Inflation Expectations and Portfolio Rebalancing of Households: Evidence from Inflation Targeting in India by Agarwal, Chua, Ghosh, and Song

BFI Inflation Expectations Conference

Discussion by Raymond Kluender (Harvard Business School)

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Summary

Q: How do changes in inflation expectations affect consumption and portfolio choices?

- **Setting:** Adoption of inflation targeting by Reserve Bank of India (RBI) on Feb. 20, 2015
- **Data:** Postal-code level data (N = 219) from (1) RBI Inflation Expectations Survey & (2) India financial institution data on customer spending, savings, and investments
- **Approach:**
  - → (1) Define $Treat_j$ for postal code-age-gender bins as 2014Q4 inflation expectations
  - → (2) Diff-in-diff using $Treat_j$ as treatment intensity and using 3 mo. pre/post-adoption
- **Results:** On average, no effect of inf. exp. on consumption or savings
  - → High liquidity HHs: ↓ Inf. exp. $\implies$ ↓ cons. and ↑ savings (↑ deposits & ↓ risky investments)
  - → Low liquidity HHs: ↓ Inf. exp. $\implies$ ↑ consumption & ↓ savings

Contributions

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- Exciting granular data on household balance sheets and flows
  - → Measures of credit and debit card spending, bank deposits, and risky investments
  - → Rare to find these measures together in administrative data (at least in the US)
- Clear explanations of some possible theoretical foundations of the results they find:
  - → High liquidity HHs: Argue consumption Euler equation dictates that inf. exp. fall and nominal interest rates stay constant, increasing incentive to save
  - → Low liquidity HHs: Argue precautionary savings model dictates that inf. uncertainty falls which increases confidence, reducing incentive to save

Contribution: Wealth as Mediator for Inflation Response

- Unpacking heterogeneous responses to inflation expectations is important
- Liquidity constrained HHs may be concerned about making ends meet
- Low-wage, liquidity constrained workers in US were asked whether they would save more or less if inflation increased[1]

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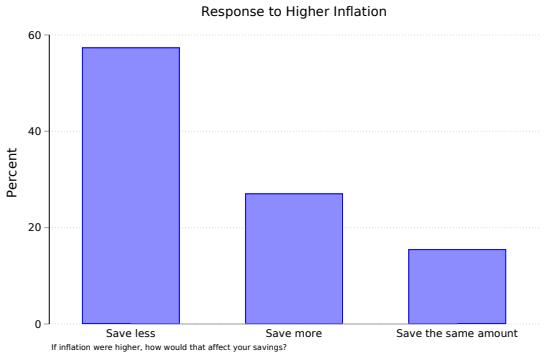

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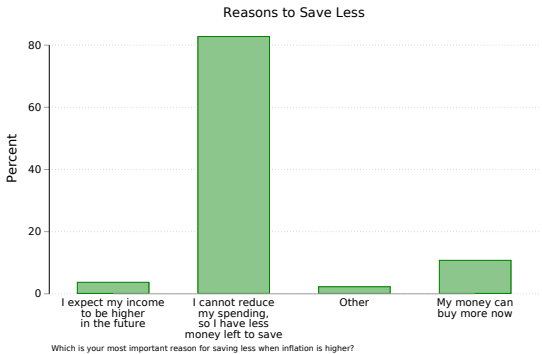
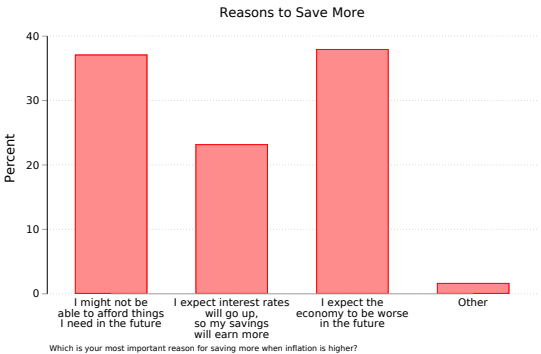
Low Liquidity Households' Responses to Inflation[2]

