Keeping Control over Boundedly Rational Expectations

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Inflation: Drivers and Dynamics

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Summary

Monetary policy implications of a *combination* of biases (Woodford, NBER MA 2019):

$$Y_t = \underbrace{\mathbb{E}_t \sum_{j=0}^{\infty} (\rho A)^j b \nu_{t+j}}_{\text{finite planning horizon}} + \underbrace{(I - \rho A)^{-1}(1 - \rho) Y^*_{t-1}}_{\text{long-term learning}}$$

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- **Q2:** Is an interest rate policy necessary to keep control over inflation expectations?
  No, can discipline an interest rate path to keep expectations under control.

Discussion

- Overall assessment of the paper: Interesting & thought-provoking!
  - Contributes to a growing research body on the interaction between deviations from rational expectations and monetary policy.
  - Provides evidence on the robustness of the Taylor principle.
  - Useful guidance on how to choose a path of interest rates that keep expectations under control.

- **Comments:**
  1. Taylor principle.
  2. Taylor rule vs interest rate path.
  3. Average inflation targeting.

Comment I: Taylor Principle

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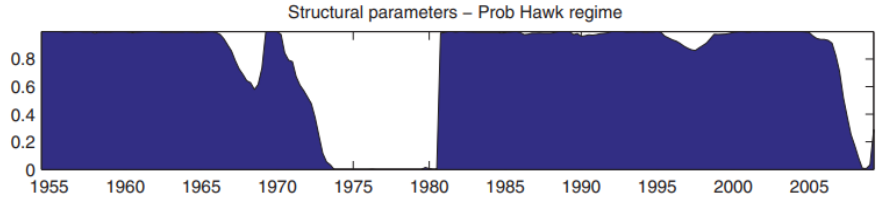
What do we know *empirically* about the Taylor principle?

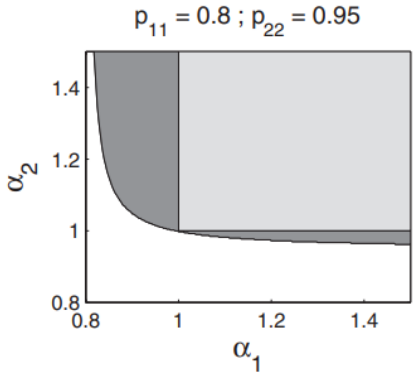


Source: Bianchi (ReStud, 2013).

Long-run Taylor principle

Davig and Leeper (AER, 2007):

- Regime switches in the Taylor rule, $R_t = \alpha(s_t)\pi_t$
- Markov chain w/ trans. prob. p_{ij}



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- Even less so when relaxing rational expectations in particular ways.
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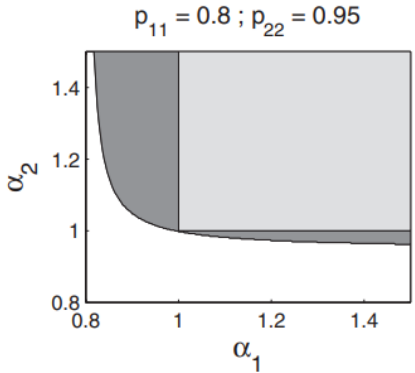

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Risks of inflation spirals when there exists the possibility of policy falling into a dovish regime?

Comment II: Taylor rules vs interest rate paths

- Drawback of Taylor rules: many rules to choose from

$$R_t = \phi_\pi \pi_t + \phi_y y_t + ...$$

Caballero, Caravello, Simsek (2024): respond to a financial conditions index.

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- But, similar problem with picking an interest rate path

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- Have to choose *how* to discipline the path... just like having to choose a Taylor rule.
- Do it optimally by minimizing a given loss function.

