One Equation to Understand the Current Monetary Policy Debate

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Introduction

Economists love equations

- We economists love equations.
- I have noticed that audiences tend not to like equations nearly as much as I do.
- To provide a balance between what I like and what you like, and also to allow for the early morning hour, here we will look at just one equation.
- We will eliminate terms in this equation, one by one, until it reveals the essence of the current monetary policy debate.

A new regime-based approach

- The St. Louis Fed recently changed its approach to near-term U.S. macroeconomic and monetary policy projections.
  - J. Bullard, "Normalization: A New Approach," remarks delivered at the Wealth and Asset Management Research Conference, St. Louis, Aug. 17, 2016.
  - Wharton Business Radio interview, Aug. 12, 2016.
  - J. Bullard, "A Tale of Two Narratives," remarks delivered at the Gateway Chapter of NABE, St. Louis, July 12, 2016.
  - J. Bullard, "A New Characterization of the U.S. Macroeconomic and Monetary Policy Outlook," remarks delivered at the Society of Business Economists Annual Dinner, London, U.K., June 30, 2016.
  - J. Bullard, "The St. Louis Fed's New Characterization of the Outlook for the U.S. Economy," Announcement, June 17, 2016.
  - All are available on my webpage under "Key Policy Papers."

This talk

- In this talk, I will discuss how a single equation can describe much of the state of the current monetary policy debate, and simultaneously, how the St. Louis Fed's new approach fits within this one-equation format.

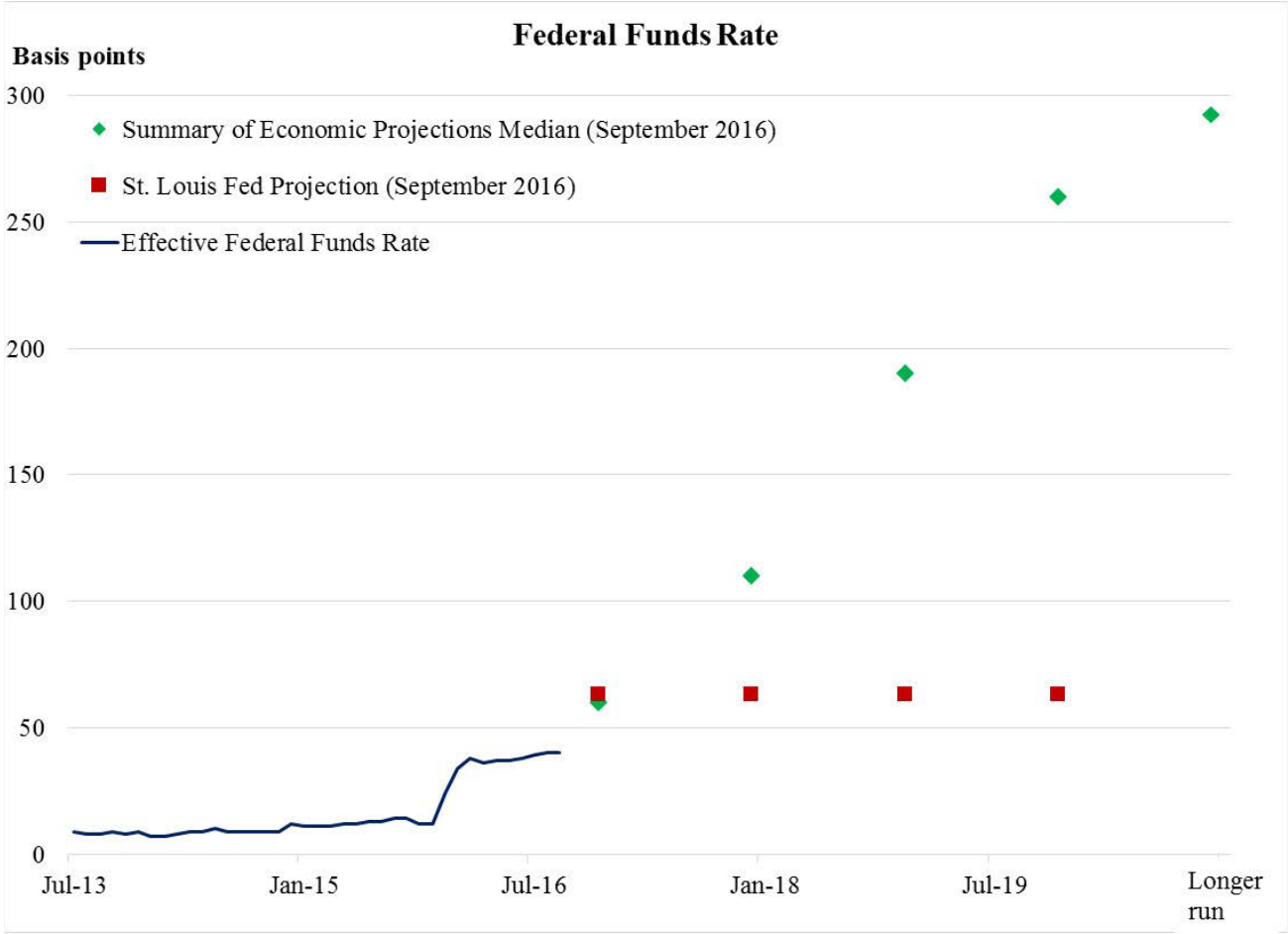
- The bottom line: Low interest rates are likely to continue to be the norm over the next two to three years.

