Congressional Budget Office
Nonpartisan Analysis for the U.S. Congress

Effects of Federal Borrowing on Interest Rates and Treasury Markets

March 11, 2025

Hoover Institution

Fiscal Policy Initiative: The Economic Consequences of U.S. Fiscal Policy Trends

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Consequences of Large and Growing Federal Debt

In the Congressional Budget Office's assessment, large and growing federal debt increases long-run interest rates, reduces economic growth, and increases the risk of a fiscal crisis and other adverse outcomes.

As federal debt grows, interest payments to foreign holders of U.S. debt increase, which lowers national income.

Additionally, the size of the budget deficit and debt could influence policymakers' choices. When the stock of debt is already large, policymakers might feel constrained from using deficit-financed fiscal policy to respond to unforeseen events, promote economic activity, or further other goals.

Finally, as debt and the resulting interest costs continue to grow, greater adjustments to the noninterest components of the budget are required to reduce deficits.

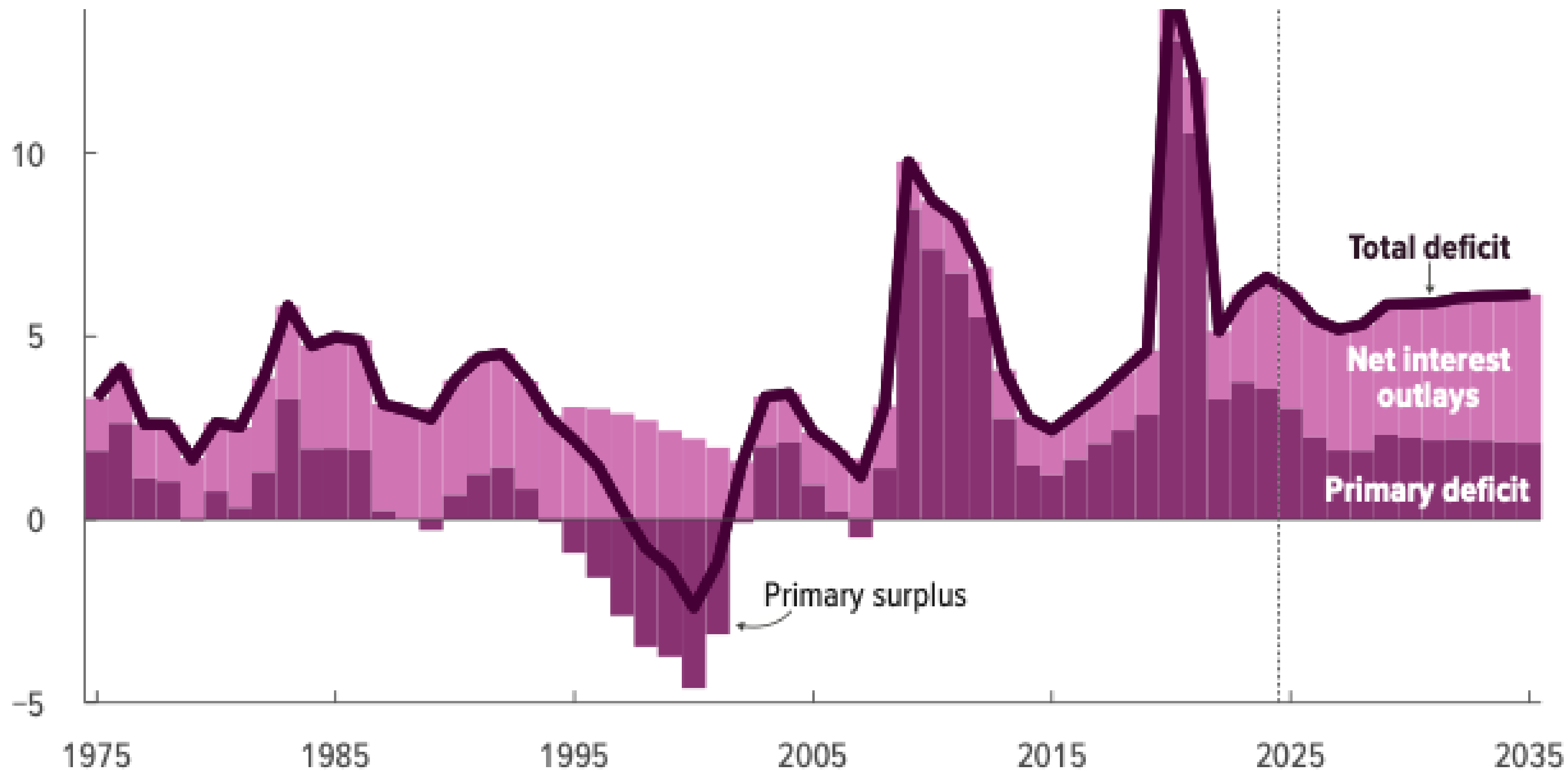
Congressional Budget Office, *The Economic Effects of Waiting to Stabilize Federal Debt* (April 2022), www.cbo.gov/publication/57867.

