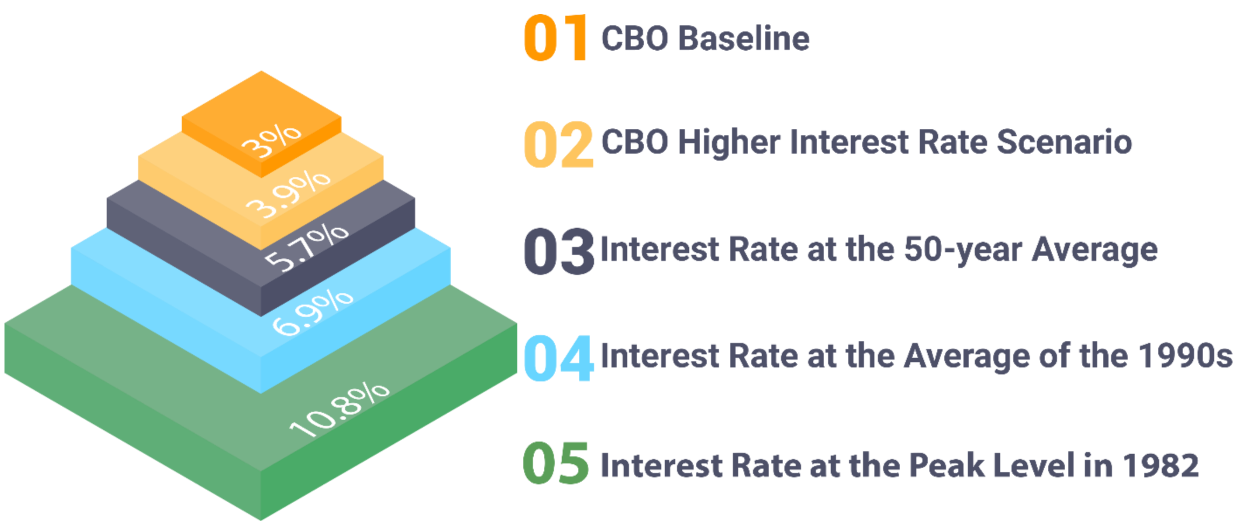
[3] Committee Print, S.Con.Res.14, https://www.budget.senate.gov/imo/media/doc/CPRT-117SPRT45298.pdf.

[4] House Budget Committee Republicans, Budget Balance Sheet: 1 Year of Total Democrat Control, https://republicans-budget.house.gov/wp-content/uploads/2021/12/Budget-Balance-sheet-One-Year-of-Democrat-Total-Control.pdf.

begin increasing interest rates in an attempt to combat it. Those higher rates will inevitably impact the cost of borrowing for the federal government. In short, the consequences of higher interest rates to the federal budget are not simply hypothetical concerns; they are real and present today.

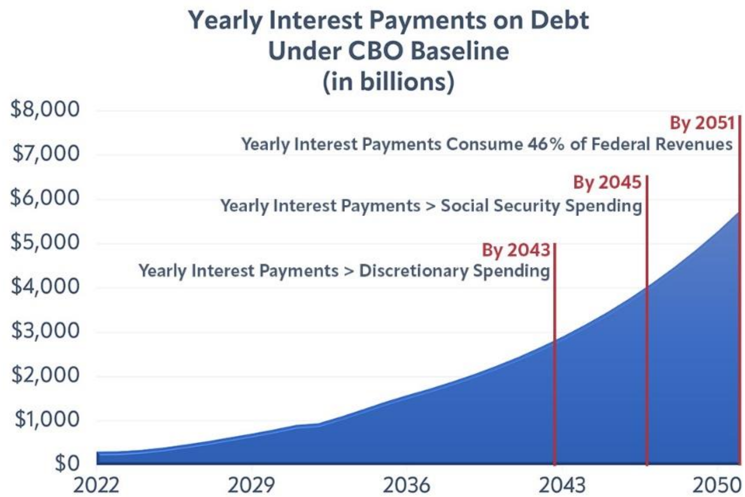
The future of interest rates is uncertain but holds immense consequences for budgetary policy. This report looks at the impact on the federal budget of five illustrative scenarios for interest rates assuming spending and revenue projections under current law:

1. 3.0 percent average - CBO extended baseline projections.
2. 3.9 percent average - CBO higher interest rate scenario.
3. 5.7 percent - Interest rate at the 50-year average.
4. 6.9 percent - Interest rate at the average of the 1990s.
5. 10.8 percent - Interest rate at the peak level in 1982.



