INVESTMENT INSIGHTS

Analysis, Insights and a Different Perspective

September 2023

STAR TRACKING:
DECODING THE FED'S POLICY

The Federal Reserve is increasing rates to deal with rising costs. They've set the rate between 5.25% and 5.50%, and it is expected to hit 5.6% by the end of the year. This increase has made many investors nervous because higher rates can slow down business activity.

Economists use the R-star concept to determine if the Fed's rate is helping or hindering the economy. Essentially, R-star is the interest rate at which the economy operates at its full sustainable level. Since the economy is complex, we cannot directly observe R-star. Instead, economists use methods to estimate it, so let's dive into some of these methods to see how they stack up against current rates.

KEY POINTS

- The Federal Reserve is raising interest rates — with projections reaching up to 5.6% by year-end — in response to rising costs, sparking worries in the market that higher rates may decelerate business activities.
- To evaluate the interest rates, economists utilize the R-star, an unobservable interest rate at which the economy is not stimulated by low rates or decelerating from high rates.
- These approaches suggest that the economy's rates are near their neutral level or R-star, so Fed actions from here will be crucial in determining the economy's direction.

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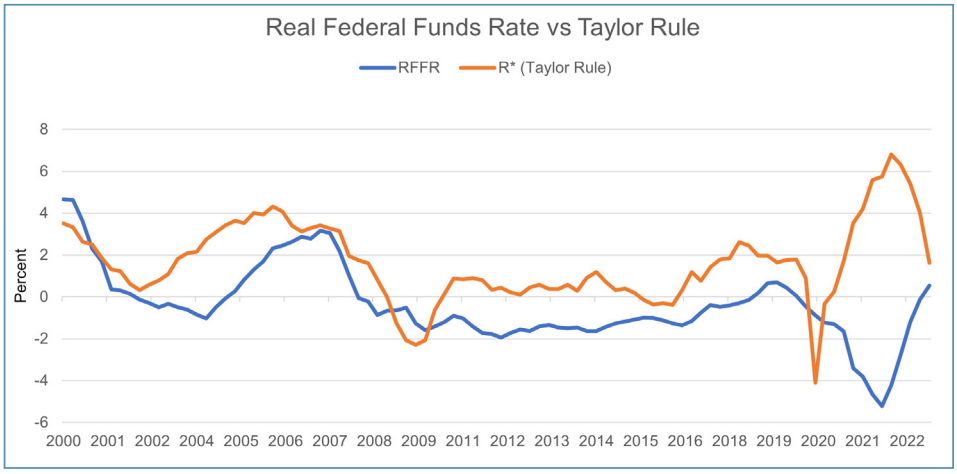
TAYLOR RULE

The Taylor rule is one popular way of estimating the appropriate short-term rate, or R-star (R*). Named after Stanford economist John Taylor, this estimate considers the current inflation rate and economic strength in predicting the short-term neutral rate. As you can see in the graph below, as inflation rose post-pandemic, the Taylor rule suggested that the Fed should increase its short-term rate. Today, the short-term rates are close to what is suggested based on this estimation. As inflation declines and the economy slows, the Taylor rule will likely suggest a reduction in the short-term rate, which may contradict the Fed's near-term policy of holding rates study.

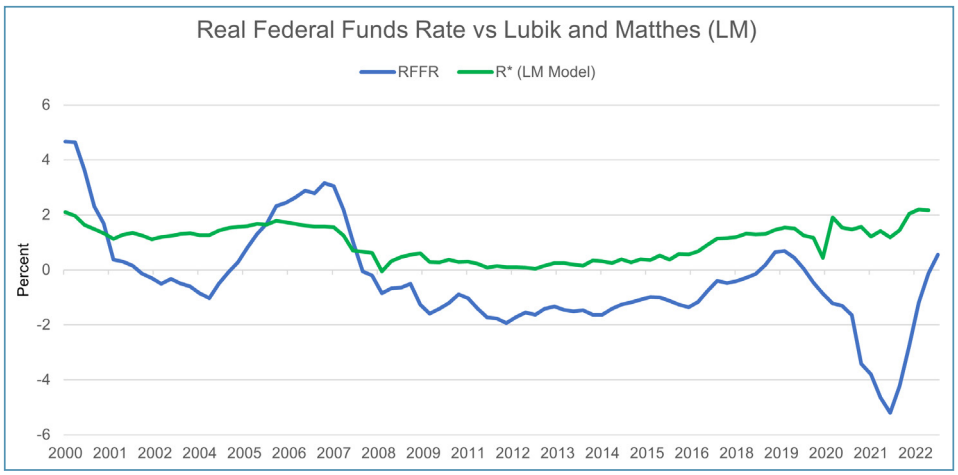


Source: Christian Zimmermann at FRED. Note that the Taylor rule generally compares the nominal federal funds rate. Here, we subtract inflation to compare it with the real federal funds rate, which is inflation-adjusted.