The Monetary Policy Problem

How should the policy rate be set?

- The Federal Open Market Committee (FOMC) operates by setting a short-term nominal interest rate, which I will call the policy rate. This rate then influences all other nominal interest rates.
- The current policy rate setting is just 38 basis points, extraordinarily low by postwar historical standards.
- The FOMC is considering raising the policy rate to a somewhat higher level.
- The St. Louis Fed's rate path projection is much flatter than the rest of the Committee.

The policy rate path dichotomy



Source: Federal Reserve Board and author's calculations. Last observation: September 2016.

The Taylor-type policy rule

- John Taylor of Stanford University is famous for his work on what has come to be known as the "Taylor rule."
- This rule provides a recommended setting for the FOMC's policy rate based on current values of observable macroeconomic variables.
- In some macroeconomic analyses, versions of the Taylor rule can provide an approximation to optimal monetary policy.
  - The rule is very credible in this sense.
- I will use a version of Taylor's equation to guide our discussion of why rates are so low today.

The Taylor rule as a simple equation with four terms

- A Taylor-type rule can be written as:

$$i = r^{\dagger} + \pi^{*} + \phi_{\pi}\,\pi^{GAP} + \phi_{u}\,u^{GAP}$$

- On the left-hand side is the object of interest, the short-term nominal policy rate set by the FOMC, denoted as *i*. The equation recommends a current value for *i*.
- On the right-hand side are four terms. The point of this talk is to argue that one of these terms, $r^{\dagger}$, is most interesting in the current macroeconomic environment.
- The parameters ϕ_{π} and ϕ_{u} are positive constants that will not matter for the argument made here, so they can be ignored.