Scenario One
CBO Baseline Interest Rate Forecast – 3.0 Percent Average

Interest payments on the debt are influenced by both the amount of debt and the rate of interest. In 2021, the average interest rate paid on the federal debt was 1.4 percent—the lowest level on record. CBO projects interest paid on the federal debt to gradually increase, reaching 2.4 percent by 2031 and 4.6 percent by 2051, an average of 3.0 percent. At the time CBO made these projections, it was looking at an economic environment where the Federal Reserve had yet to increase rates in response to the rising inflationary pressures and had in fact not raised interest rates since 2018. Today, with inflation at 8.5 percent—having risen quite rapidly over the past year—the Federal Reserve raised interest rates in March and again in May and has signaled its intent to further raise rates.



Nevertheless, even at the interest rates included in its baseline, CBO already projects a substantial deterioration in the nation's fiscal outlook. Specifically:

- **Higher Debt:** Under the CBO baseline, the federal debt is projected to grow from $24 trillion today to $36 trillion in 2031[5] and to $134 trillion in 2051[6]. As a percentage of the U.S. economy, the debt would be 106 percent of GDP in 2031, **the highest debt burden in American history**, and 202 percent of GDP in 2051. Debt has averaged 44 percent of GDP over the last five decades.

- **Higher Interest Payments on the Debt:** Under the CBO baseline, interest payments on the debt are projected to almost triple from $331 billion (1.5 percent of GDP) in 2021 to $910 billion (2.7 percent of GDP) in 2031. Long-term, interest payments on the debt are projected to grow to almost $6 trillion (8.6 percent of GDP) by 2051, **becoming the largest single expenditure in the federal budget**.

- **Interest Payments Grow to Consume Increasing Share of Federal Revenue:** Under the CBO baseline, interest payments on the debt are projected to grow from nine percent of federal revenue in 2021 to 15 percent of federal revenue in 2031 and to 46 percent of

[5] Congressional Budget Office, "Budget and Economic Outlook: 2021 to 2031," July 2021, https://www.cbo.gov/data/budget-economic-data.
[6] Congressional Budget Office, "The 2021 Long-Term Budget Outlook," March 2021, https://www.cbo.gov/system/files/2021-03/56977-LTBO-2021.pdf.

federal revenue in 2051. **Americans will see more and more of their tax dollars going solely to finance the nation's debt rather than toward government activities and services.**

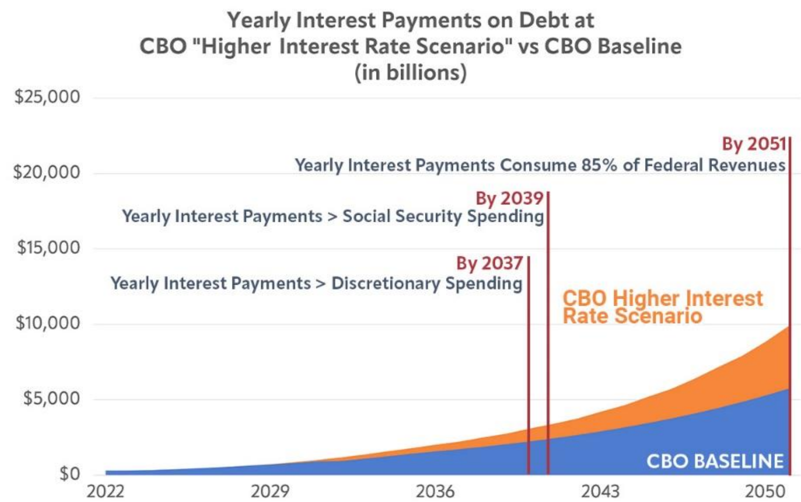
Under CBO's baseline projections, interest spending on the debt will eventually be the majority of deficit spending. By 2036, CBO projects interest spending will comprise a greater share of budget deficits (4.0 percent of GDP) than the primary budget deficit (3.9 percent of GDP)—a "primary" budget deficit being when federal spending exceeds federal revenues before factoring in interest payments on the debt. **By 2051, 65 percent of the total projected deficit (at 13.3 percent of GDP) will consist of spending on interest on the federal debt**.

