Discussion of

Changing Perceptions and Post-Pandemic Monetary Policy

by Janice Eberly, MIT Golub Center, and Northwestern University

Estimating the Taylor parameters

Estimation equation: $$E_t^{(j)} i_{t+h} = a_t^{(j)} + \hat{\beta}_t E_t^{(j)} \pi_{t+h} + \hat{\gamma}_t E_t^{(j)} x_{t+h} + e_{th}^{(j)}$$

Questions:

- Model: what do β_t and γ_t measure? What is e_{th}, the error term?
- Estimation: do the estimates give accurate estimates of the forecasters' Taylor rule parameters?
- Interpretation: how should we use estimated β and γ to learn about perceptions of monetary policy?

Estimate the Taylor parameters

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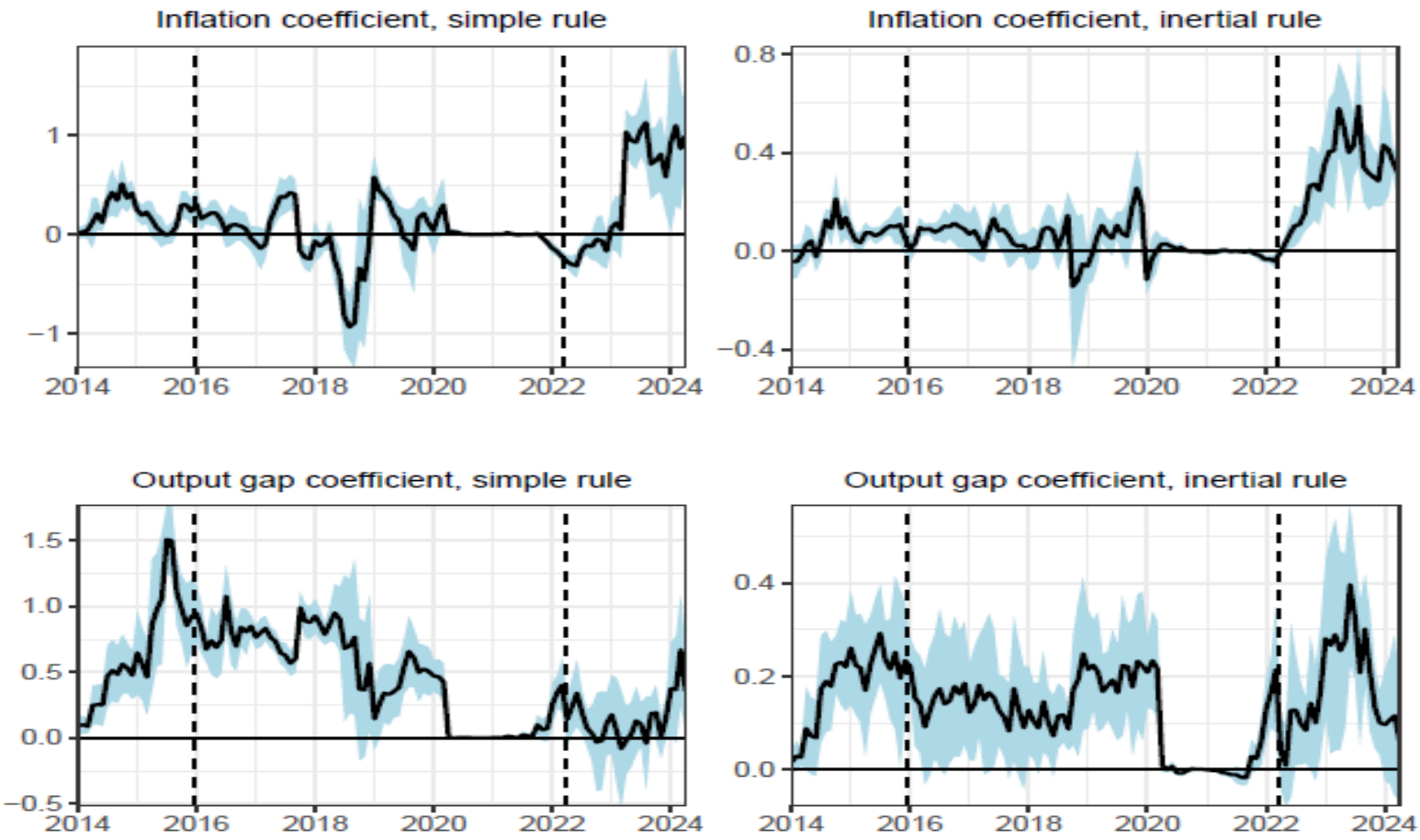
- β and γ are the static Taylor rule parameters on *contemporaneous* inflation and output gap.
- The data are Blue Chip forecasts of FF, inflation, and the GDP gap. Forecasts are made at time t, for horizon 0 through 5 quarters. 0 is concurrent, 5 is the quarter 12 to 15 months ahead.
  - There are 30-50 forecasters in each survey (N = 30-50).
  - Run a separate regression each time t, so that the estimated parameters are fully time varying. For each time t, the panel of forecasts is N x h.
  - Identification comes from forecast variation at different horizons: ***when a forecaster increases their future inflation forecast, how much does their FF forecast rise?***
  - This covariance give the estimate of β. Panel is ~40 x 6.