Federal Borrowing, Interest Rates, and Economic Growth

CBO’s Baseline Projection of Deficits

Total Deficits, Primary Deficits, and Net Interest Outlays

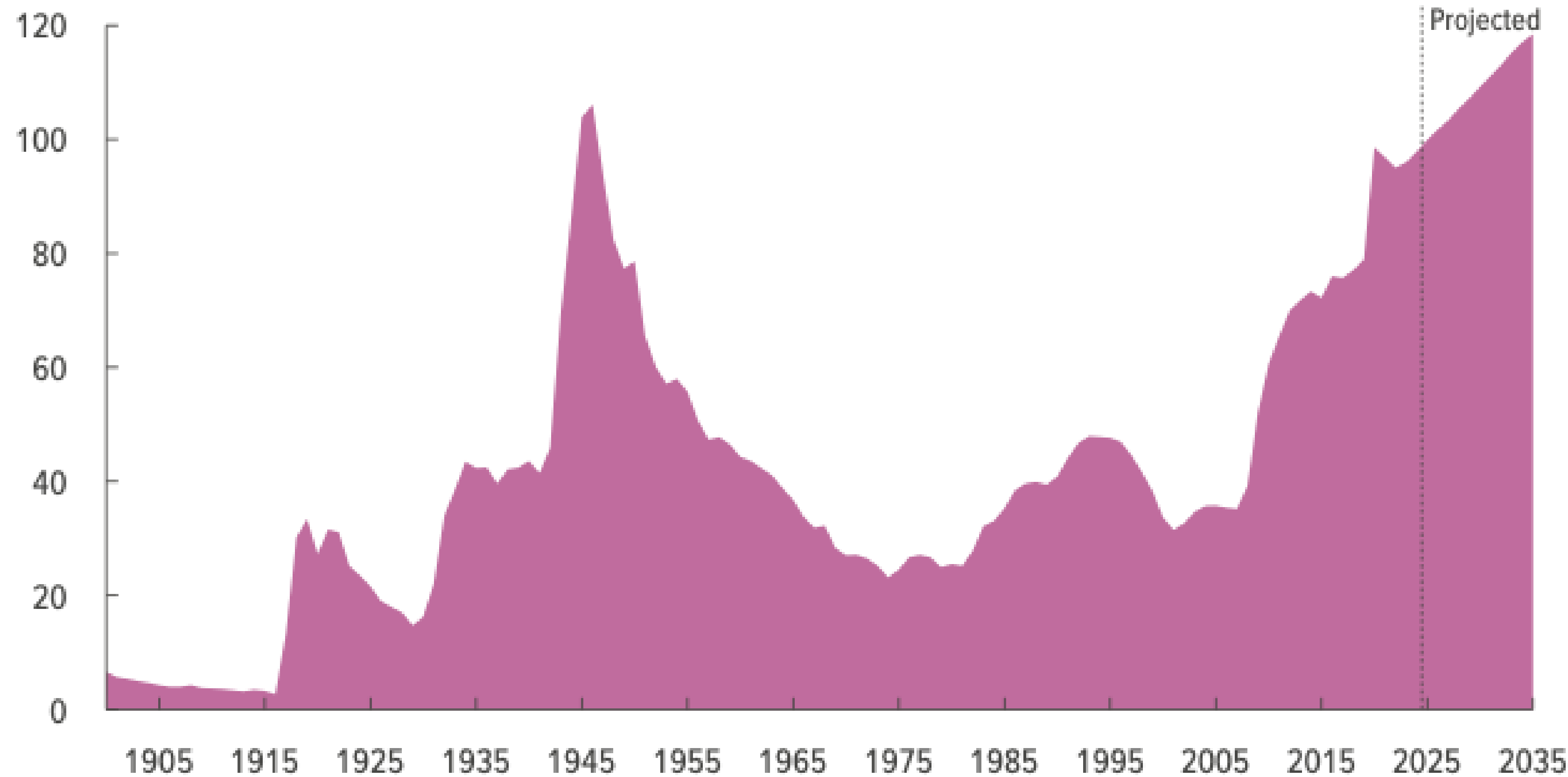
Percentage of Gross Domestic Product



In CBO’s January 2025 projections, the total deficit—the amount by which outlays exceed revenues—equals 6.1 percent of GDP in 2035.

Net interest payments grow to 4.1 percent of GDP by that year, and the primary deficit—which excludes those payments—equals 2.1 percent of GDP.

CBO's Baseline Projection of Debt Held by the Public



Debt held by the public rises each year. From 2025 to 2035, it swells from 100 percent of GDP to 118 percent—an amount greater than at any point in the nation's history.

Factors Affecting Interest Rates

In the short run, the Federal Reserve may adjust interest rates in response to changes in federal borrowing that affect prices and the unemployment rate gap (the difference between the unemployment rate and the non-cyclical rate of unemployment).

CBO's interest rate projections in the medium and long term are affected by several factors:

- Debt-to-GDP ratio
- Labor force growth
- Private, domestic, and foreign savings
- Total factor productivity
- Risk premium
- Capital share of income

CBO projects federal debt to grow much larger as a percentage of GDP than it was from 1995 to 2004, when monetary policy was generally neutral, expected inflation was relatively stable, and the economy experienced relatively mild business-cycle fluctuations.

