

Macro Focus

June 5, 2018

The Funds Rate Gap as a Predictor of Recessions

Policymakers have become more concerned about an inverted yield curve because a faster pace of rate hikes makes an inversion more likely and because inversions precede recessions. Another recession signal is a rise in the funds rate above its estimated neutral. These signals will often occur together because they both reflect a tightening of monetary policy that is especially aggressive.

Measuring the Funds Rate Gap

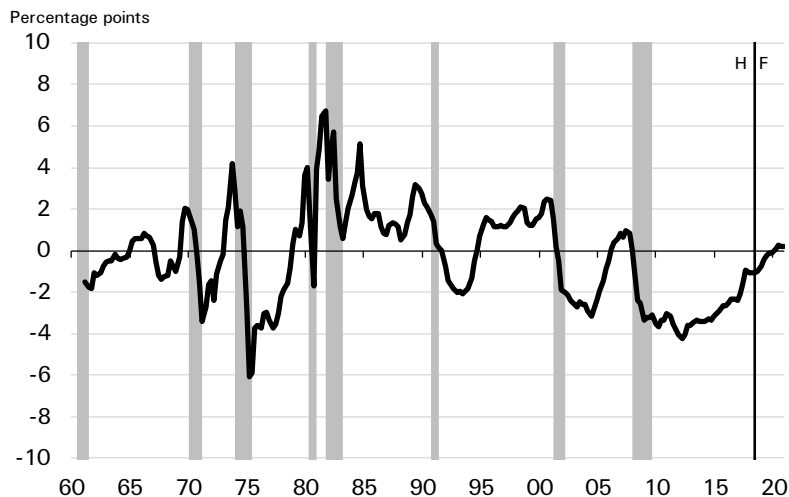
We define the “funds rate gap” as the difference between the real funds rate and the FOMC’s estimate of r-star. We assume r-star was 2½% before 2012 (when the FOMC first reported rate projections), after which we take participants’ median estimate as r-star.ⁱ

When the Funds Rate Moves Above Its Neutral Rate, A Recession Follows

Figure 1 shows the funds rate gap since 1961 with recessions shaded. Every time the funds rate has risen above the estimate of the real neutral rate, a recession has quickly followed. And, over this period, there has never been a recession when the funds rate did not previously move above its neutral rate.

We project that the funds rate will move to ½ percentage point above neutral by 2020.

Figure 1
The Funds Rate Gap, 1961 to Our Forecast



Sources: MPA, FRED. Shared areas denote NBER recessions.

The Funds Rate Gap in a Probit Model

Table 1 shows a probit regression with the funds rate gap as the independent variable. The coefficient on the funds rate gap is positive and significant; the probability of recession increases with the funds rate gap.

Table 1
A Probit Regression with the Funds Rate Gap
as the Independent Variable

Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)
Sample (adjusted): 1961Q1 2015Q4

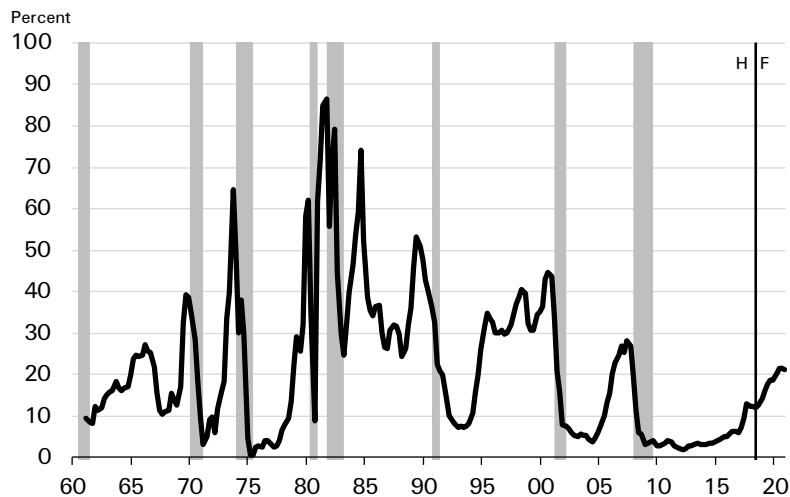
| Variable | Coefficient | Std. Error | z-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|--------|
| C | -0.857272 | 0.107389 | -7.982835 | 0.0000 |
| RGAP | 0.292029 | 0.050092 | 5.829818 | 0.0000 |
| McFadden R-squared | 0.182333 | Mean dependent var | 0.218182 | |
| S.D. dependent var | 0.413953 | S.E. of regression | 0.368880 | |

Sources: MPA, FRED

Figure 2 shows the probability of recession over the next four quarters based on that regression. Based on that regression, the probability of a recession over the next four quarters is only 10% today. In our forecast, the funds rate gap increases and becomes positive by 2019. By 2020, the probability of recession has increased to 20%.

While the probability of recession over the next four quarters is estimated at only 20% in 2020, the probability of recession ahead of the two past recessions was also only about 20% to 30%.

Figure 2
The Probability of Recession Based on Probit Model



Sources: MPA, FRED. Shared areas denote NBER recessions.

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ⁱ That was the estimate that the staff and I used when I was at the Fed. Its value is based on the average real funds rate since 1961, reflecting an assumption that r-star was stable over that period. When the FOMC began to report their estimate of the (real) neutral rate it was 2¼%. That suggests that the 2½% estimate was probably a good estimate through 2011.