Gaps Close to Zero

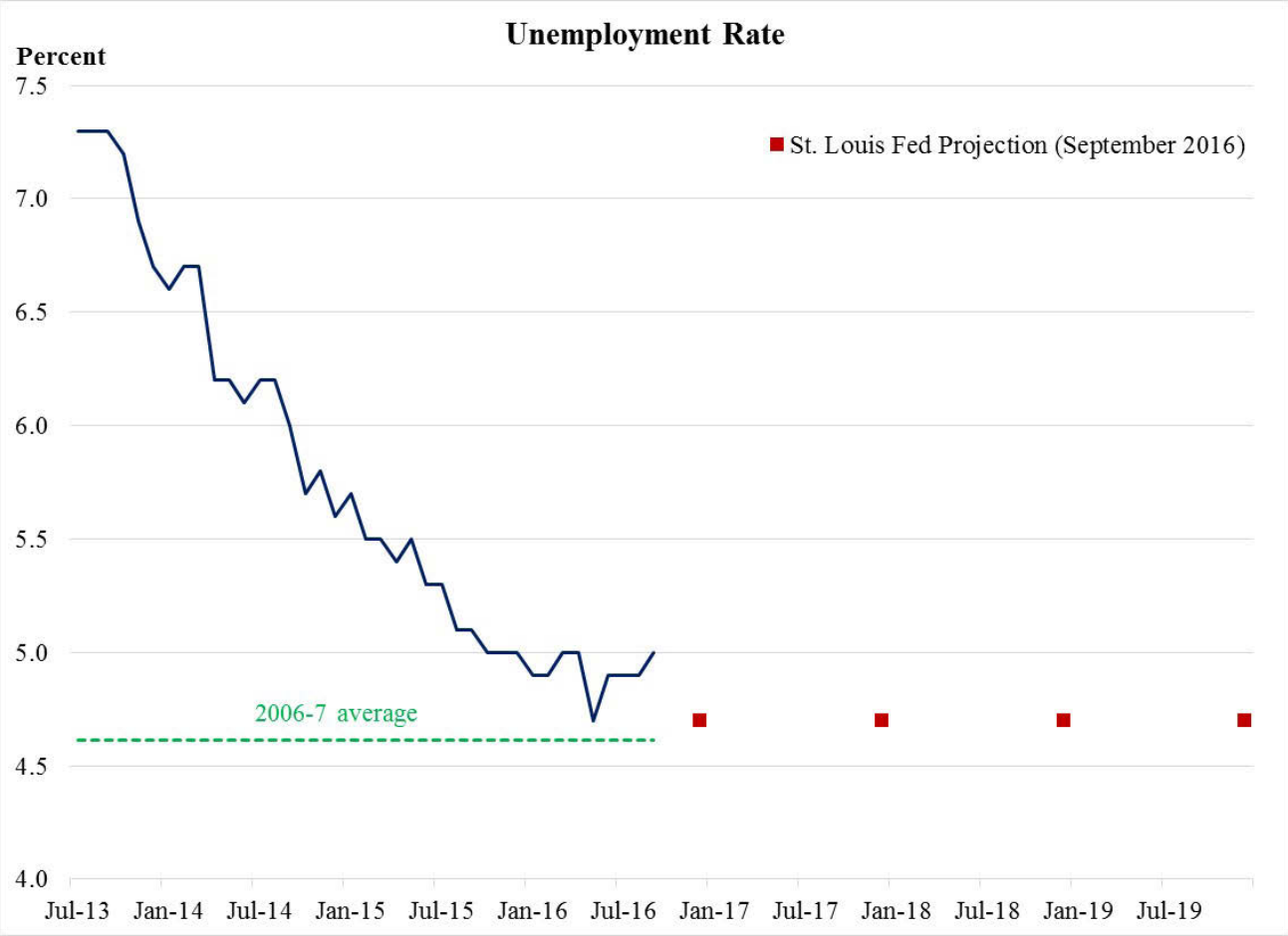
Eliminating gap terms

- We have the Taylor rule written as:

$$i = r^{\dagger} + \pi^{*} + \phi_{\pi}\,\pi^{GAP} + \phi_{u}\,u^{GAP}$$

- The last term on the right, u^{GAP}, represents the distance between the unemployment rate and what the Committee views as a normal rate of unemployment.
- This gap is essentially zero today, so this term falls out of the calculation.
- Broader measures of labor market performance, as captured in a labor market conditions index, also suggest good labor market performance.

Unemployment has declined to a low level



Source: Bureau of Labor Statistics and author's calculations.
Last observation: September 2016.

