



\$ P N N F O U E

Title:

" 7 K H 7 H U P 6 S U H D G 4)
(D V L Q J D Q G W K H 3 U F
5 H F H V V L R Q

Author(s):

) L O L S S R 2 F F K L Q R

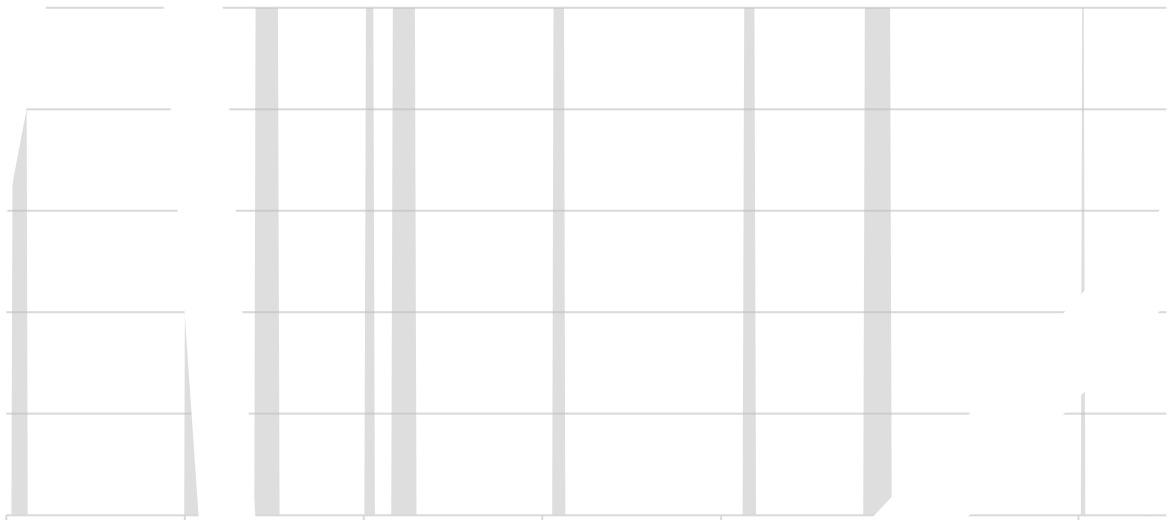
The term spread – the difference between long- and short-term interest rates – has historically been a good predictor of recessions. In this commentary, I explore the idea that its predictive ability has diminished after the introduction of quantitative easing (QE) in 2008. Specifically, term spread may currently *overestimate* the probability that the economy will soon be in recession.

The term spread and the probability of recession

Long-term interest rates tend to be higher than short-term rates, so the term spread (a.k.a., the slope of the yield curve) tends to be positive. When the term spread becomes negative, we say that the yield curve becomes inverted, and an economic recession often follows within a year or so. Figure 1 plots the term spread between the 10-year Treasury bond rate and the 3-month Treasury bill rate. The vertical bars indicate recessions as identified by the NBER. The figure confirms that recessions tend to follow soon after the term spread becomes negative.

More generally, Figure 1 shows that recessions tend to follow periods when the term spread is low or

Figure 2 plots the recession probability computed by the NY Fed and the vertical bars that the figure shows that the recession probability is high during recessions and is low during expansions, confirming that the term spread helps predict economic activity one year



Although the term spread helped predict recessions in the past, it seems to have given a wrong signal recently, as it turned negative at the beginning of 2023 (Figure 1), implying that the recession probability that the economy will enter is higher than the probability that it will not (Figure 2). Meanwhile, other indicators suggest that the economy is far from entering a recession. Most notably, GDP growth has been strong, with annual real GDP growth at a robust 3 percent, well above the trend growth rate of 2.1 percent (Figure 3).

Unlike conventional monetary policy, QE eases financial conditions by lowering long-term rates, not short-term rates. Hence, the term spread does not capture the monetary accommodation provided by QE, thereby understating overall monetary policy accommodation and overstating the recession probability.

To illustrate how QE leads to lower recession probability estimates, I add QE as an explanatory variable in the Probit model of the NY Fed and compute a QE-adjusted recession probability. I measure QE using the ratio of securities held outright by the Federal Reserve to GDP and use plausible parameter values for the effects of QE.³ Figure 5 compares the recession probability computed by the NY Fed model and the recession probability adjusted for QE.⁴

³ There is considerable uncertainty and a wide range of estimates about the effects of QE. A plausible estimate is that QE purchases worth 10 percent of GDP (about \$1.5 trillion in 2008 or \$2 trillion in 2020) ease financial conditions as much as a one percentage point cut in the federal funds rate. I assume that federal funds rate cuts raise the term spread one for one, so QE purchases worth 10 percent of GDP lower the recession probability as much as a one percentage point increase in the term spread.

⁴ Other economists have pointed out that the term spread overstates the recession probability because of QE and have computed QE-adjusted probabilities of recession using different methods. Tomasz Wieladek, 2019, "Do Yield Curve Inversions Still Predict Recessions in the Age of QE?" T. Rowe Price Insights on Global Fixed Income ([https://www.troweprice.coiCtdstttbaR.9 b7 \(2 \\$\)7. 0.9 4\)j9.9 d \(t\). 7S299.9 d94R.9 b,1r Agelte Pnsis](https://www.troweprice.coiCtdstttbaR.9 b7 (2 $)7. 0.9 4)j9.9 d (t). 7S299.9 d94R.9 b,1r Agelte Pnsis)) PE

The figure shows that considering QE lowers the recession probability significantly. While the probability that the economy will be in recession at the beginning of 2024 is above 50 percent