# Comments on “Inflation Indicators in a Sticky Price Framework” by Jonsson, Laséen and Walentin

Rhys Mendes
Bank of Canada

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# Overview

- Main Conclusions (very brief)
- Explore paper's main claim: "reliability" of real interest rate gap as inflation indicator
- Advantages of a long-term rate gap

# Summary

- Key Conclusion: *flex-price real interest rate gap is a "reliable" indicator of inflation*

- Why?
  - Almost all shocks induce negative correlation btw inflation and rate gap
  - Not true for flex-price output gap

# Baseline Findings

- Rate Gap strongly negatively correlated with CPI and domestic inflation
  - Confirms that wage stickiness, real frictions, open economy considerations don’t break this link
- Flex-price output gap only weakly correlated with inflation
- Trend-adjusted output gap not correlated at all

# The Rate Gap: Reliability

- How “reliable” is the rate gap measure used in the paper?
- Explore this point in small New Keynesian model

# A Simple Example

- Small New Keynesian model:
  - Consumption, leisure, money in utility function
  - No capital in production
  - Calvo pricing

# A Simple Example

- Linearized Structural Equations:

$$x_t = E_t x_{t+1} - \sigma[i_t - E_t \pi_{t+1} - r_t^{flex}] \quad \text{(IS)}$$

$$\pi_t = \kappa x_t + \beta E_t \pi_{t+1} \quad \text{(PC)}$$

- Demand, Productivity, Labor Supply shocks all enter through natural rate of interest

# A Simple Example

- Close with a standard instrument rule:

$$i_t = \rho i_{t-1} + \gamma_\pi \pi_t + \gamma_x x_t$$

- RESULT: Rate Gap strongly negatively correlated with inflation for various values of policy parameters in small model

- Appears to support view that rate gap is reliable indicator of inflation

# A Simple Example

- Iterating IS curve forward: AD depends on current *and* future rate gaps:

$$x_t = -\sigma \sum_{j=0}^{\infty} [i_{t+j} - E_t \pi_{t+j+1} - r_{t+j}^{flex}]$$

- Why should <u>current</u> rate gap be a reliable indicator?
  - Regime-dependent?