Even under the optimistic assumption that interest rates remain well below the levels of recent history, the federal budget outlook is unsustainable. The growing federal debt will cause interest payments to comprise an ever-increasing share of future projected federal tax collections. According to CBO, the current debt path would increase "the risk of a fiscal crisis—that is, a situation in which the interest rate on federal debt rises abruptly because investors have lost confidence in the U.S. government's fiscal position."[7]

[7] Congressional Budget Office, "The 2019 Long-Term Budget Outlook," June 2019, https://www.cbo.gov/system/files/2019-06/55331-LTBO-2.pdf.

Scenario Two
CBO Higher Interest Rate Scenario – 3.9 Percent Average

As noted previously, CBO has provided an alternative interest rate scenario in its most recent Long-Term Budget Outlook. According to CBO, if interest rates are one percentage point higher than the agency currently projects in its baseline, the federal deficit would increase by over $2 trillion over 10 years.[8] Under CBO's higher interest rate scenario, interest rates will average 3.9 percent over the next three decades (still below the 50-year average of 5.7 percent) and reach 6.6 percent by 2051.[9] In CBO's March 20, 2022 response to House Budget Committee Republican Leader Smith's request for additional information on the impact of higher interest rates on the federal debt, the agency describes some of the budgetary and economic consequences flowing from higher interest rates of this magnitude as follows:



> "In the first scenario, CBO's analysis starts with the boost to borrowing rates, which increases the government's interest costs. Deficits therefore grow. Those larger deficits decrease private investment, reducing the amount of capital per worker. The reduction in the amount of capital per worker means that the value of any additional capital is now higher than it would otherwise have been. Put differently, the return on capital grows, further pushing up interest rates. Those interest rates include the federal borrowing rate, which thus rises more than the initial boost."

This would cause the federal budget outlook to substantially worsen compared to CBO's baseline projections discussed in the previous section. Specifically:

- **Higher Debt:** Under this scenario, the federal debt in 2051 would be projected to grow from $24 trillion today to $173 trillion by 2051. As a percentage of the U.S. economy, the debt would grow to 260 percent of GDP. As previously mentioned, CBO estimates a one percentage point increase in interest rates above the baseline translates into an increase in the federal deficit of over $2 trillion over the 10-year window.

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[8] Congressional Budget Office, "Workbook for How Changes in Economic Conditions Might Affect the Federal Budget," June 2021, https://www.cbo.gov/publication/57191.

[9] Congressional Budget Office, "Federal Debt Under Alternative Paths for Interest Rates," March 10, 2022, https://www.cbo.gov/system/files/2022-03/57907-Smith.pdf.

- **Higher Interest Payments on the Debt:** Under this scenario, interest payments on the debt are projected to grow from $331 billion (1.5 percent of GDP) in 2021 to $10 trillion per year (15.8 percent of GDP) in 2051.

- **Interest Payments Grow to Consume Most Federal Revenue:** CBO currently projects federal revenue to be $12 trillion in 2051. If interest rates grow at CBO's higher interest rate scenario, interest payments on the debt would consume 85 percent of projected federal revenues by 2051. **With further deficit spending, more than 100 percent of tax collections could be dedicated just to paying interest on the federal debt**.