Estimated Taylor Rule parameters, month by month



Estimating the Taylor parameters: method

- Estimation equation: $$E_t^{(j)} i_{t+h} = a_t^{(j)} + \hat{\beta}_t E_t^{(j)} \pi_{t+h} + \hat{\gamma}_t E_t^{(j)} x_{t+h} + e_{th}^{(j)}$$

- Do OLS fixed effect estimates give accurate estimates of the forecasters' Taylor rule parameters?
- Month by month panel estimates were N (forecasters) x h (horizon) is ~40 x 6. Identification is off the horizon dimension, then pool across forecasters. Well known biases in short panels, especially with lagged dependent variables (inertial rule).
- Regression error, *e*, may be correlated with inflation and output gap. Example: forecast i set by dynamic Taylor rule (with lags), and forecasted inflation and output are persistent from month to month.

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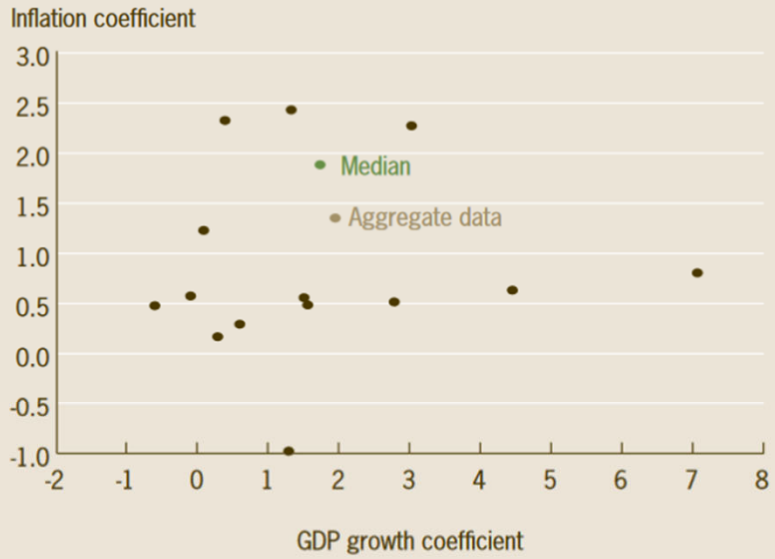
Do Forecasters Agree on a Taylor Rule?

Charles T. Carlstrom and Margaret Jacobson

Forecasters' projections of interest rates vary a great deal. We use a Taylor rule to investigate two possible reasons wh
Namely, do differences arise because forecasters have different projections for output growth or inflation, or do th
arise because forecasters follow different guidelines to predict what the Federal Reserve will do with the federal fun
rate? We find evidence for both explanations. Forecasters appear to use very different projections for inflation and outp
growth, but they also seem to use dramatically different Taylor rule coefficients.