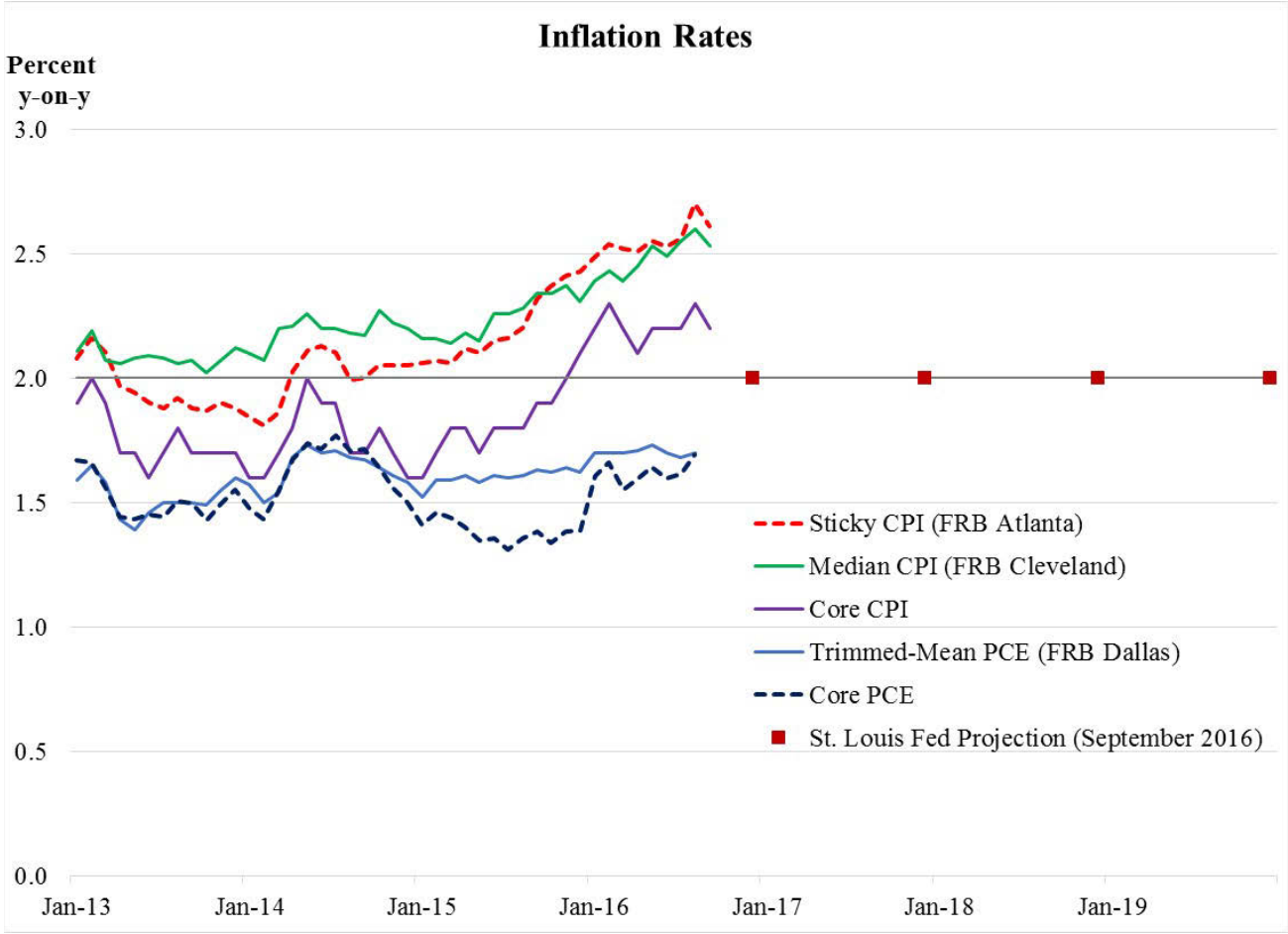
Eliminating gap terms

- Now we have the Taylor rule written as:

$$i = r^{\dagger} + \pi^{*} + \phi_{\pi}\,\pi^{GAP}$$

- The last term on the right is now π^{GAP}, which represents the distance between the current inflation rate and the Committee's inflation target of 2 percent.
- Inflation has been below target in recent years, due in part to commodity-price effects. Net of those effects, this gap is relatively close to zero today as well.
- As a consequence, this term also falls out of the calculation.

