

US Rates Strategy

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Is r^* rising?

Rising Federal debt and AI might push the economy's long-run neutral rate, r^* , higher after it has declined for 50y. Current r^* estimates are between 1.00-1.50% and the rate appears to have risen 50-100bp since 2023. Further updrift might mean the Fed's neutral policy rate is closer to 3.5% than 3.0%.

- R -star is the economy's long-run neutral rate. It is the interest rate where the economy is operating at potential with no inflationary or deflationary pressure.
- **Measures of r^* have declined since the 1960s. Long-run factors pulling the neutral rate lower include lower trend productivity growth, shifting demographics, and globalization.**
- **AI-driven productivity gains are likely to push the neutral rate higher.** Higher investment returns boost the demand for capital while workers made more productive through AI may reduce their savings as their earnings increase.
- Fed Chair Warsh argues that AI will boost productivity and expand the economy's potential growth rate so that the Fed will be able to run the economy hotter with causing inflation.
- The debt/GDP ratio is rising and expected to increase 20% over the next decade. Estimates suggest that this could add as much as 20bp to r^* .
- **Market-based measures of the neutral rate have increased between 50-100bp since 2023.** However structural models of r^* are largely unchanged and suggest the economy is operating at capacity.

Defining r^*

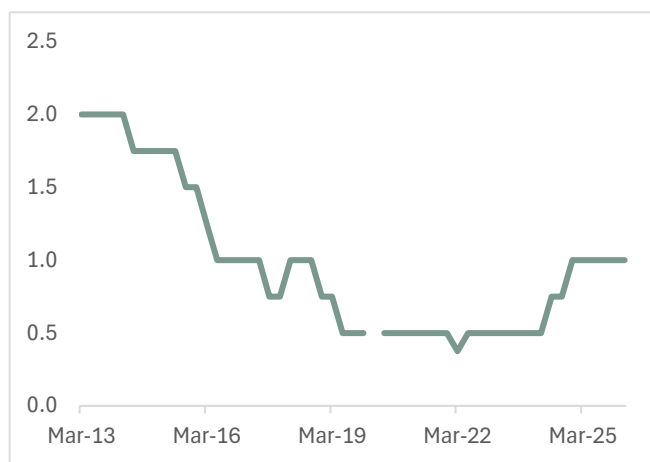
The natural rate of interest, or r^* , is the equilibrium real rate of interest where aggregate supply and demand in the economy are in balance and inflation is stable.¹ It is determined by the supply and demand for loanable funds in the economy. Factors that increase the supply of savings lower r^* while those that increase the demand for investment increase r^* . Because r^* is the rate that would prevail if the economy was perfectly balanced and operating at its potential, it is unobservable.

Despite its theoretical nature, there are several ways to estimate r^* . The simplest measure comes from the FOMC dot plot and participants' long-run expectations for the fed funds rate. These projections

¹ See "Are Financial Markets Good Predictors of R-Star?", S. Cho and J. Williams, Federal Reserve Bank of New York, August 25, 2025

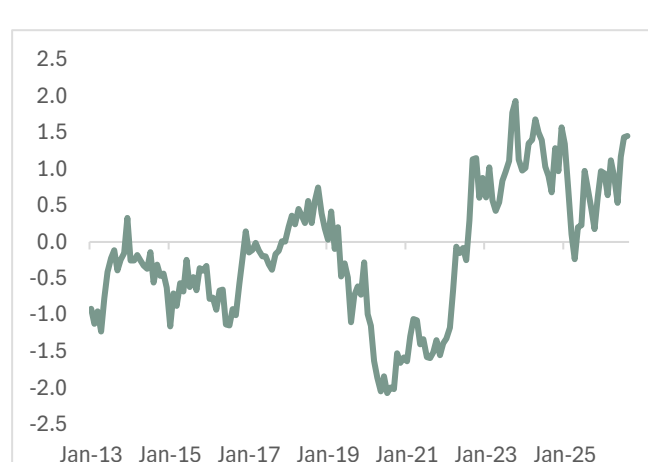
assume short-run economic dislocations work out over time and policy returns to neutral (Figure 1). Alternatively, r^* can be estimated by examining the inflation-adjusted term structure of interest rates. Fed Governor Waller looks at the difference between nominal 10y Treasury yields and expected long-term inflation as measured by the University of Michigan survey (Figure 2).² Finally, r^* can be structurally modelled using estimates of the economy's long-term potential growth rate along with other influences including demographics.³ **Across all these measures, current r^* is estimated to be between 1 and 1.50%.**