Figure 2. Regression Coefficients of Individual Forecasters



Source: Authors' calculations using Survey of Professional Forecasters data (Federal Reserve Bank of Philadelphia).

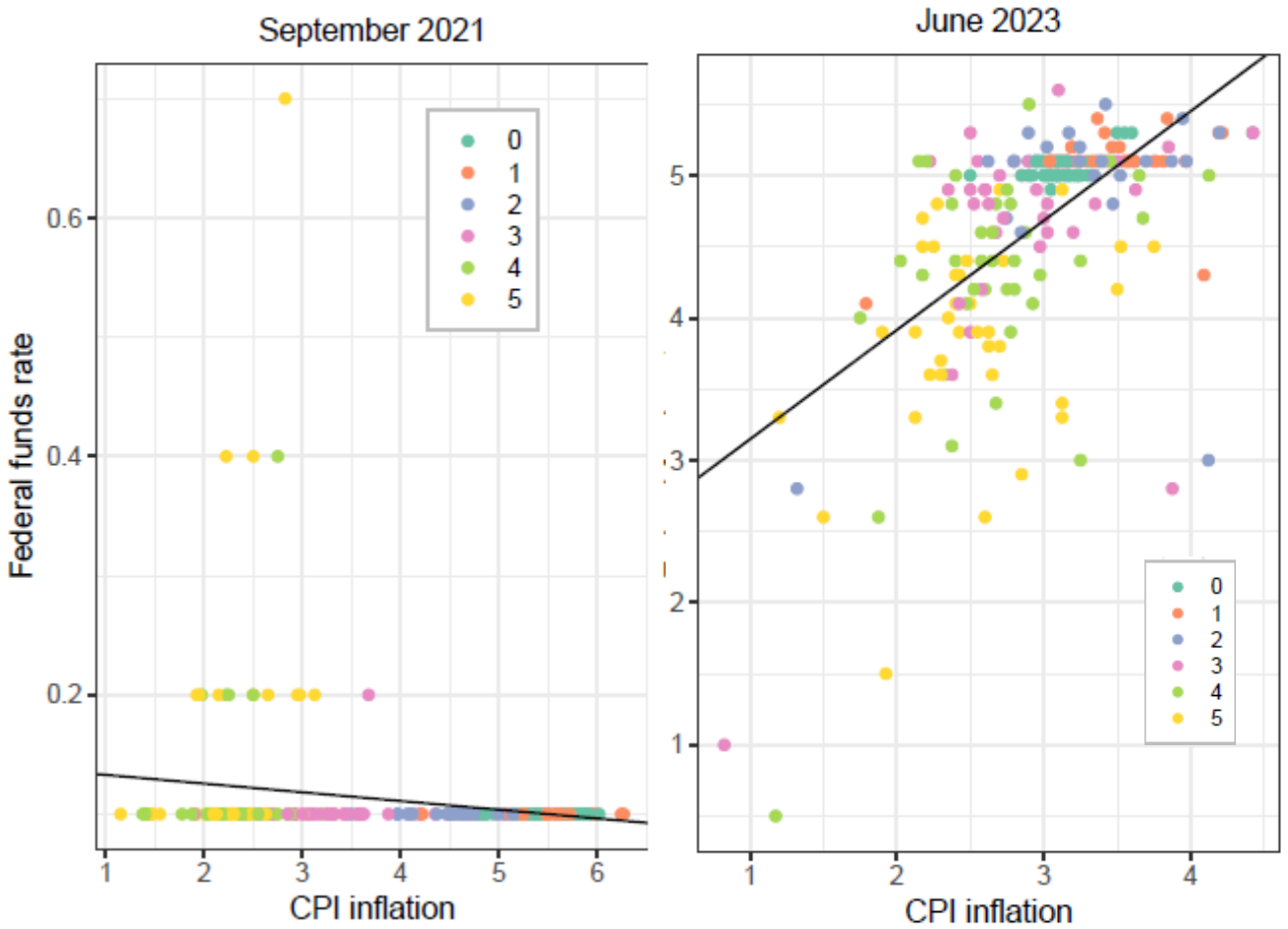
The covariance of FF and inflation is essentially zero in September 2021, but note the pivot in a few FF forecasts, mostly yellow dots (the longest horizon).