Edward Gamber, *The Historical Decline in Real Interest Rates and Its Implications for CBO's Projections*, Working Paper 2020-09 (Congressional Budget Office, December 2020), www.cbo.gov/publication/56891.

Effect of Federal Borrowing on Interest Rates

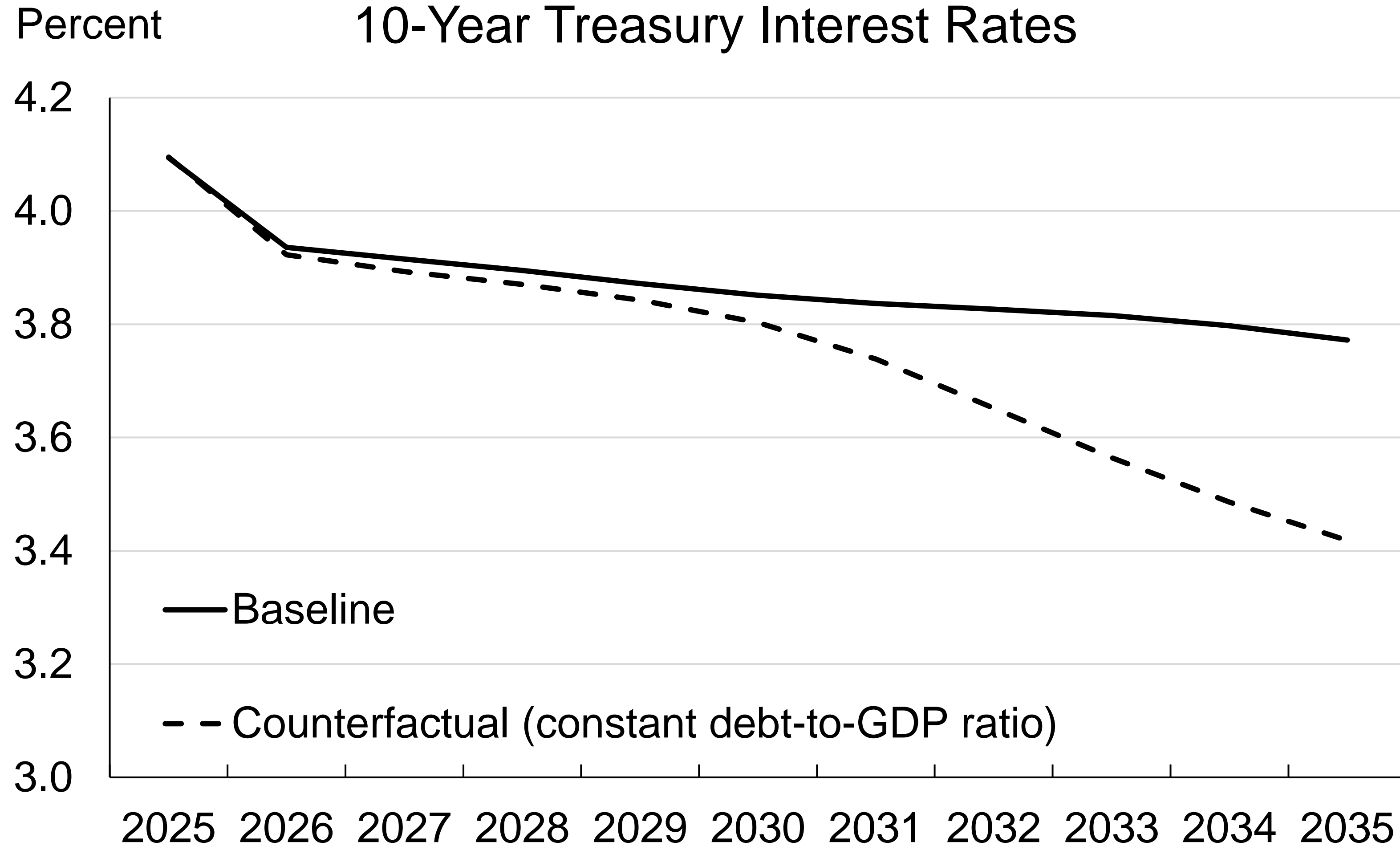
Greater federal borrowing crowds out private investment, at least partially through higher interest rates. Lower private investment reduces the amount of capital per worker, increasing interest rates and the return on capital in the long run.

CBO estimates that the average long-run interest rate increases by 2 basis points for each one percentage point rise in debt as a percentage of GDP. CBO refers to that effect as the debt sensitivity of interest rates, or DSIR.

Until recently, CBO's estimate of the DSIR was 2.5 basis points. A falling DSIR may be related to a declining spread between the interest rate on Treasury securities and the marginal product of capital.

Andre R. Neveu and Jeffrey Schafer, *Revisiting the Relationship Between Debt and Long-Term Interest Rates*, Working Paper 2024-05 (Congressional Budget Office, December 2024), www.cbo.gov/publication/60314.

Effect of Growing Federal Debt on Long-Run Interest Rates



In CBO's baseline, the interest rate on 10-year Treasuries is projected to decline modestly over the next decade, reaching 3.8 percent by 2035.

Holding the debt-to-GDP ratio constant at its current level would suggest an additional decline of 35 basis points by 2035.