Figure 1: Long run fed funds projections (%)



Note: We subtract out the Fed's 2% inflation target. Source: Federal Reserve Bank of New York, SMBC Nikko

Figure 2: TSY10y less U/M inflation exp (%)



Source: Bloomberg, University of Michigan long-term inflation expectations, SMBC Nikko

R-star has trended lower for over 50 years – nor is this trend unique to the US (Figure 3). There are several prominent explanations for this decline. Some only explain part of the decline or cover a shorter period and are unique to the US. The lack of a consistent explanation suggests that r^* may experience short-term fluctuations around a longer-run trend. As a result, market and model-based estimates may not be able to effectively parse out the difference in real time. Indeed, using a bond pricing model, Roussellet estimates investors' uncertainty about r^* is about 130bp.⁴

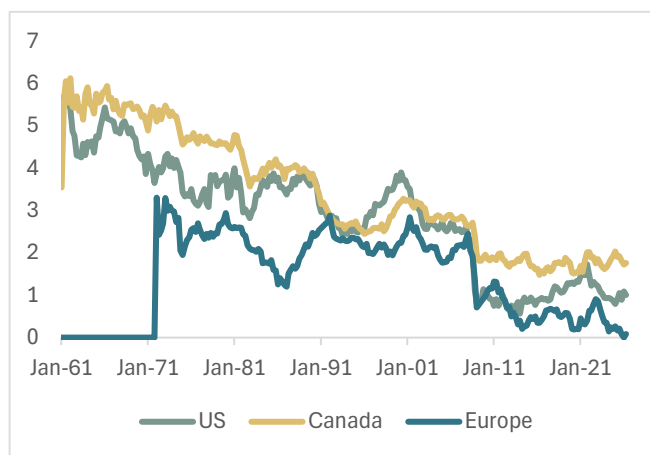
Most analysts attribute some of the long-term decline in r^* to a secular slowing in productivity which reduced the economy's potential growth rate by 2% over the last 60y. As potential growth fell, the economy needed less capital investment to sustain growth and, in turn, r^* fell (Figure 4). This combination of low productivity and low investment is part of a broader “secular stagnation” argument that includes declining fertility rates and aging populations to help explain the long-run, global, decline in neutral rates.⁵

² See, “Some Thoughts on r^* : Why Did it Fall and will it Rise?”, Federal Reserve Governor Waller, May 24, 2024.

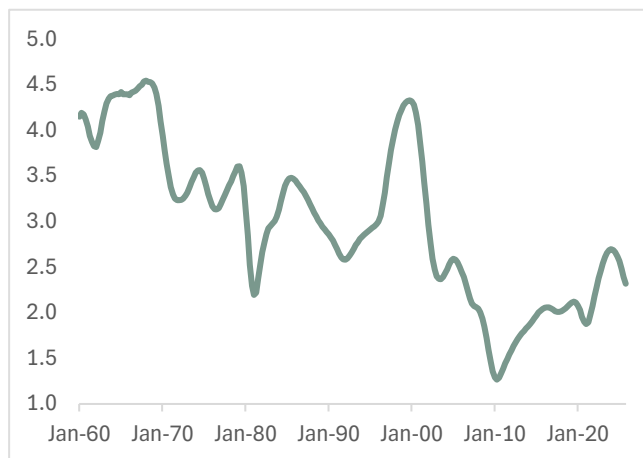
³ See, “Measuring the Natural Rate of Interest after COVID-19”, K. Holston, T. Laubach, and J. Williams, Federal Reserve Bank of New York, June 2023.