Optimal policy path

Optimal trade-off under commitment:

$$\zeta_t^{\pi} + \frac{1}{\kappa}(\zeta_t^{y} - \rho\zeta_{t-1}^{y}) = 0 \tag{1}$$

s.t.

$$\begin{aligned} \zeta_t^{y} &= \omega x_t + (1-\mu)\gamma_t^{y*} \\ \zeta_t^{\pi} &= \pi_t + (1-\mu)\gamma_t^{\pi*} \\ (\gamma_t^{y*}, \gamma_t^{\pi*}) &= \underbrace{\beta\mathbb{E}_t \sum_{k=0}^{\infty} \Gamma^k M_0' \Omega (Y_{t+k+1} - Y_{t+k+1}^{e})}_{\text{cost of keeping expectations under control}} \end{aligned} \tag{2}$$

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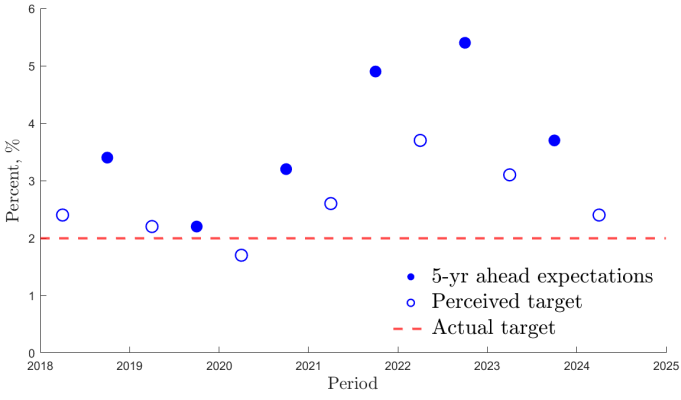
- Important assumption: policy makers' expectations coincide with those of the private sector.

Firms and policy disagree on the inflation target

Evidence from the Survey of Firms Inflation Expectations (SoFIE):

Questions



Source: Federal Reserve Bank of Cleveland

More disagreement

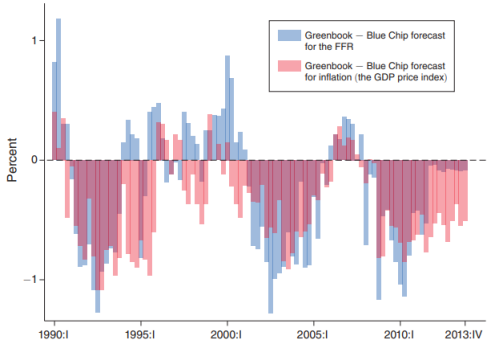
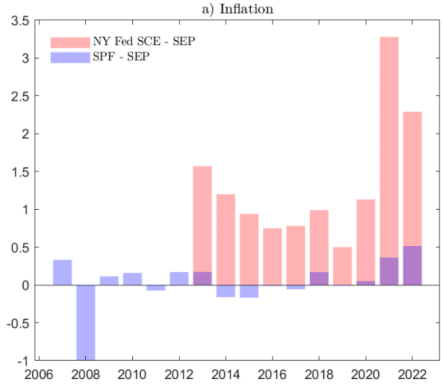


FIGURE 2. FED-MARKET DISAGREEMENTS ABOUT INTEREST RATES VERSUS INFLATION



Source: Caballero and Simsek (AER, 2021) in the left.

Such issues can be more manageable with a Taylor rule.

Comment III: Average inflation targeting?

Recall

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Would AIT be a good policy alternative when there is long-term learning?

Main Takeaways

- Under long-term learning: inflation spirals can be avoided only if the Taylor principle is satisfied.
  - Is there a long-run Taylor principle that allows for short-lived passive regime?
- An interest rate policy rule is not necessary to keep expectations under control.
  - There are trade-offs between choosing a policy rule and interest path.
  - Average inflation targeting.

SoFIE questions

- *What do you think will be the average inflation rate (for the Consumer Price Index) over the next 5 years? Please provide an answer in an annual percentage rate.*
- *What annual inflation rate do you think the U.S. Federal Reserve is trying to achieve on average?*

Back to monetary policy implications