Smoothed measures of U.S. inflation are close to 2 percent



Source: Bureau of Labor Statistics, FRB Cleveland, FRB Atlanta, Bureau of Economic Analysis, FRB Dallas and author's calculations. Last observations: August 2016 (PCE) and September 2016 (CPI).

The inflation target term

- Now we have the Taylor rule written with just two terms on the right-hand side:

$$i = r^{\dagger} + \pi^{*}$$

- The last term on the right is now π^*, which is the easiest term of all—it is just the inflation target of 2 percent.
- I want to talk in terms of basis points—one basis point is one one-hundredth of a percent.
- Therefore, I will put in 200 for the inflation target.
- This leaves only $r^{\dagger}$ to be deciphered.

The Short-Term Real Interest Rate

The real interest rate term

- The Taylor rule is now just:

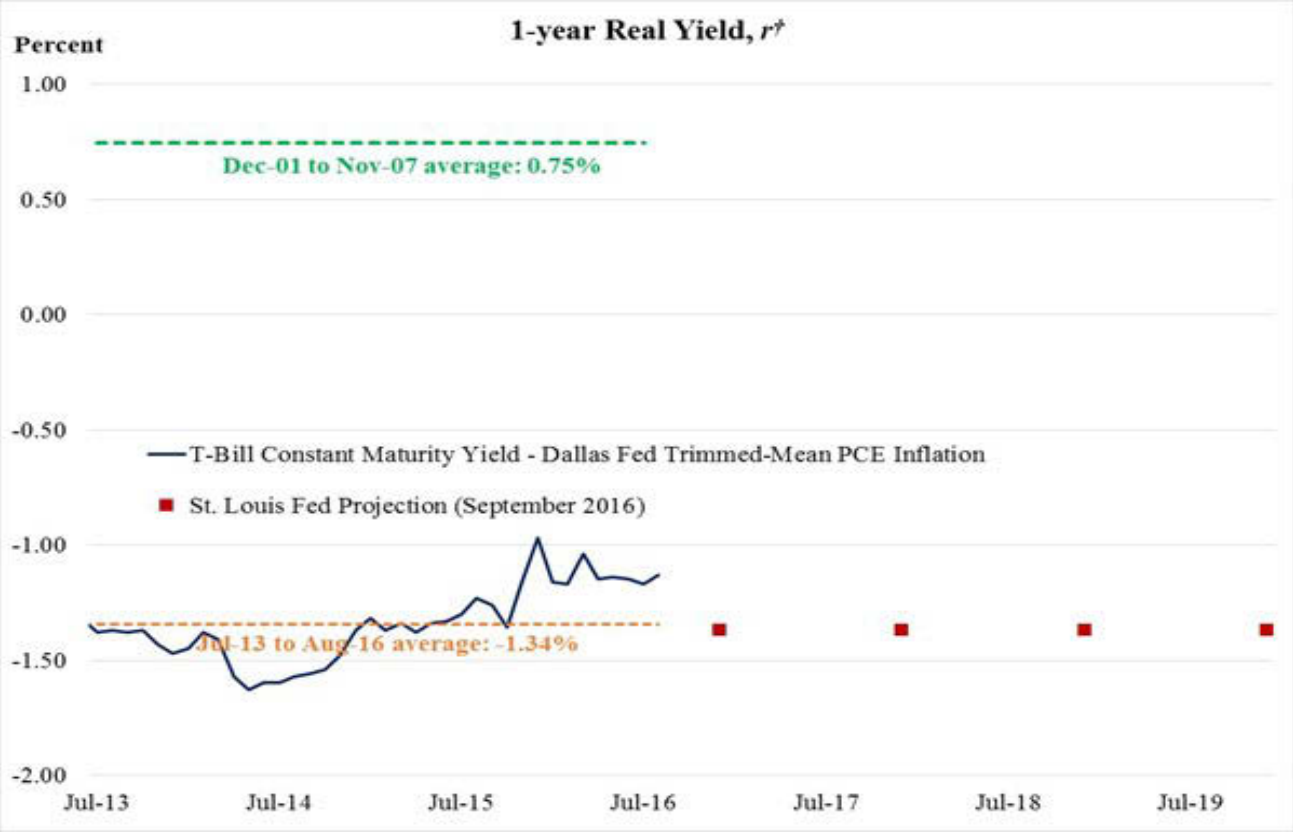
$$i = r^{\dagger} + 200$$

- The term $r^{\dagger}$ on the right is the real interest rate on safe, short-term assets like short-term government debt.
- While the Fed is thought to be able to influence real rates over short periods of time, perhaps a few quarters, over longer time periods real rates are determined by market forces.

Measuring the real interest rate

- One simple way to measure the real return on short-term safe assets is to consider the one-year nominal Treasury security and subtract a one-year smoothed inflation rate from it.
- This produces an ex-post one-year real return on a safe asset.
- There are other methods of calculation, but this one is simple, model-free, and uses a relatively short maturity that allows use of year-over-year inflation measures.

Real rate of return on short-term government debt, $r^{\dagger}$



Source: Federal Reserve Board, FRB of Dallas and author's calculations. Last observation: August 2016.

Real returns are a lot lower than they used to be

- The real rate of return on safe assets measured this way has been more than 200 basis points lower in recent years as compared to the 2001-2007 expansion.
- This goes a long way toward explaining why the policy rate is low today.
- Furthermore, it seems unlikely that the real rate of return on safe assets will return to its historical level over the next two to three years.
- At the St. Louis Fed, we call this a "low-real-safe-rate regime."

What does the Taylor-type rule recommend?

- I have argued that the gap terms in the Taylor-type rule are small.
- I have also argued that the $r^{\dagger}$ term is low and is unlikely to change over the forecast horizon.
- The Taylor-type rule now reads

