

Discussion

“Endogenous Uncertainty and the Macroeconomic Impact
of Shocks to Inflation Expectations”

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Inflation expectations closely watched by central bankers

“The 1970s saw two periods in which there were large increases in energy and food prices, raising headline inflation for a time. [...] One likely contributing factor was that the public had come to generally expect higher inflation—one reason why we now monitor inflation expectations so carefully.”

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But surprisingly little [in the words of the authors] evidence on the macroeconomic effects of exogenous fluctuations in short-term inflation expectations.

Overview

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Builds a non-linear DSGE model with inflation expectation shocks and links it to a sign-restriction SVAR to study the macro effects of inflation expectation shocks.

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Plan for this discussion

- Brief summary
- Comments + suggestions covering economics and methodology

What the authors do

1. **Theory**: Build novel DSGE model solved at third order. Main features
 - 1-period ahead inflation expectations can deviate from their RE solution
→ short-term inflation expectations shock
 - endogenous firm entry/exit
 - endogenous measures of uncertainty

What the authors do

1. **Theory:** Build novel DSGE model solved at third order. Main features
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→ short-term inflation expectations shock
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2. **Empirics:** Use model predictions to identify inflation exp. shock in the data
 - identify shock via sign restrictions in structural VAR
 - estimate model via IRF matching
→ run model counterfactuals (e.g., roles of nonlinearity and firm dynamics)
 - local projections to allow for asymmetric effects in sign of shock

What the authors find

- Positive shock to short-term inflation expectations has negative macro effects:
inflation \uparrow and output \downarrow
- Endogenous uncertainty and firm dynamics key for transmission
- Asymmetry in sign of shock:
→ shocks that increase inflation expectations have stronger effects
- Theoretical and empirical evidence lines up well

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What they are **not** (according to the authors):

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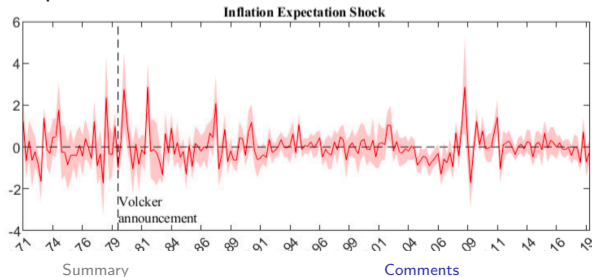
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So, putting aside the technical identification, can we spin a historical narrative for short-term inflation expectation shocks?



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→ take the linear VAR IRFs and nonlinear model IRFs

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→ would recommend to at least use generalized model IRFs

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→ is it firm entry and exit?

Comment # 3b: Asymmetries

More fundamentally: let's say the world is indeed asymmetric in the sign of the shock
→ isn't the linear VAR then misspecified?

Shouldn't the target IRFs for model estimation then rather be the asymmetric LP IRFs
matched to the corresponding model IRFs (+/-)?

Comment # 4: Miscellaneous

1. Monte Carlo simulation to derive sign restrictions:
 - How do you choose “key” parameters?
 - Wouldn't Bayesian approach with draws from priors be more natural?
 - Could then also do Bayesian IRF matching (Christiano et al., 2010)
 - And provide HPDIs for the model IRFs
2. Related IMF Paper by Adams/Barrett (2022) “Shocks to Inflation Expectations”

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- Results so far look very intriguing
- My advice in a nutshell:
 - Economics: flesh out some of the intuitions/mechanisms more fully
 - Methodology: make model and VAR/LP IRFs more comparable
- Certainly looking forward to the next iteration

References I

-  Adams, Jonathan J. and Mr. Philip Barrett (2022). “Shocks to inflation expectations”. IMF Working Papers 2022/072.
-  Christiano, Lawrence J., Mathias Trabandt, and Karl Walentin (2010). “DSGE models for monetary policy analysis”. *Handbook of Monetary Economics*. Ed. by Benjamin M. Friedman and Michael Woodford. Vol. 3. Handbook of Monetary Economics. Elsevier. Chap. 7, 285–367.