The Central Bank of the Future:
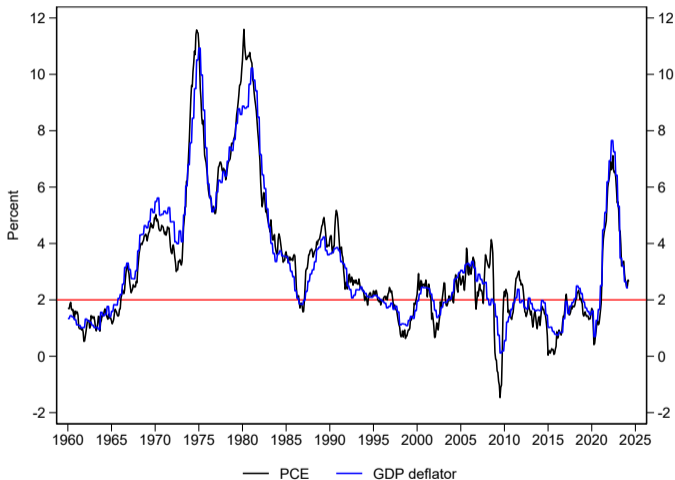# Challenges for monetary policy and its communication

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The Central Bank of the Future: Opportunities and Challenges
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The post-pandemic inflation in historical context

Alternative measures of inflation for United States.
Year-on-year, monthly for PCE, quarterly for GDP deflator.

Challenges for monetary policy strategy and its communication

▶ Two interrelated challenges for monetary policy and its communication:

  ▶ The pretence of knowledge.
  ▶ The proclivity for discretion.

▶ The promise of simple policy rules:

  ▶ Simple rules can protect against imperfect knowledge.
  ▶ Simple rules can discipline discretion and promote systematic policy
  ▶ Simple rules can facilitate coherent policy communication.

The pretence of knowledge

It seems to me that this failure of the economists to guide policy more successfully is closely connected with their propensity to imitate as closely as possible the procedures of the brilliantly successful physical sciences-an attempt which in our field may lead to outright error.

Friedrich von Hayek, The Pretence of Knowledge, Nobel prize lecture, Dec. 11, 1974.

The pretence of knowledge II

But the effects on policy of the more ambitious constructions have not been very fortunate and I confess that I prefer true but imperfect knowledge, even if it leaves much indetermined and unpredictable, to a pretence of exact knowledge that is likely to be false.

Friedrich von Hayek, The Pretence of Knowledge, Nobel prize lecture, Dec. 11, 1974.
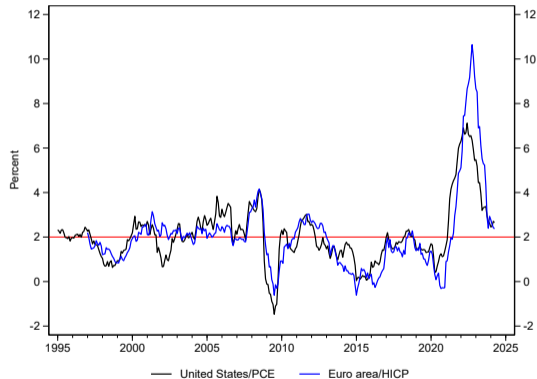
The post-pandemic inflation in historical context

United States
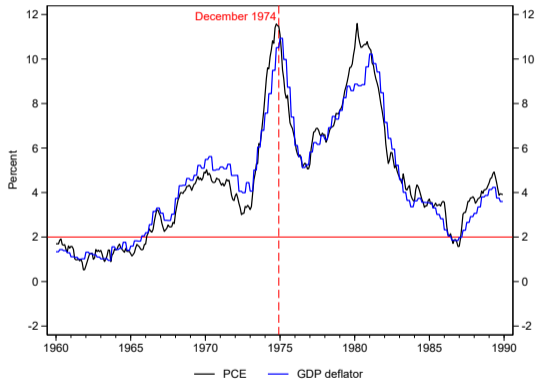
US and euro area

The pandemic: Policy success followed by policy failure

▶ Policy response to the pandemic was appropriately forceful—a policy success.

▶ The post-pandemic recovery was unexpectedly strong. Together with supply constraints, this resulted in a spike in inflation.

▶ The Fed used its discretion to peg the federal funds rate at zero for too long.

▶ During 2021, with actual and expected inflation rising as the economy recovered, the Fed continued to push real interest rates to even lower and excessively negative levels. During 2022, the Fed strived to catch up.

▶ How did the reliance on policy discretion contribute to this error?

▶ How could guidance from simple rules have helped avoid this error?

The forward guidance trap

▶ The Fed fell into the forward guidance trap.

▶ The Fed followed a flawed policy strategy that focused on setting and communicating the nominal policy rate without properly accounting for the evolution of the outlook for inflation.