Effect of Federal Borrowing on Economic Growth

Increased federal borrowing reduces the resources available for private investment.

That reduction in resources is partially offset by an increase in interest rates, which strengthens people's incentive to save and attracts more foreign capital to the United States, thereby increasing private investment. The net effect is known as crowding out.

In CBO's assessment, private savings increases by 43 cents in response to a one-dollar increase in the federal deficit. Additionally, net foreign investment increases by 24 cents. The net reduction in private investment is thus 33 cents.

The cause of the change in federal borrowing could have additional economic effects. For example, federal borrowing that supports effective federal investment increases private-sector productivity and, therefore, private investment and economic growth.

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.

Congressional Budget Office, *Effects of Physical Infrastructure Spending on the Economy and the Budget Under Two Illustrative Scenarios* (August 2021), https://www.cbo.gov/publication/57327.

Federal Borrowing and the Economic Salience of Net International Income and Investment

Net International Income and Investment

Over the past four decades, investment flows into the United States have exceeded outflows of investment from the United States.

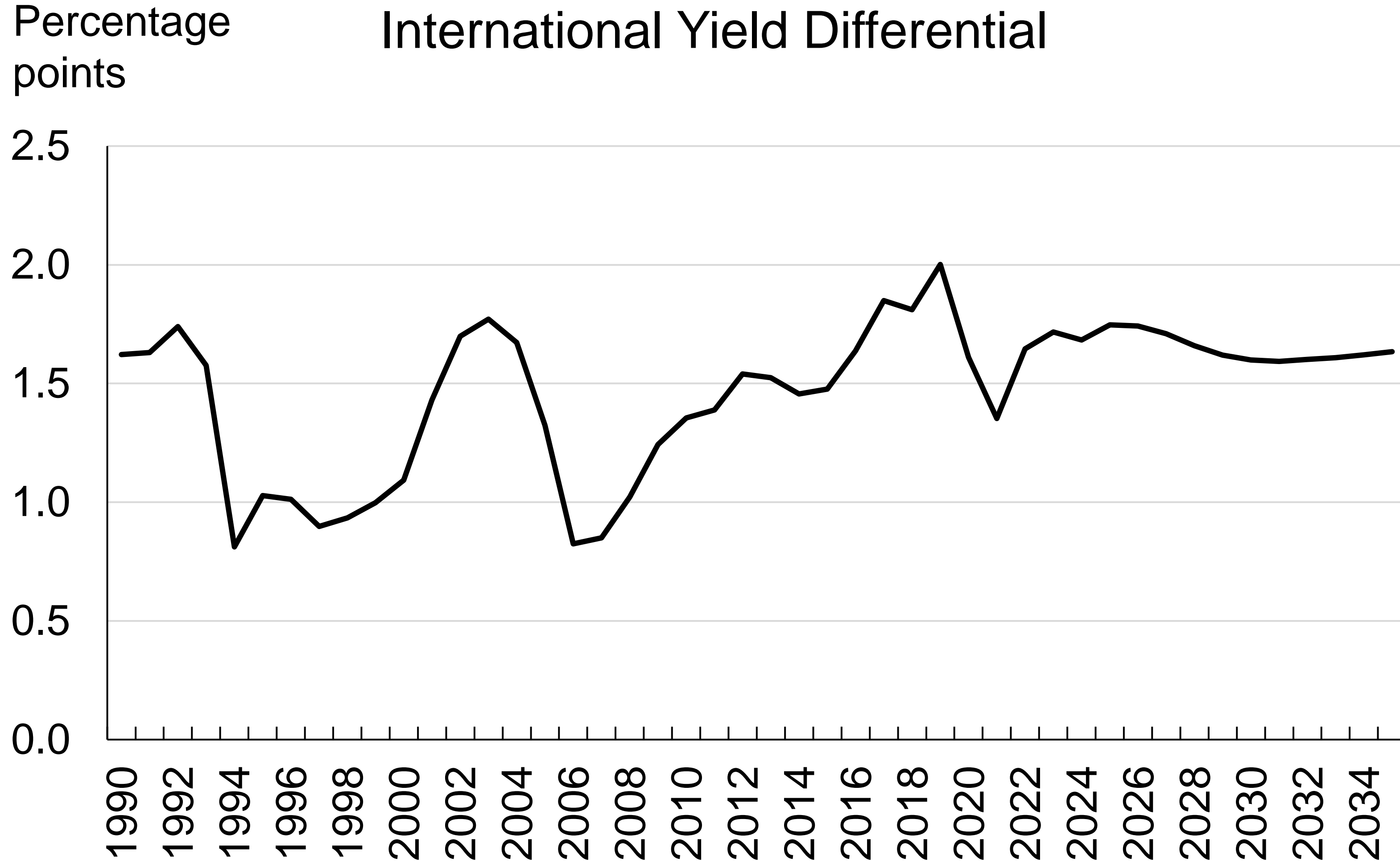
Meanwhile, the total income earned by U.S. investors on their foreign asset holdings has historically exceeded the total income earned by foreign investors on their U.S. holdings.

The United States earns positive net international income despite its negative net international investment position because the average yield on U.S. investments abroad exceeds the average yield on foreign investments in the United States.