Strongly positive in June 2023.

This drives the estimate of the inflation coefficient beta, which is 0 in the first and 0.93 in the second (static rule).

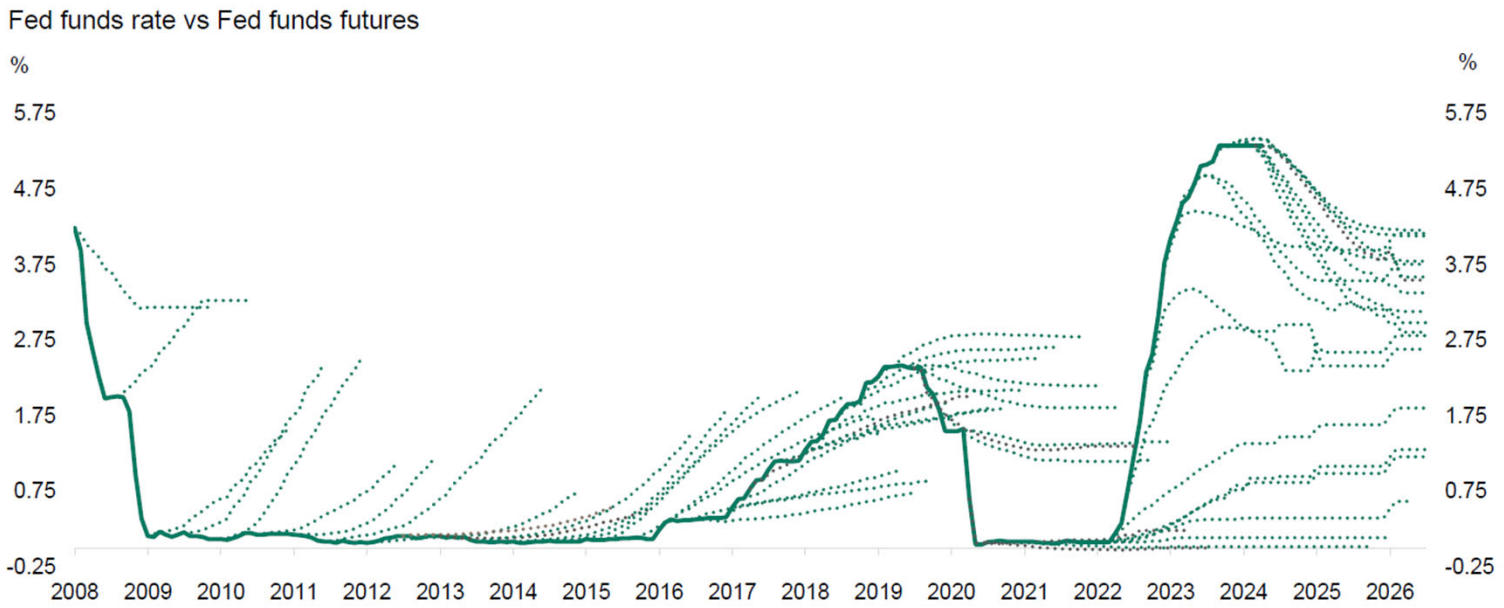
Validation from 2Y and 10Y Treasuries in the paper, and also from FF futures.

Inflation and FFR forecasts post-COVID: two panels



*note different scales.

FF futures rose before liftoff in 2015/16 but not in 2021/22.



Potential biases: examples

- The inflation coefficient is negative in 2022. Why?
  - Forecasted rates were rising, but inflation was already falling and forecasted to continue (Figure 5)
  - Negative bias in the inflation coefficient.
- The output coefficient is falling and near zero in 2022-23. Why?
  - When forecasts pivoted to positive and rising rates, output forecasts reversed.
  - Negative bias in the coefficient on output.