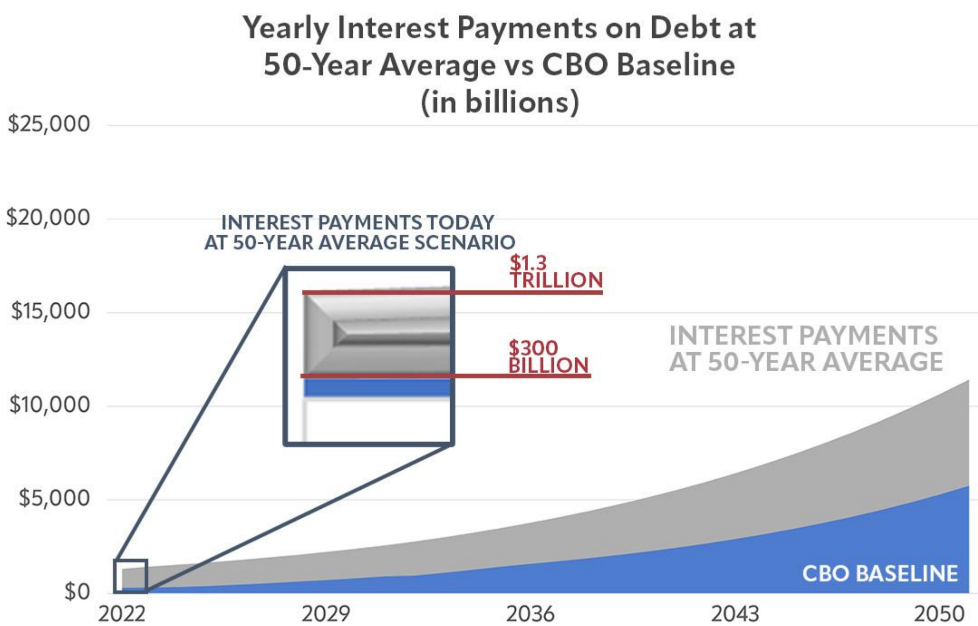
Scenario Three
Interest Rate at 50-Year Average – 5.7 Percent

The House Budget Committee has analyzed three alternative scenarios for interest rates, based on recent history.

Under the first alternative scenario, interest rates on the debt average 5.7 percent over the next three decades, consistent with the 50-year average. At current debt levels, 5.7 percent interest rates would cause interest payments on the debt to increase from just above $300 billion to $1.3 trillion. This is 30 percent of federal revenue and would be the single largest item in the federal budget. Over the next three decades, this scenario would significantly increase the federal debt and cause payments on the debt to grow to unsustainable levels. Specifically:

- **Higher Debt:** Under this scenario, the federal debt would be projected to grow from $24 trillion today to $49 trillion in 2031, $105 trillion in 2041, and $215 trillion in 2051.

- **Higher Interest Payments on the Debt:** Under this scenario, interest payments on the debt are projected to grow from $331 billion in 2021 to $3 trillion per year in 2031, $6 trillion per year by 2041, and $11 trillion per year by 2051.

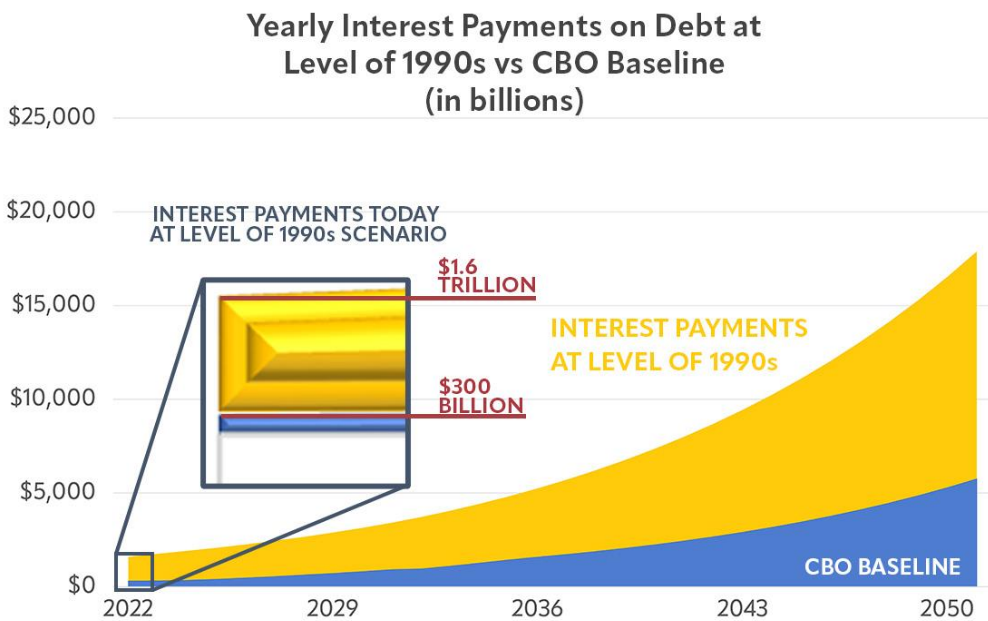


Scenario Four
Interest Rate at Level of 1990s – 6.9 Percent

Under this scenario, interest rates on the debt average 6.9 percent over the next three decades, consistent with the average of the 1990s. At current debt levels, 6.9 percent interest rates would cause interest payments on the debt to increase from just above $300 billion to $1.6 trillion. This is 36 percent of federal revenue, and more than double Medicare spending. Over the next three decades, this scenario would worsen the federal budget outlook as follows:

- **Higher Debt:** Under this scenario, the federal debt would be projected to grow from $24 trillion today to $54 trillion in 2031, $126 trillion in 2041, and $280 trillion in 2051.