Those facts and the persistence U.S. current account deficit suggest that the United States has been a relatively attractive destination for foreign investment.

Daniel Fried, *CBO's Model and Projections of U.S. International Investment Holdings and Income Flows*, Working Paper 2021-10 (Congressional Budget Office, February 2021), https://www.cbo.gov/publication/57326.

International Yield Differential

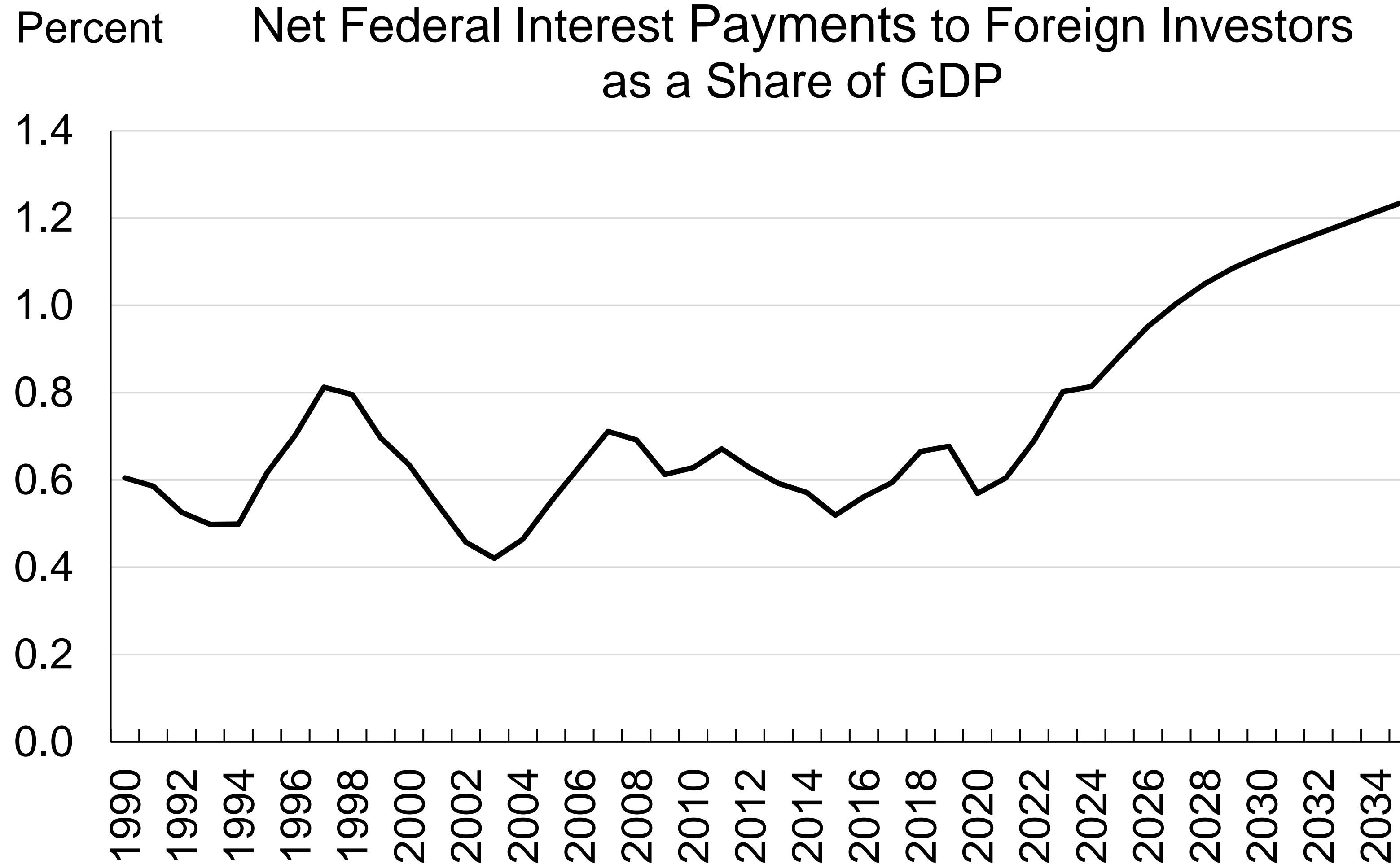


On average, from 1990 to 2019, U.S.-owned foreign assets provided a yield of about 4.7 percent per year, 1.3 percentage points higher than the yield foreign-owned U.S. assets provided.

The yield differential is explained in large part by the yield differential on direct investment driven by profit shifting across low-tax jurisdictions, by how the income data accounts for repatriation taxes, and by a compositional effect. (U.S. investors tend to hold risker foreign assets than foreign investors do in U.S. assets.)