▶ The Fed communicated explicit information about the likely path of future interest-rate policy instead of a systematic reaction function.

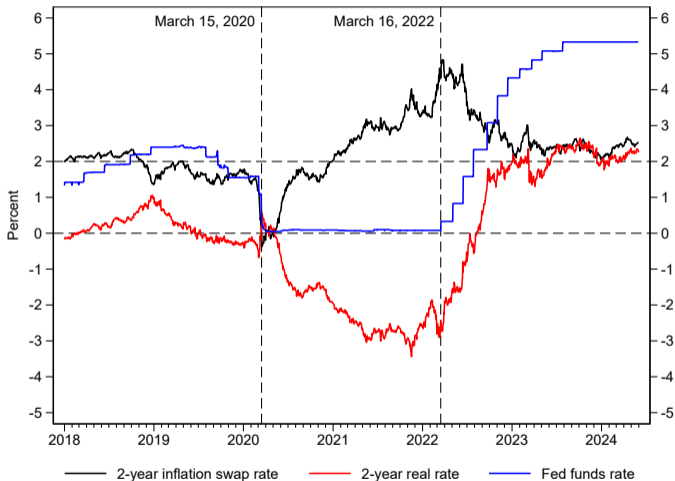# Fed funds rate and two-year OIS and inflation swap rates
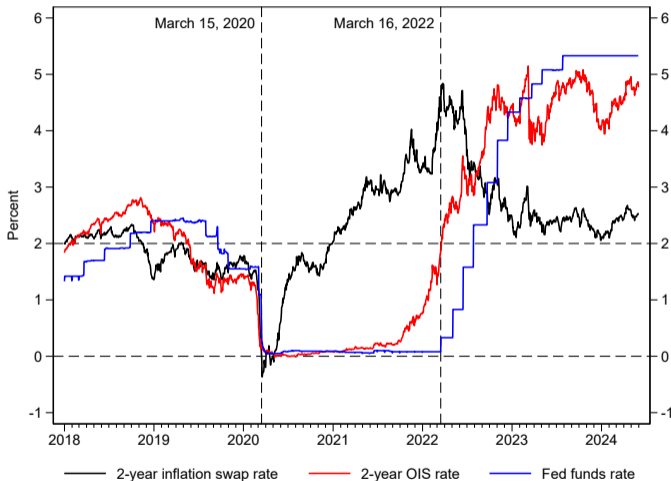
Vertical lines denote return to zero rates and liftoff.
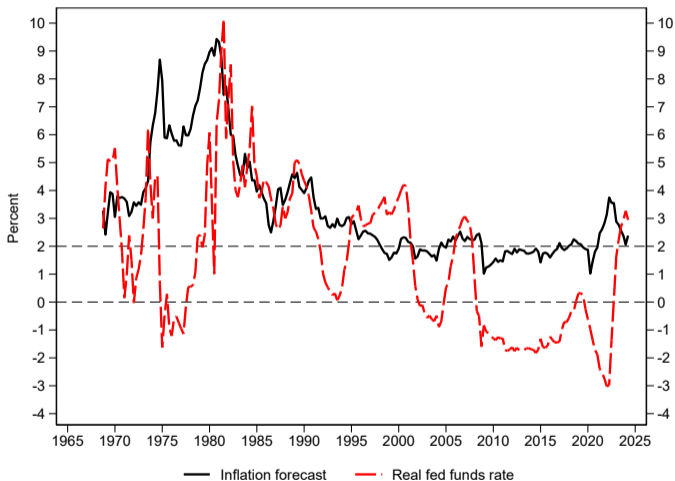(Data to end-May 2024.)

The Fed's post-pandemic policy error and recovery

The real interest rate reflects the OIS rate minus the inflation swap rate.
(Data to end-May 2024.)

The Fed's error in historical perspective: Inflation and real rates

Real fed funds rate is quarter-average rate minus SPF median GNP/GDP deflator inflation forecast, year-on-year, 3-Q ahead.

How did the Fed fall into the forward guidance trap?

▶ Communicating and implementing policy with a nominal interest rate deflects attention from the evolution of real interest rates.

▶ A decision to move from forecast-based to outcomes-based forward guidance introduced myopia, raising the odds the Fed would be "behind the curve".

Could simple rules have helped the Fed avoid this error?

- ▶ Milton Friedman
- ▶ Karl Brunner
- ▶ Allan Meltzer
- ▶ Ben McCallum
- ▶ John Taylor
- ▶ Research in central banks over past four decades.

Lessons from policy research

▶ A monetary policy rule can help avoid major policy mistakes.

▶ Systematic policy better than discretion.

▶ Simple rules better than optimal control under the pretence of knowledge.

▶ Not all simple rules are good rules.