$$i = -134 + 200 = 66$$

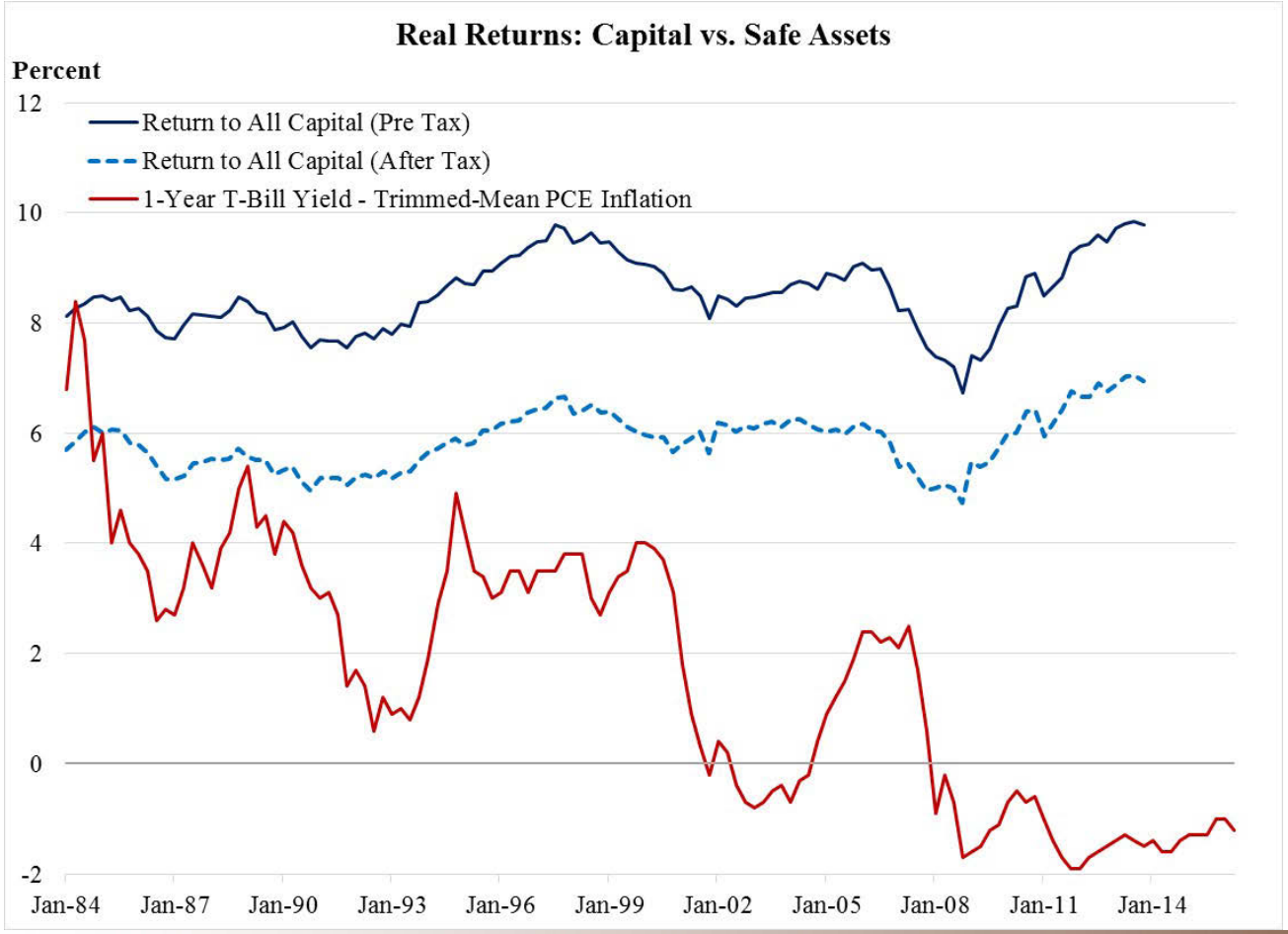
- The St. Louis Fed's conclusion is that a single 25-basis-point increase in the policy rate–from 38 to 63 basis points–will get us very close to the Taylor rule value over the forecast horizon.

Why Are Real Returns Low?