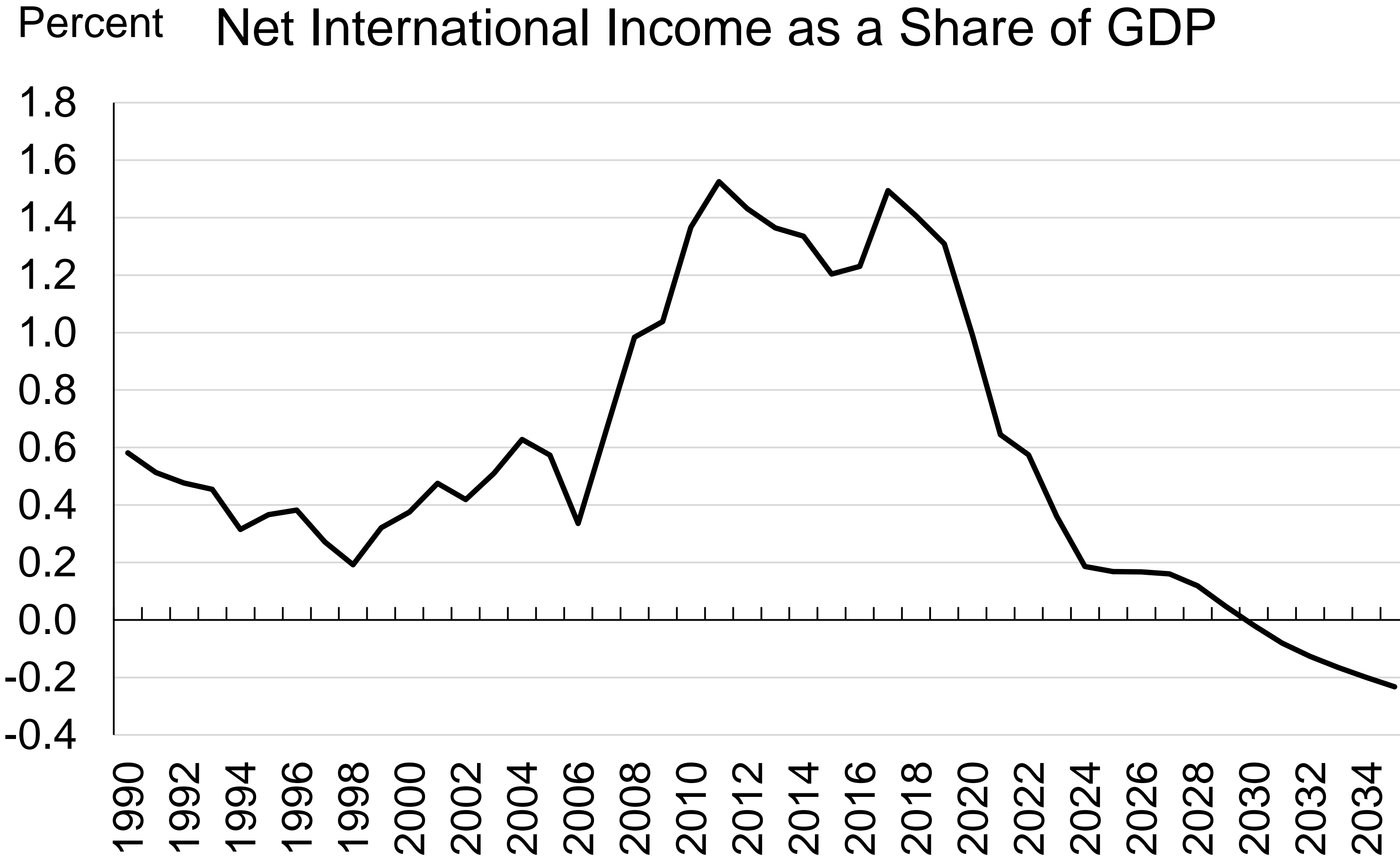
The international yield differential is defined as the effective rate of return on U.S. owned assets abroad less the effective rate of return on foreign-owned assets in the U.S (excluding derivatives).

Increased Interest Payments to Foreign Holders of U.S. Debt



Rising interest costs associated with U.S. federal debt would drive up interest payments to foreign holders of U.S. debt and thus decrease national income.

CBO's Projection of Net International Income



Foreign demand for U.S. federal debt has allowed the federal government to limit interest expenses even as that debt has grown substantially over the past two decades.

Net international income as a share of GDP is projected to continue to decline and turn negative in 2030, largely because of higher interest payments to foreign holders of U.S. federal debt.

Economic Salience of Net International Income and Investment

Positive net international income partially offsets the income outflows needed to pay for the persistent U.S. trade deficit. As a result, net borrowing by the United States from the rest of the world is lower than it would be if flows of net international income were negative, as they are projected to be after 2030 in CBO's baseline.

International investment affects the U.S. economy through other channels as well.