- **Higher Interest Payments on the Debt:** Under this scenario, interest payments on the debt are projected to grow from $331 billion in 2021 to $3 trillion per year by 2031, $8 trillion per year by 2041, and $18 trillion per year by 2051.

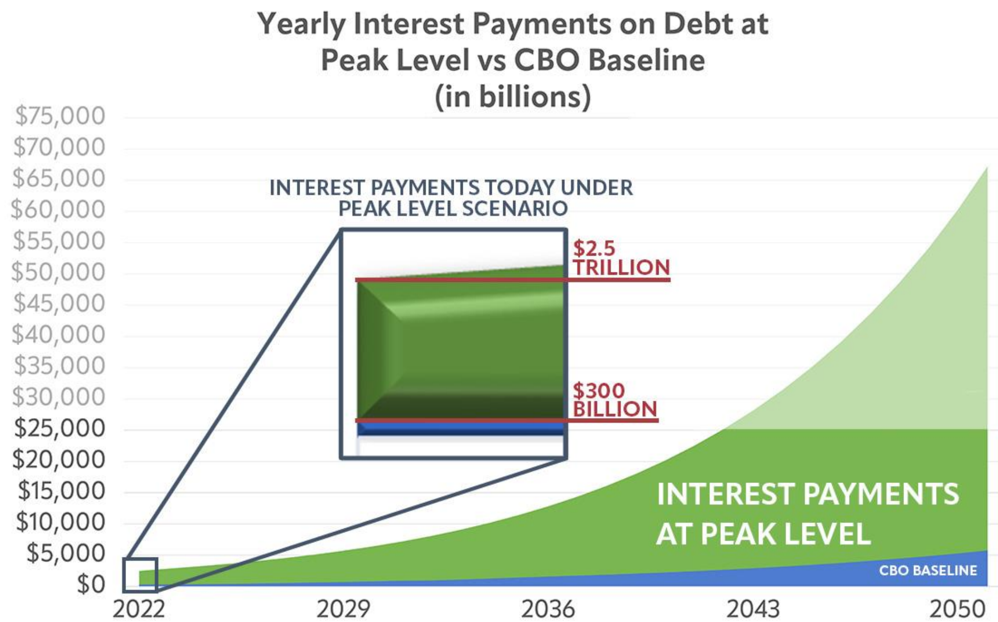


Scenario Five
Interest Rate at 1982 Level – 10.8 Percent

Under this scenario, interest rates on the debt average 10.8 percent over the next three decades, consistent with the peak in 1982. At current debt levels, 10.8 percent interest rates would cause interest payments on the debt to increase from just above $300 billion to $2.5 trillion. This is 57 percent of federal revenue and equivalent to all spending on Social Security, Medicare, and Medicaid combined. Over the next three decades, this scenario would cause the federal debt and associated interest payments to grow exponentially, as follows:

- **Higher Debt:** Under this scenario, the federal debt would be projected to grow from $24 trillion today to $75 trillion in 2031, $234 trillion in 2041, and $693 trillion in 2051.

- **Higher Interest Payments on the Debt:** Under this scenario, interest payments on the debt are projected to grow from $331 billion in 2021 to $7 trillion per year by 2031, $23 trillion per year by 2041, and $67 trillion per year by 2051.



Volatility of Interest Rates on Federal Debt

To finance the federal government's debt, Treasury issues a variety of securities with different maturity dates, including Treasury bills, notes, and bonds. Treasury bills are short-term securities that mature in one year or less. Treasury notes include securities that mature within two, three, five, seven or 10 years. Treasury bonds are long-term securities that mature in either 20 or 30 years. Given the different maturity lengths, the interest paid on each of these vary to compensate for the additional risk associated with longer maturity dates, with Treasury bills having the least risk and consequently the lowest interest rates of the three.

