Fed Thoughts:
The Moving Target That Is The Equilibrium Real Rate

At the climax of the play Peter Pan, the audience is asked to clap to revive the dispirited Tinker Bell. Only such a show of belief can save the dying fairy. Over the past few weeks, investors tried the financial market equivalent to bring life back to the flagging fortunes of Federal Reserve firming at the FOMC meeting scheduled for September 20th and 21st. Some even talked up the possibility that the last speaker before the black-out curtain dropped, Governor Lael Brainard, would deliver a hawkish warning of imminent action. To her credit, the governor squashed those forlorn hopes quickly with the first four words of her prepared remarks. Expecting a rate hike soon? The appropriate time horizon of monetary policy action, the governor explained, is “in the months ahead…”, not evidently next week.¹ FOMC participants will have a full and frank exchange of views on Tuesday and Wednesday, release the prior meetings’ statement with a revised date at the top, and send out their chairwoman to explain at her press conference that all decisions are data dependent and made meeting by meeting.

Any news will come from the details of the forecasts of Fed officials. Their outlook is likely to be pretty conventional and not much revised, much like our own, although the Summary of Economic Projections will once again gloss over some of the awkward bits of the story. The fact is that over the past three months, economic data surprises have about netted to zero (as in the chart below), consistent with the feeling that we have run around a big circle to wind up back to where we were in early June. Now, as then, an accommodative Federal Reserve, supportive financial conditions, and steady-enough commodity prices serve as the foundation to center spending growth in a channel around 2 percent for the remainder of the year. At such a slow pace of expansion, random acts of nature and lumpy adjustments buffet quarterly real GDP growth within this channel, as witnessed by the first and second quarters scraping bottom and this quarter tracking 3 percent. The first half is bygones when it comes to calculating annual growth, which we think will be 1.7 percent on average this year. This expansion of real GDP is above that of its potential, eliminating any remaining sliver of resource slack and putting inflation on a track to overshoot the Fed’s goal of 2 percent next year.

Our operative model of FOMC functioning is one of delay at the top of the pyramid. Tightening has to be extracted from the reluctant chair by the rest of her restive committee. Chair Yellen accedes, on occasion, because showing a willingness to tighten keeps her colleagues at bay. Delay, however, will keep the funds rate lower for longer, accomplishing most of what she wants in testing the upper limit of labor-market utilization.

Right now, many Fed officials are getting restive about delay, as witnessed by the torrent of talk about the need to tighten following the Federal Reserve Bank of Kansas City’s Jackson Hole Symposium. We think that Chair Yellen will find a way to put them off for a time, but not forever, especially since they have been consistently forecasting at least one tightening in 2016.

If one firming is in store this year, it makes sense to pencil it in for December. The FOMC will get a free look at the November election, giving monetary policymakers a better sense of the likelihood of fiscal impetus in 2017. In addition, for a dovish leader, a tightening deferred may never come. Merely reporting in the SEP that the preponderance of FOMC participants still expect at least one hike by year end will get expectations aligned to that outcome, limiting the market move when it action comes, and hold the chair’s feet to the fire to deliver.

Meanwhile, the SEP provides a vehicle to convey tightening will be glacially slow. There is some room to mark down their assessment of real GDP growth in the long run, which now centers at 2 percent. Our own view is that aggregate supply is expanding at a 1-1/2 percent clip, which aligns with that of the Congressional Budget Office. Moreover, growth has been slow for some time, implying that resource slack is in our history, not our future.

The growth of potential output determines the slope of the paths of households’ expected income and businesses’ expected earnings. A shallower path associated with slower potential output growth inclines households to save more and firms to invest less. The market-clearing outcome is a lower real interest rate in the long run. And that is not just in theory, but it is also in the data. The chart below shows the comovement of the CBO’s assessment of potential real GDP, the solid line measured along the right axis, and the real federal funds rate, the dashed line measured along the left axis. The major swings in growth correspond to swings in the real fed funds rate, especially evident in the drop in both since the mid-1980s.

The relationship shows through in the regression reported below, estimated using quarterly data from 1954 to 2016, which can be thought of as an inverted aggregated demand relationship explaining the output gap in term of the real interest rate and the growth of aggregate supply. I also included NBER dates of economic recession on the notion that behavior might be different around those events. Note that the growth of potential real GDP enters this relationship with a coefficient of about one. Marking down long-run growth would seem to require marking down the real rate expected to prevail in the long run about as much.
Explaining The Real Effective Federal Funds Rate

1954:Q2 to 2016:Q2

as explained by:

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\begin{array}{cccc}
\text{CBO} & \text{Constant} & \text{Output Gap} & \text{Growth of Potential Output} & \text{NBER Dated Recessions} \\
\text{Estimate} & -1.66 & -0.01 & 1.02 & -0.86 \\
\text{t-statistic} & -2.82 & -0.12 & 5.62 & -2.04 \\
R^2 & 0.16 & & & \\
\text{Number of observations} & 244 & & & \\
\end{array}
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Notes: The real funds rate is calculated as nominal funds rate less four-quarter backward-looking CPI inflation. Data sources are described in the chart note.

Indeed, we can use this relationship to calculate the equilibrium real rate by appreciating that the resource gap should be closed and there are no recessions in the long run. The dashed line plots this measure, along with the ex post real federal funds rate, both smoothed to eliminate some of the high-frequency noise.

**Actual and Equilibrium Real Federal Funds Rate**

Two-year moving averages, percent

![Equilibrium and Actual Real Federal Funds Rate](image)

Source: CBO, NBER, and Standish calculations, accessed via FRED, 9/11/16. The real fed funds rate is calculated as the nominal rate less one-year backward-looking consumer price inflation. The equilibrium real rate comes from the estimated fund rate.

A few observations lend a little credence to the numbers. First, periods of relatively rapid potential output growth are associated with relatively high readings on the equilibrium real rate as seen in the mid-1980s and late 1990s. Second, Paul Volcker ran a remarkably tight monetary policy, with the actual funds rate tracking well above its equilibrium, in order to reduce inflation. And, third, as John Taylor has complained, monetary policy was accommodative in the run-up to the financial crisis. However, it is worth noting that the intercept in Taylor’s policy rule on the appropriate setting of monetary policy is assumed to be a constant 2 percent, which can also be thought of as the equilibrium real federal funds rate. The moving estimate shown in the chart began dropping below that value around 2001, so the policy excess—the gap between the actual and this estimate of equilibrium—is not as large as Taylor contends.

If FOMC participants were to catch up to the CBO’s assessment of potential output, they would shave ½ percentage point from their assessment of real GDP growth in the long run. That would also justify extending the downward drift of dots in the chart showing the appropriate path of the federal funds rate. Such a move is probably too far a bridge to expect Fed officials to cross, as the evidence pattern has been of only incremental adjustments to the SEP. But it is likely the direction they will head, and would effectively be guiding the front end of the yield curve higher—by pricing in a December rate hike—and the back-end lower—by cutting the long-run anchor to nominal rates.

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