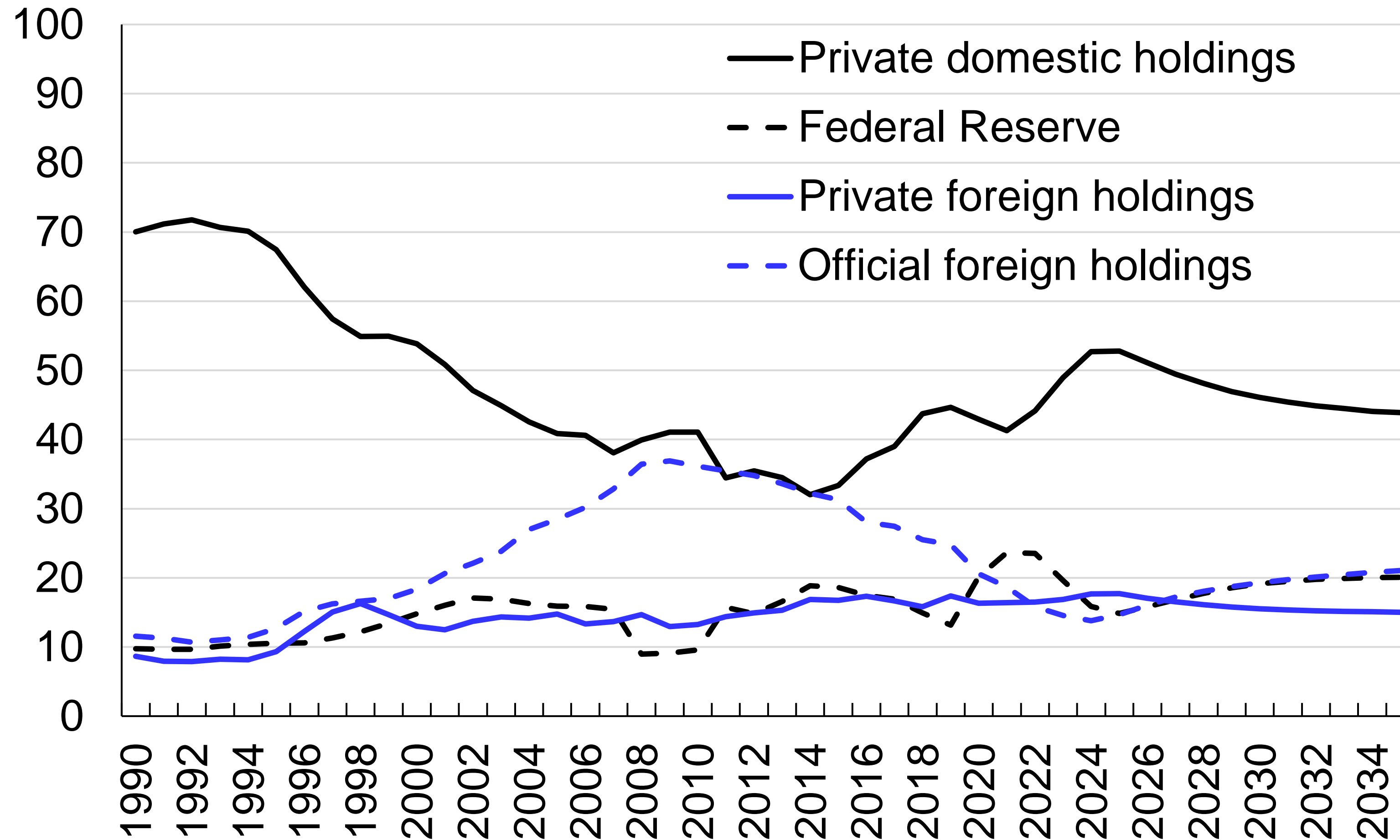
For example, when foreign investors purchase U.S. assets, that increase in demand tends to raise the exchange value of the dollar and reduce the competitiveness of U.S. exports in global markets. Additionally, greater foreign demand for U.S. debt reduces domestic interest rates, making borrowing cheaper for U.S. consumers, businesses, and the federal government.

- One estimate suggests that a $100 billion reduction in foreign purchases of Treasury securities in a given month would increase the five-year Treasury rate by 20 basis points in the long run.

For more information on the estimate, see Daniel O. Beltran and others, "Foreign Holdings of U.S. Treasuries and U.S. Treasury Yields," *Journal of International Money and Finance*, vol. 32 (February 2013), pp. 1120–1143, https://tinyurl.com/ydf2p3e2.