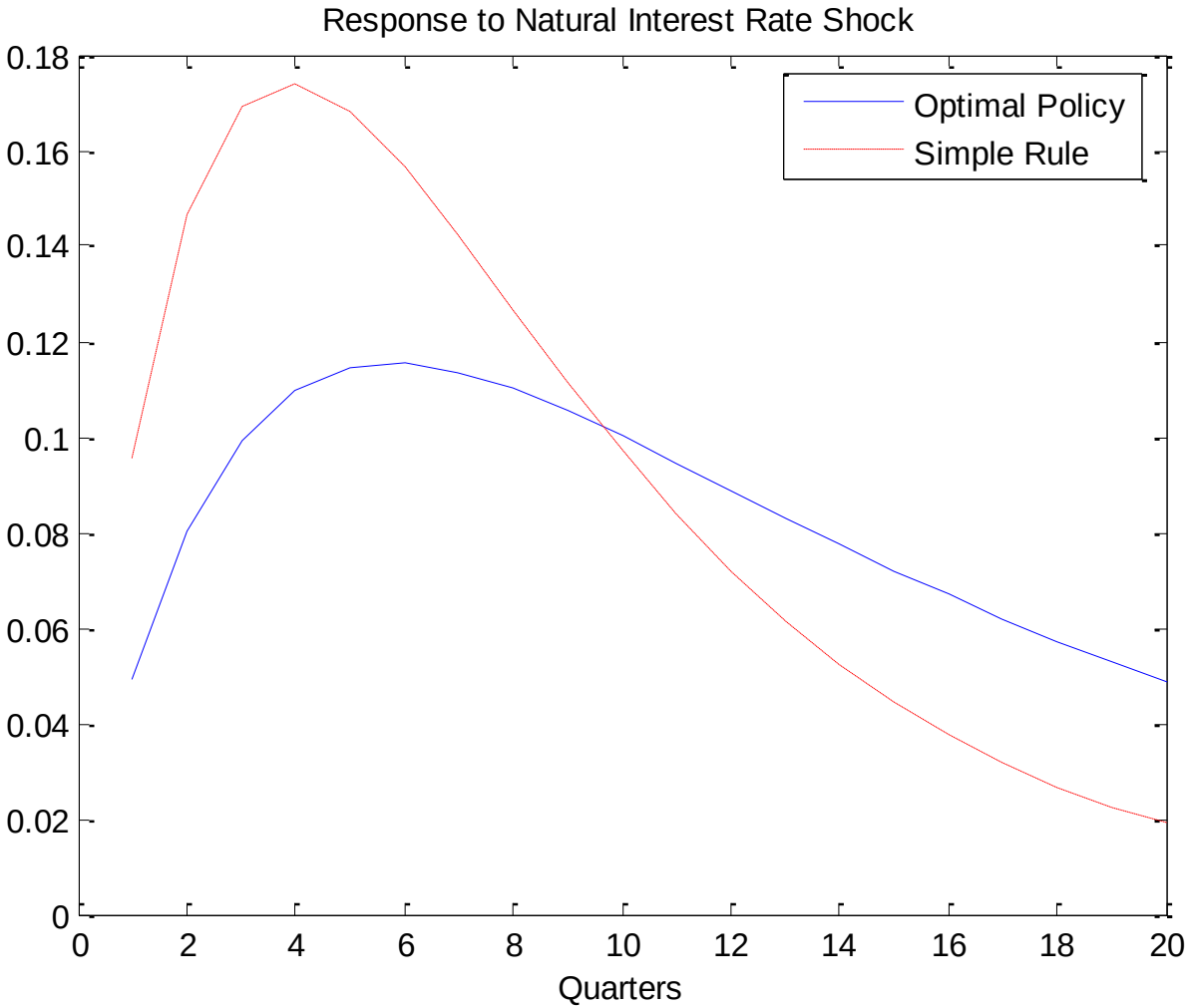
# A Simple Example

- Alternative: Optimal State-Contingent Rule (Optimal Targeting Rule) under Commitment
- CB: Max welfare subject to structural equations

# A Simple Example

- Correlation between current rate gap and inflation vanishes under optimal policy
  - Contemporaneous correlation ≈ 0.02
- Why?
  - Optimal policy relies more on *expectations* of future policy behaviour, less on actual changes in instrument rate

# Nominal Interest Rate Behaviour



# A Simple Example

- Current rate gap doesn’t contain much information, because most of the action is in expectations of future rates
- We would like to have an indicator that takes this into account

# A Simple Example

- An Alternative: long-term rate gap:

$$rr_t^L = \frac{1}{N}\sum_{j=0}^{N-1} E_t[i_{t+j} - \pi_{t+j+1} - r_{t+j}^{flex}]$$

$$= r_t^L - \frac{1}{N}\sum_{j=0}^{N-1} E_t r_{t+j}^{flex}$$

# A Simple Example

- Correlations with Inflation:

| | Short-term Rate Gap | Long-term Rate Gap |
|---|---|---|
| Simple Rule | -0.81 | -0.88 |
| Optimal Policy | 0.02 | -0.34 |

# Results from TOTEM

- Check results with BoC's main projection model
- Estimated "historical rule" versus optimal targeting rule
- Similar results: Long-term rate gap robustly negatively correlated with inflation

# Conclusions

- Very nice paper
- However, indicator properties of rate gap not a structural feature of economy
- Statements about “reliability” of rate gap need to be qualified: *depends on policy regime*
  - Indicator properties could break down if policy exploits expectations to a greater extent than in the past
- Long-term rate gap should play a role in future research
  - Careful modelling of long-term trends in productivity, etc.