The strength of the Taylor rule is that these data inputs are readily observable. However, one key weakness of this approach is that many consider it too simplistic because it does not capture the complexities of an economy. Still, the benefit of this approach is that it offers a transparent and consistent framework for gauging Federal Reserve policies.

LM MODEL

Other researchers have taken different approaches to estimating R-star. Economists Thomas Lubik and Christian Matthes (LM) used a statistical approach in assessing R-star by modeling various economic variables as a function of their own history.[1] One notable strength of this approach is that it allows economic variables to vary over time. While the LM model uses an advanced statistical approach in estimating R-stars, it also uses a relatively simple economic model, making it streamlined overall. The LM approach focuses on how economic variables move together from a statistical perspective and remains fairly agnostic on the structural relationship between these economic variables.[2] This model's approach to interest rates is shown in the graph below. As you can see, compared with the Taylor rule, this approach shows a larger gap between the R-star and the current short-term interest rate.



Source: FRED and Richmond FED. Note that the median estimate of LM R* is shown here.

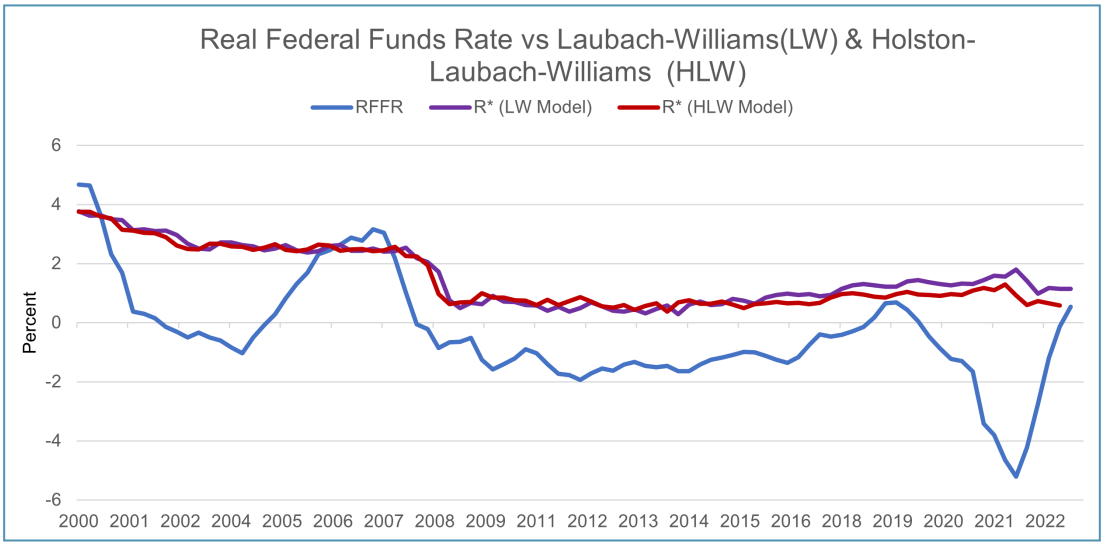
1 They used a time-varying parameter vector autoregressive (TVP-VAR) model.
2 Thomas A. Lubik and Christian Matthes at Richmond FED.

LW & HWL MODELS

Finally, the most popular approach for estimating the R-star among economists is the Laubach-Williams (LW) estimate. Named after economists at the Federal Reserve, this estimate uses the Dynamic Stochastic General Equilibrium (DSGE) approach. While this type of model is popular in economic circles, it is not particularly well known among the general public. To simplify, let us break down some of the key components of this model:

- **Dynamic:** It presents a moving picture, like a movie, instead of a snapshot, or photo, of an economy because this model tracks how the economy changes over time.
- **Stochastic:** Just like a good movie has unpredictable plot twists, so does the economy's path. This model factors in the random shocks or events that occur in an economy.
- **General Equilibrium:** Think of this model like a puzzle; it uses each piece of the economy like an inter-connected puzzle.