Trends in Treasury Holdings and the Role of the Dollar

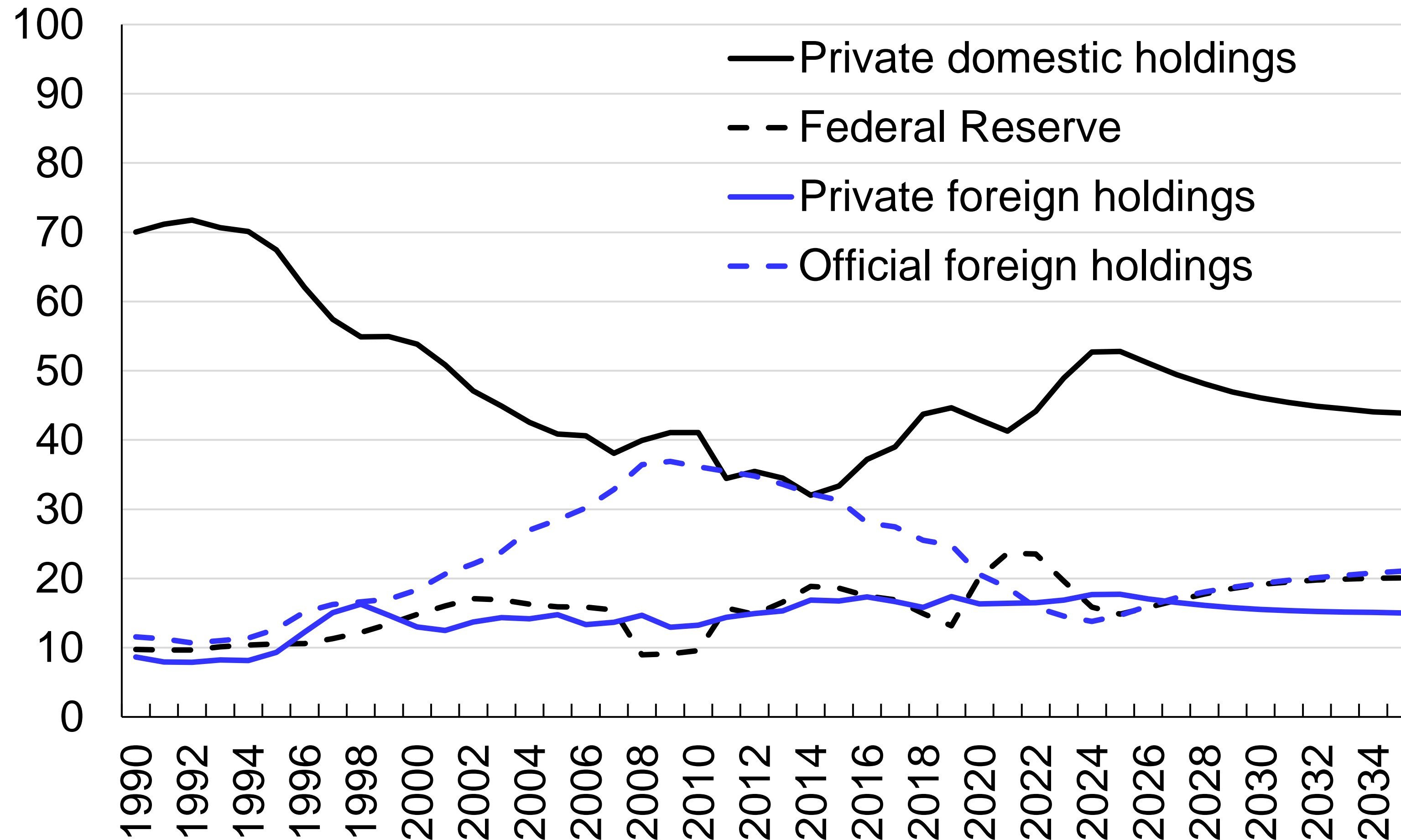
Holdings of U.S. Federal Debt as a Share of All U.S. Federal Debt Held by the Public



Most foreign purchases of U.S. government assets have been made by foreign governments and central banks, although purchases by private investors have also grown steadily.

Foreign investors currently hold roughly one-third of federal debt held by the public and 40 percent of such debt not held by the Federal Reserve.

Holdings of U.S. Federal Debt as a Share of All U.S. Federal Debt Held by the Public (Continued)



From 1990 to 2008, the share of all publicly held U.S. federal debt owned by foreign investors (official and private) rose from about 20 percent to over 50 percent.

In the years since the financial crisis, the share of foreign holdings of total U.S. publicly held debt has decreased significantly.

Part of that decline can be explained by the shifting investment preferences of foreign investors.

The U.S. Dollar as an International Currency and Its Economic Effects

The U.S. dollar plays an important role as the most widely used currency in global goods, services, and financial markets.

Strong international demand for U.S. dollars and dollar-denominated assets has increased the value of the dollar in foreign exchange markets and the value of dollar-denominated assets in financial markets.

As a result, the dollar's status has contributed to persistent U.S. trade deficits and, by lowering interest rates, to increased access to credit for U.S. households, businesses, and the federal government.

In CBO's assessment, the dollar's international use is expected to decline over the next decade. But, while subject to considerable uncertainty, the dollar is unlikely to be overtaken by either of its closest competitors, the euro or the Chinese renminbi.

Other Implications of Large and Growing Federal Debt

Greater Risk of a Fiscal Crisis and Other Adverse Outcomes

Growing federal debt would increase the risk of a fiscal crisis—that is, a situation in which investors lose confidence in the value of the U.S. government's debt. Such a crisis would cause interest rates to rise abruptly and other disruptions to occur.

- If a fiscal crisis were to occur, countries like the United States that issue debt in their own currency could avoid paying higher interest rates by printing more currency and using it to pay off their debt. However, their doing so would raise the risk of an inflationary spiral—a situation in which currency depreciates because investors and others expect prices to rise abruptly.

The likelihood of other adverse outcomes would also increase. For example, expectations of higher inflation could erode confidence in the U.S. dollar as the dominant international reserve currency.

- If the dollar's use in global financial and trade markets declined, U.S. federal debt would become riskier.

Vulnerability to Increases in Interest Rates and Increased Perceptions of Fiscal Constraints Among Policymakers

The United States' fiscal position would be more vulnerable to an increase in interest rates because the larger debt is, the more an increase in interest rates raises debt-service costs.

Lawmakers might feel constrained from using federal tax and spending policies to respond to unforeseen events or for other purposes, such as to promote economic activity or strengthen national defense.

Additionally, as deficits remain large and debt grows, larger adjustments to the noninterest components of the budget would be needed to reduce future deficits.