Because Treasury bills have a quicker turnover rate, the effective interest paid on these securities is more volatile, responding more quickly to market fluctuations and Federal Reserve actions. Consider the changes in interest rates for each of these securities from March 31, 2019, the most recent pre-pandemic interest rate peak for Treasury bills, to June 30, 2021, its most recent trough:

- **Treasury Bills:** From March 31, 2019, to June 30, 2021, the interest rate on Treasury bills declined from its most recent pre-pandemic peak of 2.5 percent to less than 0.1 percent—a drop of more than 2.4 percentage points or 98 percent. Since June, the interest rate on bills has increased to 0.3 percent, as of March 31, 2022—a 631 percent increase. There are currently $3.9 trillion in outstanding Treasury bills, which account for approximately 16.9 percent of the federal public debt.

- **Treasury Notes:** During the same period, the interest rate on Treasury notes declined from 2.1 percent to 1.5 percent—a drop of about 0.6 percentage points or 29 percent. Since June, that interest rate has further declined to 1.4 percent—a drop of 0.1 percentage points or 7.4 percent. There are currently $13.3 trillion in outstanding Treasury notes, which account for approximately 57.3 percent of the federal public debt.

- **Treasury Bonds:** During the same period, the interest rate on Treasury bonds declined from 4.0 percent to 3.2 percent—a drop of about 0.8 percentage points or 20 percent. Since June, this interest rate has further declined to 3.0 percent—a drop of 0.2 percentage points or 6.5 percent. There are currently $3.6 trillion in outstanding Treasury bonds, which account for approximately 15.6 percent of the federal public debt.

Both in terms of magnitude and proportion, Treasury bills have experienced significantly larger swings in interest rates. As interest rates rise, these securities are impacted first. Since March 31, 2019, total outstanding Treasury bills has increased from $2.5 trillion to $3.9 trillion, a 58.4 percent increase, comprising 17 percent of the debt. Combining this with the remaining Treasury securities set to mature in the next year brings the total short-term debt to over $6 trillion, or 25 percent—all of which will need to be replaced with new debt at higher interest rates.

Conclusion

While the future of interest rates is unpredictable, **the debt cannot continue to grow faster than the economy without eventually causing a spike in interest rates**. The 50-year average for interest rates on the federal debt amounts to 5.7 percent, with a peak of 10.8 percent in 1982. The buildup to this peak in 1982 coincided with the high inflation that ran from the mid-1970s through the end of the Carter Administration in 1981.

Since then, the U.S. has experienced both low inflation and declining interest rates, that is, until now. With the highest level of inflation since 1981, reaching 8.5 percent over the last year, there are sure to be ripple effects in the economy. Surges in inflation such as this deteriorates the incentive to save and boosts the demand for credit, putting upward pressure on interest rates. This organic market pressure towards higher interest rates combined with the Federal Reserve's actions, which is currently considering raising rates again and again and at a faster pace than previously expected, is sure to result in higher-than-projected interest rates.[10]

As has been shown, under the most subdued projection of interest rate increases—CBO's baseline projection—interest on the federal public debt will become the largest single expenditure in the federal budget by 2045. In the environment we have today, where inflation is at levels not seen in 40 years, there exists substantial pressure for interest rates to rise above baseline projections. Under the scenarios described in this analysis, rates rise to the point where more than 100 percent of annual tax revenues are dedicated just to paying interest on the federal debt (under CBO's higher interest rate projections) and interest rate payments range from an $11 trillion per year expenditure (under a 50-year average interest rate) to as high as a $67 trillion annual expenditure (under the peak interest rate of 1982).

Future debt increases will be paid back by future generations with higher taxes, higher interest rates, interest payments on the debt crowding out other federal budget priorities, lower economic growth, and lower average incomes.

Aside from the economic harms resulting from debt-induced higher interest rates, as interest payments on the debt climb as a share of the federal budget, the ability of the federal government to respond to future economic, public health, and international challenges will be greatly compromised.

[10] *Minutes of the Federal Open Market Committee December 14-15, 2021*, Board of Governors of the Federal Reserve System, December 14-15, 2021, https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20211215.pdf.