Constraints and consumption-adjustment frictions





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Comment 1. Data Construction and Weighting

Data are not individually linked, some data and regression weighting questions:

- **Representativeness:** How similar are the HHs in the bank data to survey respondents?
  - → How many HHs are included in the RBI inflation expectations survey?
  - → How dispersed are the inf. exp. (underlying $Treat$ variable) when collapsed to bin level?
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Suggestions: (1) Provide distribution of Ns across bins, (2) show the bank users ≈ survey respondents, (3) N-weight bins in the regressions, and (4) show underlying distribution of liquidity and explain why quintiles is the right split

Comment 2. Validating the First-Stage

- **ID assumptions:** (1) Bank customers in postal code-age-gender bins with different surveyed inflation expectations would have evolved similarly but for the adoption of the inflation targeting *and* (2) the treatment intensity is linear in baseline inflation expectations of the survey respondents in their bin

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  - → Eichengreen et al. (2020) find inf. exp. declined 1.22pp but remain 3pp above inf.
  - → Kundum et al. (2018): Large dispersion in inflation across states, DiD implies convergence
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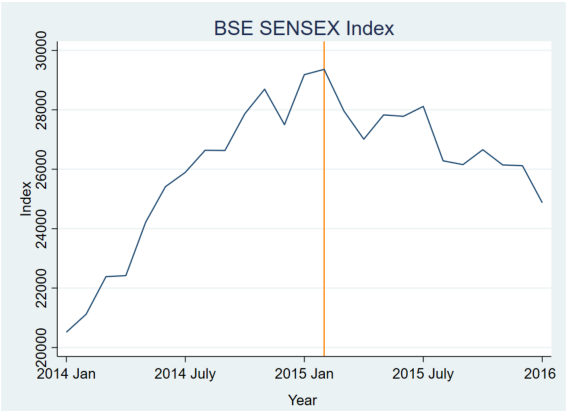
    - If not, how should we interpret magnitudes?
- Key results of the paper rely on heterogeneous treatment effects
  - → **Additional assumption:** Equal baseline inflation expectations for postal code-age-gender across *wealth* bins and that low- and high-wealth HHs update identically
  - → **Suggestion:** Use any other observable X's in the RBI survey to validate assumption that $Treat_j$ is constant across liquidity quintiles

Comment 3. Concurrent Shocks

- **Potential Confounder:** Shocks concurrent with adoption of inflation targeting
  - → E.g. Collapse in Indian stock market coinciding with adoption
  - → Savings result is driven by flight to bank deposits (risky investments decline)
- Authors argue Δ inflation expectations are orthogonal to stock holdings
  - → Not clear that this is true once split by quintiles
- **Suggestion:** Test this assumption directly



Comment 4. Mapping Estimates to Theory

Authors interpret the results through two different lenses:

- Euler Equation: Lower inflation expectations $\implies$ lower consumption, higher savings
- Precautionary savings: Lower *uncertainty* about inflation $\implies$ higher consumption, lower precautionary savings
  - $\rightarrow$ Are there measures of the second moment of inflation expectations in the RBI survey?
  - $\rightarrow$ Did the dispersion of inflation expectations decrease?
- Formalizing theory and connecting it to the objects estimated may be helpful

Assorted comments for authors

- Would be helpful to see robustness to coarse and finer bins
- All main estimates are in levels, but it would be helpful to see alternative parameterizations of the dependent variables (e.g., percent changes)
- Paper has a number of (what I think are) typos interpreting results as a function of 100 “percentage points” where I think you meant to write “basis points”
- In addition to validating the first-stage estimates for the main specification, the gas prices and television channel sample splits also have testable predictions. Instead of jumping to second-stage estimates of consumption and savings, it would be reassuring to see that they first affect inflation expectations as predicted

Concluding Thoughts

- Exciting policy experiment with really neat data!
- Authors are exploring interesting theoretical mechanisms for household responses to inflation and new outcomes
  - → I love the emphasis on household balance sheets as mediator
- Additional data work will increase the credibility of their results and pressure test their preferred interpretations

Thanks!