Taylor Rules and Monetary Policy

Monetary policy is often described as a rule or strategy for changing the federal funds rate. No rule captures the FOMC’s decisionmaking process perfectly, but the Taylor rule roughly describes its past behavior, offering a benchmark for how it might behave in the future. This rule posits that the Fed raises the funds rate when inflation rises or real output growth exceeds the estimated growth of potential and lowers the rate when inflation falls or real output growth lags the estimated growth of potential.

An estimated Taylor rule of this sort provides a “target” that the FOMC can be thought to approach over time. The current number suggests that the FOMC has tightened more than it has under similar economic conditions in the past. There is evidence, however, that the FOMC only slowly tries to adjust the funds rate to its assumed target; a “partial-adjustment Taylor rule” maps the funds rate’s movements extremely closely.

But any rule depends implicitly on the Fed’s long-term inflation target and the economy’s long-term average real interest rate. The real ex post (after inflation) interest rate is lower today than it was in the mid- to late 1990s. This rate can also be gleaned from the yield on Treasury inflation-protected securities (TIPS), which measures what the market expects real interest rates to average over the next 10 years. The TIPS yield also suggests that real interest rates may have fallen. If the long-term real funds rate has dropped below the (continued on next page)
2.3% estimated in the above rule, the target Taylor rule would be lower than the chart suggests.

The FOMC’s implicit long-term inflation target also influences the Taylor rule, which assumes that the implicit inflation target for core PCE inflation is 2.4%. It is likely, however, that this implicit target has fallen since the late 1980s and is slightly above 1.5%. TIPS provides another clue to the Fed’s implicit long-term inflation target. Since TIPS protects against inflation over the next 10 years, inflation should equal the 10-year yield on nominal Treasury bonds minus the real TIPS yield. This calculation suggests that CPI inflation over the next 10 years should average 2.3%. Since PCE inflation has averaged around \( \frac{3}{2} \) percentage point below CPI inflation, the Fed’s implicit long-term inflation target might be between 1.5% and 2%. This implies a higher target Taylor rule than the chart suggests.

Another important input to the rule is the output gap, but estimating it entails substantial error. The most recent estimate suggests that although output is below potential, it is nearly stable, but that estimate is heavily influenced by the 2006:IIQ slowdown in GDP. This may be an aberration, however. If the gap were shrinking at the same rate as in previous quarters, the target Taylor rule would be nearly 150 basis points above the current estimate of 2.6%.

Yet another estimate of where the target Taylor rule might head can be made by assuming that inflation over the next three quarters will be 2.84%, as in the most recent quarter. This suggests that the target Taylor rule might be 90 basis points above its current level.