▶ A good rule can both maintain price stability and dampen business cycles.

▶ To be useful in practice, a simple rule must be subject to periodic review and adaptation, to reflect changes in the structure of the economy and state of knowledge.

Desirable characteristics of simple rules

▶ Must preserve price stability over time, maintain inflation expectations well-anchrored, in line with 2% goal.

▶ Be somewhat forward-looking, embracing informational benefits of current analysis, now-casting, short-term projections

▶ Be somewhat countercyclical, tempering business cycle booms and busts.

▶ Be robust to imperfect knowledge.

An example: Natural growth targeting

- Let $(n - n^*)$ be the deviation of nominal income growth from normal.

- Rule has the form of a one-parameter "difference" rule:
  $$\Delta i = \theta(n - n^*)$$

- To ensure rule is operational need to also:
    - specify real-time data/projections for n
    - define "normal" growth, $n^* = \pi^* + g^*$, to account for variation of real potential output growth and ensure the rule delivers price stability consistently over time.

An example based on the SPF

▶ Natural growth targeting rule with $\theta = \frac{1}{2}$, $\pi^* = 2$:
$$\Delta i = \tfrac{1}{2}(n - n^*)$$

▶ Use median SPF projections of nominal GDP, year-on-year, 3-Q ahead, for n.

▶ Use median SPF projection of real GDP growth over next 10 years as a proxy for real potential GDP growth, g^*. Construct $n^* = \pi^* + g^*$.

▶ Use end-quarter target fed funds (or midpoint of target band) to compare rule prescriptions with actual policy.

An example from the Fed's Bluebook/Tealbook

▶ Starting with the January 2004 FOMC meeting the Bluebook (more recently Tealbook) has included a variant of the natural growth targetting rule, referred to as the "first-difference" rule.

$$\Delta i = \theta(\pi - \pi^*) + \theta \Delta y$$

▶ This has been implemented using Fed staff projections of core PCE inflation and the output gap with $\theta = \frac{1}{2}$, $\pi^* = 2$.

▶ Since $\Delta y \approx g - g^*$ and $n = \pi + g$, this is similar to targeting nominal income growth by tracking the sum of core PCE inflation and real GDP growth.

▶ To date, real-time prescriptions until end-2018 have been disclosed to the public, in line with disclosure lag of FOMC briefing material.
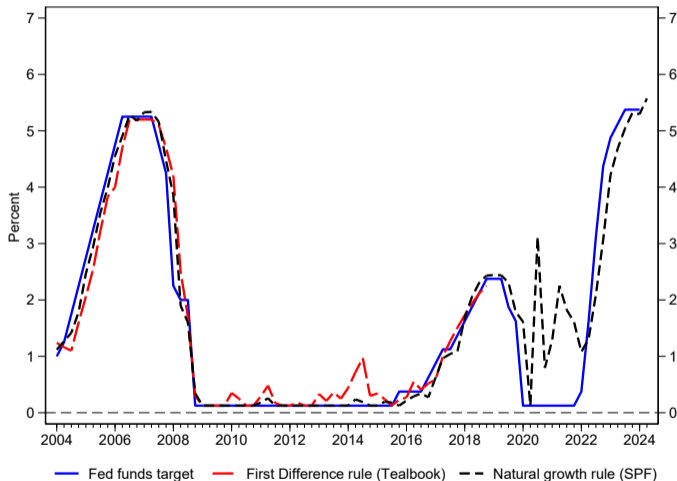
Bluebook/Tealbook variant of natural growth rule
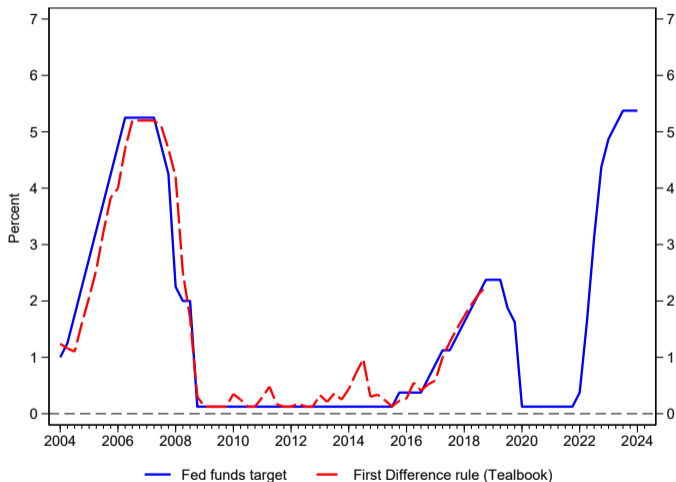
Fed funds target (or midpoint of target range). Rule prescriptions constrained by ZLB. Post-2018 Tealbooks not yet available to the public.
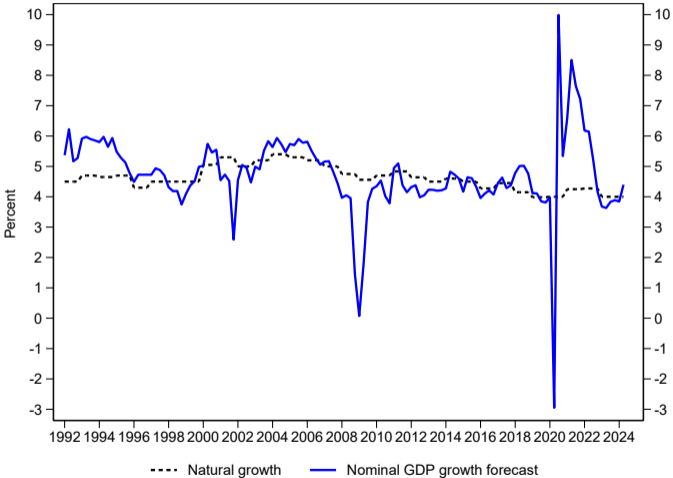
Comparison of Tealbook and SPF-based natural growth rule

