F. Bilbiie and X. Ragot “Optimal Monetary Policy and Liquidity with Heterogeneous Households”

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Idea of the paper

- Optimal Monetary Policy in a tractable, heterogeneous agents model, where liquidity injections of the CB matter
- Very interesting paper highlighting a particular channel: Liquidity-insurance channel
  - Authors explain step-by-step the channel and implications
  - They explain the related literature very well (7 pages of references!)

Outline

- Summary of the assumptions and results
- Questions and comments

Summary of the paper

- 2 household (island) economy in sticky-price New Keynesian model
  - Participants: Work, can save in bonds (zero net supply) and money
  - Non-participants: Receive reservation wage (unemployment benefits), can hold money only
- Incomplete markets: Perfect-insurance within each household but not between households
- Fixed transition probabilities of going from one island to the other

  $\longrightarrow$ Motive for participants to save in money arises (Liquidity-insurance channel)

Summary of the paper

- How to achieve tractability?
  - Calvo type transition probabilities, no idiosyncratic shocks
  - Perfect insurance within households (islands)
- Additional assumptions
  - SS inequality ($q = \frac{c^P}{c^N} > 1$) not offset by fiscal subsidy
  - Probability of becoming non-participant not too low

Results

- Trade-off for monetary policy. Liquidity injections (HD):
  - Raise consumption of non-participants directly and allow for more precautionary savings of participants. Both lowering inequality (+)
  - Raise inflation, which lowers real value of money (Pigou effect) (-)
  - Raise Rotemberg price adjustment costs of firms (-)
- Deriving the CB loss function from welfare maximization yields

$$min \frac{1}{2} E_0 \sum_{t=0}^{\infty} \beta^t \{\Lambda_\pi \tilde{\pi}_t^2 + \Lambda_c \hat{c}_t^2 - 2(1-n)\frac{c^N}{c}(q-1)\hat{c}_t^N\}$$

- Strict inflation targeting is not optimal. Optimal policy implies some inflation volatility.

Questions and comments

The role of money

- The liquidity-insurance channel hinges on strong assumptions. When participants get chosen by a Calvo type lottery
  - They loose financial market connection
  - They loose their job or part of their income

  $\longrightarrow$ Two strong correlated shocks

- Do we observe that households save in money for bad times (liquidity -insurance)?

Helicopter drop vs. open-market operations

- In this model a helicopter drop (HD) is a superior instrument compared to open-market (OM) operations in terms of welfare
- The intuition is straightforward
  - A HD raises liquidity of non-participants immediately
  - OM operations change bond holdings of participants immediately but affect non-participants only with a lag
  - In the case of OM operations: Optimal Monetary Policy lowers prices initially to raise the real value of money and inflates the economy afterwards

    $\longrightarrow$ Almost by construction there is more volatility in inflation and lower welfare

What are the implications for central-banking?

- In this world inequality matters for Monetary Policy
- Stabilizing inflation too much can lead to indeterminacy
- But it is a stylized model and the question is how large the loss function‘s weight on inequality is in real life