The original LW approach was extended by an additional researcher, Kathryn Holston. Whereas the LW model was developed using U.S. economic data, the updated Holston-Laubach-Williams (HWL) model added international data to refine its approach. Both estimates of R-star can be seen below. As you can see, compared to the other approaches discussed above, both LW and HWL models suggest that the short-term rate is relatively close to R-star. This, in turn, suggests that the current stance of economic policy is approximately neutral.

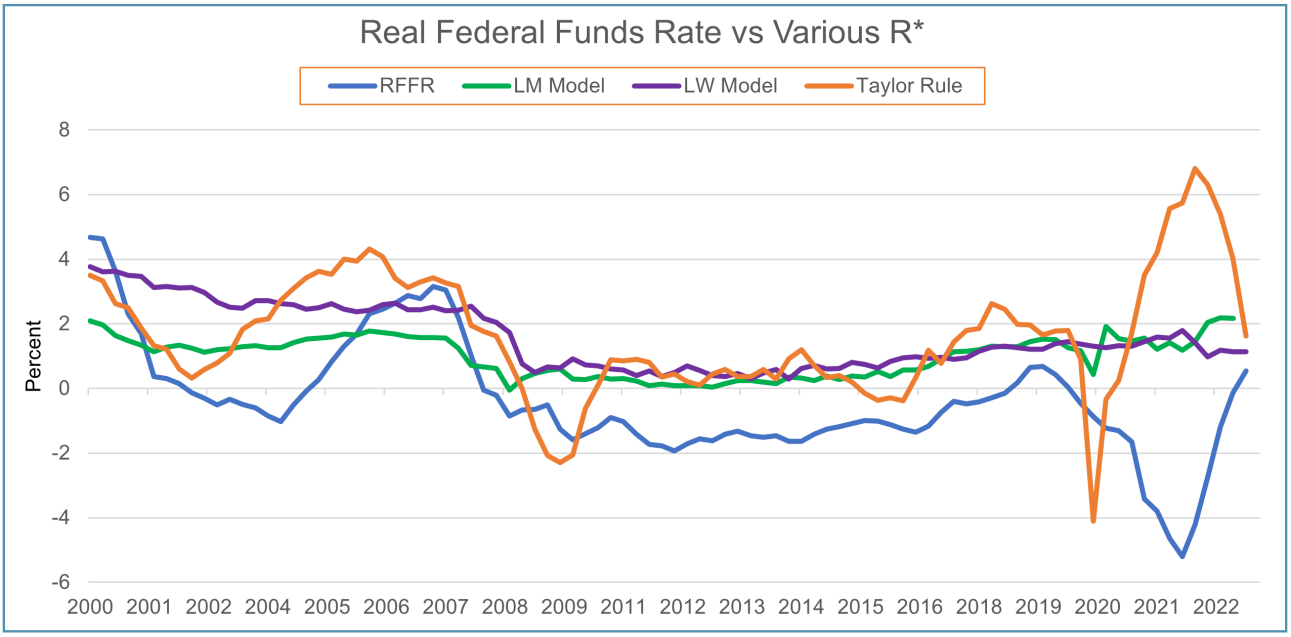


Source: FRED and New York Fed. Note that the LW model is calculated using real GDP, inflation, and the federal funds rate to find R*. HLW model is similar to LW but also incorporates international trends.

CONCLUSION

While the R-star remains unobservable, economists have developed a range of approaches to approximate it. The three different approaches discussed here have different strengths and weaknesses. The Taylor rule, although transparent, may be deemed too simplistic to capture the complexities of the economy fully. The LM model uses statistical rigor but remains relatively agnostic on the relationship between economic variables. Finally, the LW and the refined HWL models use a DSGE approach, which, while the most popular among economists, remains inaccessible to most people.

As you can see in the graph below, the consensus suggests that current short-term rates are either at or approaching the rate of neutral interest. Overall, these estimates indicate that how the economy evolves from here will depend greatly on the Fed's near-term actions.



Source: FRED, New York Fed, Richmond Fed. Note HLW is not shown here.