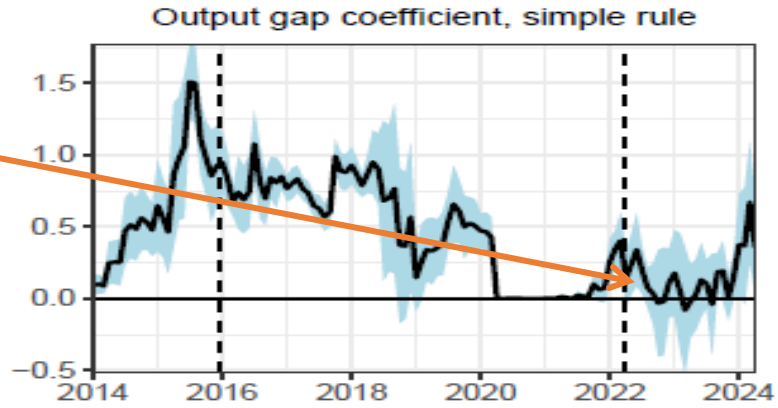
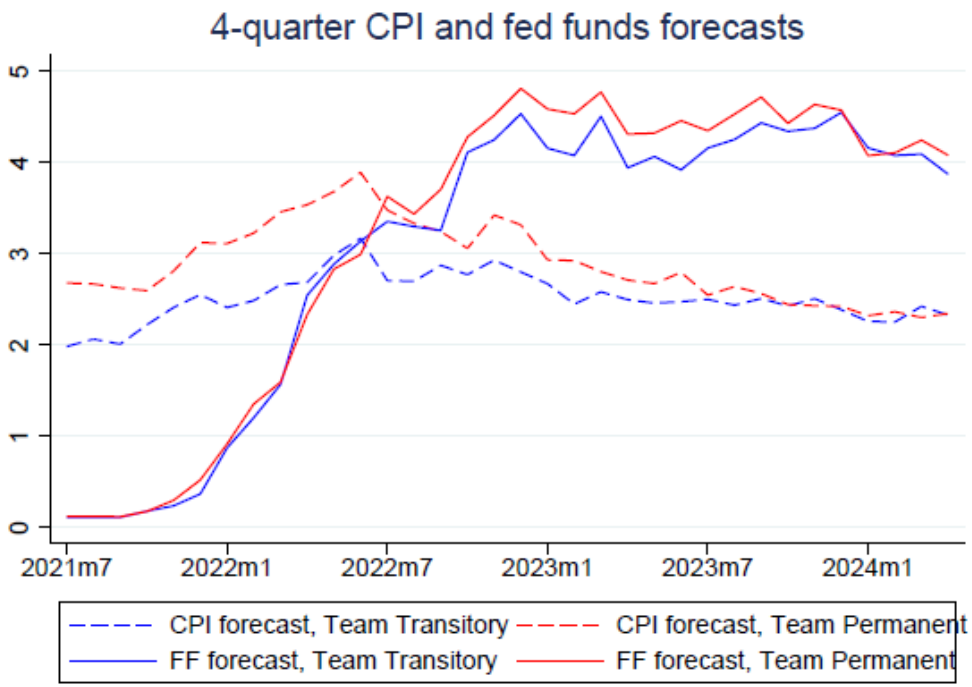
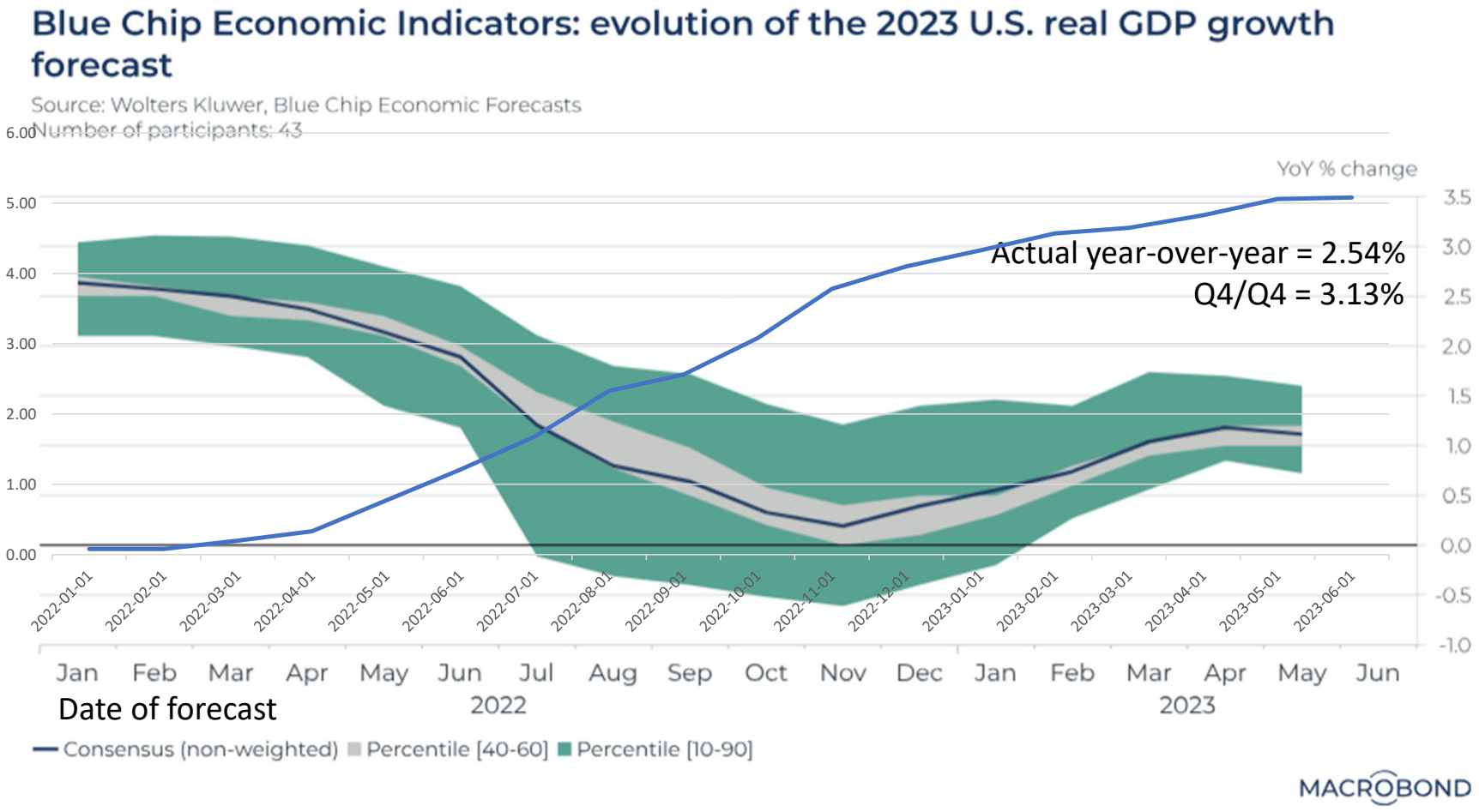


Figure 5: Survey forecasts for inflation optimists and pessimists



Four-quarter forecasts for federal funds rate the CPI inflation from Blue Chip Financial Forecasts. Forecasters are split into inflation optimists, who have below-median four-quarter CPI forecasts in July 2021, and inflation pessimists, who have above-median forecasts. Sample period: July 2021 to April 2024.

Forecasts of 2023 GDP growth and actual FFR (blue)



Bottom line

- Creative work to identify a changing Taylor Rule
- Difficult to disentangle changing parameters in a rule from shocks to the rule
  - Forecaster points of view and changing economic models, or only changing perceptions about MP?
- Most effective when honing in on the turning point
  - Auxiliary evidence from financial markets with both short term (FF Futures) and Longer Term (2Y and 10Y Treasuries)
- Doing the Fed's work for it: how to think about the Taylor Rule "misses"
  - Errors likely correlated with inflation and the output gap.
  - But also a *very* uncertain period in the economy, so is imperfect communication of a known and varying rule over longer periods the right benchmark?