⁴ See, “A Window into Bond Investors’ Uncertainty about R-Star”, G. Roussellet, Federal Reserve Bank of New York, Liberty Street Economics, August 4, 2026.

⁵ See, “On Secular Stagnation in the Industrialized World”, L. Rachel, and L. Summers, Brookings Papers on

Figure 3: Structural r^* estimates (%)

Source: Federal Reserve Bank of New York HLW, SMBC Nikko

Figure 4: CBO potential GDP growth (%)

Source: CBO, SMBC Nikko

As investment demand cooled, demographic changes increased the supply of savings. As populations aged and put more aside for longer expected retirements, savings exceeded investment demand. Financial globalization added to the downward pressure on r^* as savings were redistributed from countries running large trade surpluses to the US. The global savings glut in the mid-2000s explained the bond yield conundrum – low US yields despite a strong economy and widening fiscal deficits.

Temporary factors may also have pulled r^* lower. Following the financial crisis, the demand for safe assets (government bonds) increased as investors placed a higher value on principal protection and liquidity. Similarly, post-GFC regulations boosted bank demand for government bonds. Both influences likely added to the downward pressure on term interest rates since 2008.

But is this 50y trend about to end?

AI and r^*

AI will have two effects on r^* . **First, the [rapid buildout](#) of AI-infrastructure requires vast amounts of capital.** Hyperscalers are expected to spend \$770bn this year and another \$1.3trn next year. Importantly for the effect on r^* , only a portion of these expenditures requires new borrowing. That said, hyperscalers account for a disproportionate share of investment grade debt issuance this year. Roughly 40c of each dollar raised in the corporate debt market this year has come from a hyperscaler.⁶ And this year's corporate debt issuance is on track to surpass the record \$1.8trn raised in 2020.

Second, AI is projected to boost productivity although there is a wide range of estimates as to the size of the effect. [Estimated gains](#) over the next decade are between 0.7% and 1.8%. The latter would represent a doubling in the current trend (Figure 5). Evidence of accelerating productivity is so far sparse. But that may reflect the fact GDP is an output measure and doesn't directly measure the enhanced

Economic Activity, Spring 2019.

⁶ Hyperscalers are 5% of the investment grade market.

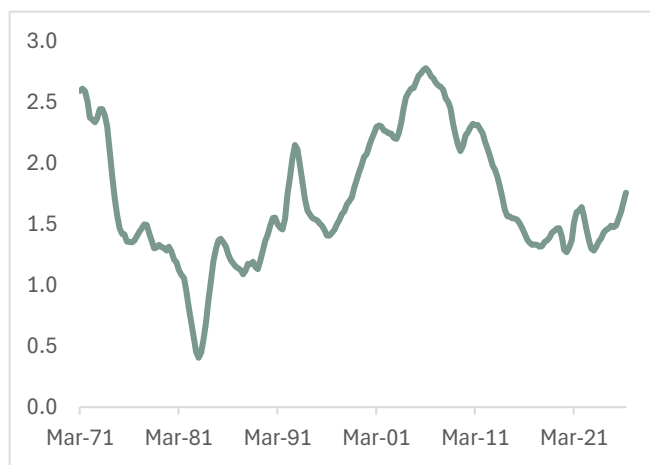
efficiency from using AI in the intermediate stages of production. **That said, faster productivity growth would affect both the investment and savings sides of the ledger – both toward higher r^* .** Higher productivity increases investment returns and spurs investment demand so the demand for financing capital increases. At the same time, more productive workers earn more and save proportionally less. The supply of savings economy-wide declines. Of course, workers made nervous about potential AI job replacement might behave differently by increasing their savings thereby lowering the neutral rate.

The role of AI in the economy has come up several times in Fed Chair Warsh's speeches. Warsh argues that the AI-driven increase in productivity will be a "significant disinflationary force."⁷ And while he is not arguing it will lower r^* , he does acknowledge that higher productivity may allow the Fed to keep rates lower for longer and allow it to run the economy hotter. In his Jackson Hole speech, Warsh posed an interesting question – will future models of AI be as capital intensive as existing ones and could this mean slower demand for capital and less pressure on the neutral rate. Not surprisingly, AI and its broader effects on the economy and productivity are one of this year's task forces.