Other aspects of the current regime

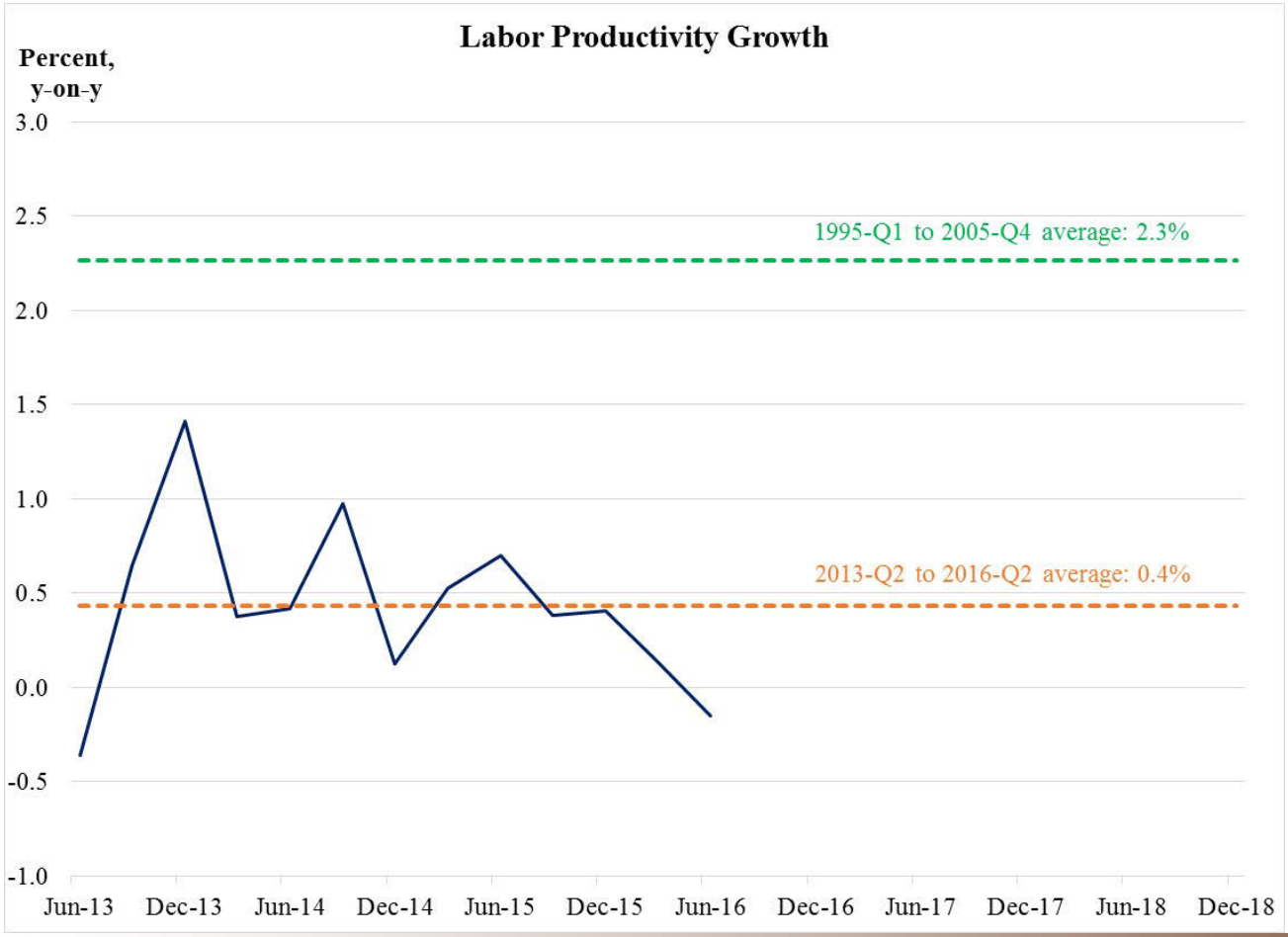
- The reasons behind the exceptionally low real rate of return on safe assets have been widely debated.
- I have three remarks on this issue:
  - Real rates of return on safe assets have been declining relative to the real return on capital in the U.S. for several decades.
  - We are in a low-productivity-growth regime in the U.S., which is putting downward pressure on real safe rates of return.
  - We are also in a high-liquidity-premium regime, in which investors are willing to pay premium prices for safe assets like government debt. This is also putting downward pressure on real safe rates of return.

Real returns on capital and safe assets



Source: P. Gomme, B. Ravikumar and P. Rupert. Secular Stagnation and Returns on Capital. *FRB of St. Louis Economic Synopses No. 19, 2015; Federal Reserve Board, FRB of Dallas and author's calculations.*

The high- and low-productivity-growth regimes



Source: Bureau of Labor Statistics, Bureau of Economic Analysis and author's calculations.
Last observation: 2016-Q2.

Conclusion

Conclusion

- I used a single equation, a Taylor-type policy rule, to illustrate a key issue in the current monetary policy debate.
- Because unemployment and inflation are relatively close to their long-run values, the recommended policy rate from a Taylor-type rule depends mostly on the real safe rate of return.
- Real safe rates of return are exceptionally low at present and are not expected to rise soon.
- This means, in turn, that the policy rate should be expected to remain exceptionally low over the forecast horizon.

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