Fed funds target (or midpoint of target range). Rule prescriptions constrained by ZLB. Post-2018 Tealbooks not yet available to the public.
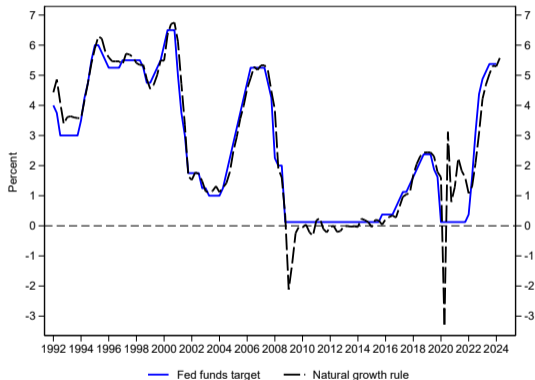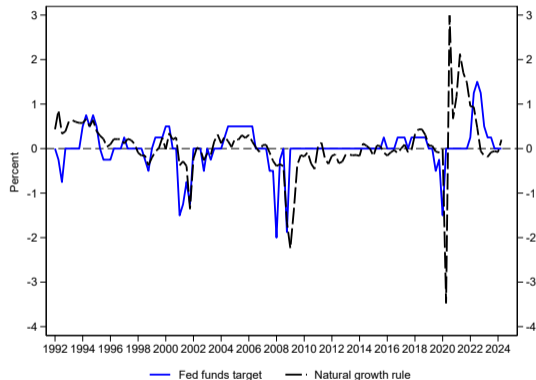
Inputs to SPF-based Natural Growth Rule
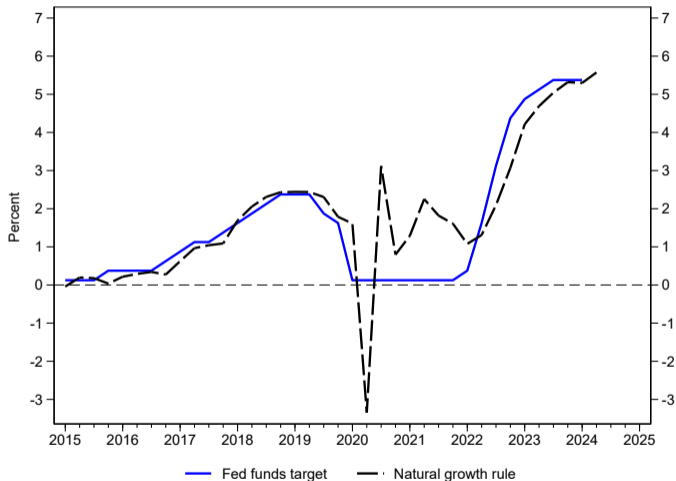
Natural Growth Rule

Level

Quarterly change

SPF-based implementation, unconstrained rule prescriptions.

Natural Growth Rule: Detail

SPF-based implementation, unconstrained rule prescriptions since 2015Q1.

Improving monetary policy with simple rules

▶ The recent inflationary experience suggests that central banks have not yet overcome the pretence of knowledge and proclivity for discretion.

▶ Simple policy rules designed to be robust to imperfect knowledge can protect against major errors and promote systematic policy.

▶ Simple rules can facilitate coherent policy communication. The unhelpful practice of providing forward guidance on the nominal policy rate decoupled from a systematic policy reaction function should end.

▶ Central banks should provide real-time presciptions from benchmark policy rules as a transparent cross check on discretionary policy.

▶ The objective of upcoming policy strategy reviews should be to discipline discretion and improve communication with help from simple rules.