## **OPINION**

## **Getting Back Into Equilibrium**

BY JOHN A. WEINBERG

hovering at very low levels, near zero, since the Great Recession. But not everyone may understand just how remarkable this is historically. Between 1954 and 2007, there were only four instances when the effective federal funds rate dipped below 2 percent, the most recent being late 2001 to late 2004. In none of those cases did it approach zero, let alone stay there for years. Something similar is happening to longer-term rates, which are affected by a broader array of external factors such as international demand for U.S. debt. The yield on 10-year Treasuries, for example, dropped below 2 percent for the first time in 2012 and has recently been averaging around 1.5 percent.

Part of this trend has to do with the fact that inflation has been subdued for a long time. That has affected expectations of future inflation, which in turn are reflected by low nominal rates. Here we see something even more usual: negative rates. For example, the yield on the five-year Treasury indexed for inflation has not just been low by historical standards, but below zero for much of the post-2009 recovery.

In part to understand this phenomenon, many economists have turned their attention to the "equilibrium" or "natural" real rate of interest. Roughly speaking, this is how economists capture the rate at which people can trade consumption in the future for consumption today, taking into account the fundamentals driving the growth of consumption over time. It's at "equilibrium" in the sense that people's desired consumption plans are consistent with this rate of exchange.

In contrast to the nominal or real interest rates for which we have data, the equilibrium rate is not directly observed. Instead, economists offer competing models that try to estimate this rate by using a variety of inputs (for example, productivity, demographics, and the potential for long-run growth). In general, though, these models try to express the rate as the relationship between the current real interest rate and the expected growth of consumption.

This relationship is imprecise, but it serves as one useful benchmark for a central bank in gauging whether real rates are too tight, too accommodative, or just right. When a central bank needs to adjust policy — say, by responding to a spike in inflation — it generally tries to make sure that the benchmark rate tracks this equilibrium rate. The equilibrium rate is what an inflation-targeting central bank can pay attention to in setting its policy rate in pursuit of its macroeconomic objectives. And this is especially true if the central bank conducts its monetary policy by applying some version of a Taylor rule, which ties the desired benchmark rate to measures of economic activity and prices.

So where is the equilibrium rate today? Most models find that it's very low by historical standards but still higher than a few years ago. For example, the well-known Laubach-Williams model estimates the equilibrium rate at around zero now. That's sharply lower than the long-run historical average between 2 percent and 4 percent but slightly higher than it was a few years ago. Two of our economists, Thomas Lubik and Christian Matthes, recently compared the Laubach-Williams model to an alternative that has fewer theoretical restrictions, yielding somewhat different estimates but a very similar trend: First, the equilibrium rate is higher than the real interest rate; second, there has been a positive gap between the real and equilibrium rates since the Great Recession. This finding implies that monetary policy is still in a period of accommodation, if perhaps less so than a few years ago.

Some historical perspective can also help with another point. During the Great Moderation — the mid-1980s until the Great Recession — the Fed generally tried to follow the equilibrium rate while responding to deviations of inflation from the Fed's goal, as well as to deviations from the Fed's assessment of maximum sustainable employment or potential growth. Today, given that unemployment has dropped from around 10 percent to around 5 percent and inflation is rising but still (slightly) coming up short of the Fed's long-run average target of 2 percent, that historical behavior would suggest that the Fed doesn't need to move that much away from current estimates of the equilibrium rate.

Where the long-term equilibrium rate *should* be, however, is up for debate. Most current forecasts see the long-run equilibrium rate as around 3.75 percent, with 2 percent for inflation and 1.75 percent as the real return on investment. But economists are divided over whether this is accurate or whether this should be lower to reflect more muted prospects for long-run consumption growth. Some point to suppressed aggregate global demand, others to a global savings glut, or a mix of other reasons. But whatever the case may be, the prospect of very low real rates lagging behind the equilibrium rate for an extended period is a real risk, as it could eventually feed into rising inflation and distortions in financial markets.

In our recently published annual report, we explore some of the arguments for why we might expect lower growth to endure. While we remain reasonably confident about growth picking up in the long run, the essay raises the prospect of what may happen if sluggishness persists in the short to medium run. In our view, this scenario may hold down the path for the equilibrium rate. This challenge is something that will have to figure into the Fed's rate-setting decisions.

John A. Weinberg is senior vice president and special advisor to the president at the Federal Reserve Bank of Richmond.