Treasury debt

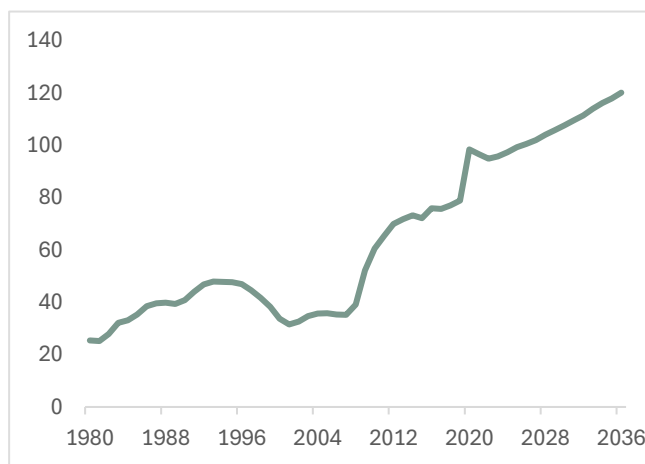
As deficits pile up, Treasury debt as a share of GDP has risen. The Congressional Budget Office expects the debt/GDP ratio to reach 120% by 2036 (Figure 6). Other countries' fiscal imbalances are similarly large so the global supply of savings is being offset by government dissavings. Rachel argues that each percentage point increase in the debt/GDP ratio has on average increased r^* by between 1 and 2bp.⁸ Since the GFC the ratio has increased almost 50% adding between 50 and 100bp to r^* .

Figure 5: 10y average productivity growth (%)



Source: BEA, SMBC Nikko

Figure 6: Debt/GDP (%)



Source: CBO, SMBC Nikko

⁷ See, "In Our Time", Federal Reserve Chair K. Warsh, Jackson Hole Symposium, August 28, 2026

⁸ See "Is the neutral rate of interest getting ready to start climbing after years of decline?", W. Edelberg, L. Rachel, J. Eberly, and J. Steinsson, Brookings Podcast on Economic Activity, transcript, December 4, 2025.

Evidence of higher r^* ?

There are some signs that the neutral rate has increased recently. Market-based measures like the one cited in Fed Governor Waller’s speech have increased 100bp since early 2023. Other measures derived from term structure models and TIPs yields have also increased by similar amounts. Likewise, the median long-run dot in the FOMC’s forecasts has shifted up 50bp over the period. That said, structural measures like the Fed’s HLW model show little or no increase in the neutral rate. Instead, the estimated output gap in the model is close to zero and suggests that the economy is operating near its potential. Outside of the oil price shock prices would be stable.

Christensen and Rudebusch look for signs that AI and fiscal imbalances have pushed r^* higher.⁹ They measure the extent to which news about AI developments and the deficit influence market-derived measures of r^* . **Of the estimated 100bp increase in r^* only 20bp has come from fiscal surprises.** This is consistent with Rachel’s effect of a 1-2bp per percentage point increase in the debt/GDP ratio. **But AI productivity announcements do not explain the remaining 80bp increase in r^* .**

The absence of a larger AI effect is a bit surprising considering the heated projectivity estimates as well as the large amount of capital being raised. Either should account for at least *some* of the 50-100bp increase in r^* since 2023. It is possible that the Christensen and Rudebusch model underestimates the role of AI or that **other, unobserved factors (such as deglobalization and tariffs)**, are pushing the neutral rate higher. Our sense is that their event analysis focuses too heavily on AI software release dates and might be missing some of the “crowding out” effect caused by surging hyperscaler issuance. Since the productivity gains from AI may take some time to emerge, it is unlikely they have begun pushing r^* higher. That said, crowding out effects appear to be small – corporate bond spreads are still tight and Treasury issuance is significantly larger than net corporate supply.

⁹ See “Can Fiscal, AI, or Monetary News Explain the Rise in r^* ?”, J. Christensen and G. Rudebusch, Brookings Institute Working Paper, August 2026.

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