Discussion: "Average Inflation Targeting: Time Inconsistency and Intentional Ambiguity" by Jia and Wu

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Overview

- Benefit of AIT over IT: **the expectations channel**
  - **Inflation expectations** act as **automatic stabilizers** under AIT
  - Better inflation-output tradeoffs
- AIT is **time inconsistent**: the central bank wants to
  - **announce AIT ex ante** (better inflation-output tradeoffs)
  - **implement IT ex post** (maximize social welfare)
- Two rationales for ambiguous communication about the AIT horizons
  - **flexibility**
  - **credibility**

Outline

AIT vs IT

- **AIT:** the central bank conducts MP to minimize

$$\mathbb{L}_t^{cb}(L) = \frac{1}{2}\left(\left(\frac{\pi_t + \pi_{t-1} + \cdots \pi_{t-L+1}}{L}\right)^2 + \lambda^{cb}(L)\,\hat{y}_t^2\right) + \beta E_t\left[\mathbb{L}_{t+1}^{cb}(L)\right]$$

- **IT**: the central bank conducts MP to minimize the **social welfare**

$$\mathbb{L}_t^{IT} = \frac{1}{2}\left(\pi_t^2 + \lambda\,\hat{y}_t^2\right) + \beta E_t\left[\mathbb{L}_{t+1}^{IT}\right]$$

  - effectively $\mathbb{L}_t^{cb}(1)$

- Minimize one of the above objectives by picking a point on the NKPC

$$\pi_t = \beta E_t\left[\pi_{t+1}\right] + \kappa\hat{y}_t + u_t$$

The Benefits of AIT (over IT): The Expectations Channel

- AIT leads to a better trade-off between π_t and $\hat{y}_t$.
- **Inflation expectations** act as **automatic stabilizers** under AIT
  - $\pi_t > 0 \Longrightarrow E_t[\pi_{t+1}] < 0$
  - $\Longrightarrow$lowers π_t through NKPC
  - $\Longrightarrow$less negative output gap $\hat{y}_t$ after cost push shock $u_t > 0$
  - $\Longrightarrow$improve inflation-output tradeoffs
- No such a channel under IT

The Time In-consistency of AIT

- Key: AIT's objective function is **different from social welfare**
  - while IT's objective function is the social welfare
- AIT is **time inconsistent**: the central bank wants to
  - **announce AIT ex ante** (better inflation expectations management)
  - **implement IT ex post** (maximize social welfare)

Rationale I for Ambiguous AIT Horizons: Flexibility

- Consider a special case: a one-time cost-push shock at t.
- Optimal strategy for the central bank
  - announce the largest feasible horizon L at t (best inflation expectations management)
  - announce horizon $L = 2$ at $t+1, \cdots$ (maximize social welfare)
- Ambiguous AIT Horizon gives the **flexibility** to **switch between different horizons**

Rationale II for Ambiguous AIT Horizons: Credibility

Background: **social learning**

- Agents have heterogenous beliefs about the AIT horizon
- Agents are randomly selected to meet in pairs.
- When two agents meet, they update their beliefs about AIT horizon by comparing errors
  - switch belief to the one which generates a lower error
- Possibility of random belief mutation (not get stuck)

Using social learning to model **credibility**

- Central bank announcement can control the agent's **initial belief** about the AIT horizon
- But if the central bank actually uses IT, it will **gradually lose credibility**
- Lose the favorable inflation-output tradeoffs under AIT

Rationale II for Ambiguous AIT Horizons: Credibility

Rationale II for ambiguous AIT horizons

- Ambiguous communication gives agents a bigger choice set to form beliefs
- **Agents with different AIT beliefs may perform best at different time**
- Fewer agents learn that the central bank actually uses IT

Outline

Comments 1: Formalize the Flexibility Channel

- Currently study a special case: a one-time cost-push shock at t
  - incentives to switch between different AIT horizons
- What about a **stationary environment with recurring cost push shocks?**
- Do the benefits of **flexibility** come from the ability to maintain **credibility**?
  - ambiguous horizons $\Longrightarrow$ **switch between horizons will not lose credibility?**
  - can we use the social learning approach above to formalize this?

Comments 2: Credibility through the Lens of Reputation

- A standard way to model credibility: **reputation**
  - game theory: Milgrom & Roberts (82); Kreps & Wilson (82)
  - macro: Barro (86); Backus & Driffill (85); Dovis & Kirpalani (20); Amador & Phelan (21)
- Two types of central bank
  - Commitment type (C): follows AIT with certain horizons
  - No-Commitment type (NC): chooses policy sequentially (deviates to IT)
  - agents update their **beliefs about the central bank's type** given realized outcomes
- A good follow-up paper?
  - does ambiguity AIT horizons help sustain the central bank's reputation?

Comments 3: Ambiguous AIT Horizons in ZLBs?

- **The expectations channel** of AIT matter for the AD (the IS curve) in ZLBs
  - $\pi_t < 0 \Longrightarrow E_t[\pi_{t+1}] > 0$
  - $\Longrightarrow$ raise aggregate demand c_t through IS
  - $\Longrightarrow$ alleviate the negative consequence of ZLB
- For this channel, maybe **clarity** of AIT horizons helps?
  - to maximize the expectations channel
- The current draft does not touch communications in ZLBs

Outline

Conclusion

- Study an important and **policy-relevant** question
- Great paper with very **clearly explained channels**
- Many interesting venues for further explorations