Discussion: "Endogenous Uncertainty and the Macroeconomic Impact of Shocks to Inflation Expectations" by Guido Ascari

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September 30, 2022

Executive Summary

What does an inflation expectation shock does to the economy?

- Use a rich heterogeneous firm model to derive sign restrictions.
- Then use those restrictions on a VAR with narrative to estimate an **expectation shock**.
- After an increase in inflation expectations:

  Economy experiences a contraction while inflation goes up.

  The dynamics resembles that of a negative supply shock.

  But, endogenous output uncertainty rises.

  Similar to Jesper's paper, shock impact is asymmetric with stronger effects from inflationary expectations shocks.

Comments

Where does this paper fit in literature?

- Endogenous versus exogenous uncertainty debate.

  Endogenous nature of output uncertainty resonates well with empirical results from Ludvingson, Ma, and Ng (AEJ: Macro, 2021).

  Uncertainty is endogenous due to mismeasurement – Straub and Ulbricht (R&R RESTUD).

  Bachmann and Moscarini (2012).

- Firm heterogeneity literature – Real Business Cycle by Bloom et al. (ECTA, 2018).

Comments

What is a **Shock to Inflation Expectations**? Theory

- In model:

$$\mathbb{E}_t \pi_{t+1} = \pi^e_{t+1} e^{\epsilon_{\pi,t+1}},$$

  where π^e_{t+1} is the rational expectations.

  $\rightarrow$ A shock to inflation expectations is a particular departure from full rationality.

- Diagnostic expectations is an alternative.

- How well this modeling choice fares with survey evidence?

Comments

What is a **Shock to Inflation Expectations**? Theory

- Let's look under the hood – a simplified Phillips curve

$$\pi_t = \kappa x_t + \beta \mathbb{E}_t \pi_{t+1}$$

where x_t is output gap.

- Using inflation expectation shock definition

$$\pi_t = \kappa x_t + \beta(\pi^e_{t+1} + \epsilon_{\pi,t+1})$$

Comments

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$$\pi_t = \kappa x_t + \beta(\pi^e_{t+1} + \epsilon_{\pi,t+1})$$

BUT, replace using original Phillips curve

$$\pi_t = \kappa x_t + \beta(\kappa x^e_{t+1} + \beta \mathbb{E}_t \pi_{t+2} + \epsilon_{\pi,t+1})$$

$\epsilon_{\pi,t+1}$ could be a shock related to output gap tomorrow. A news shock?

Comments

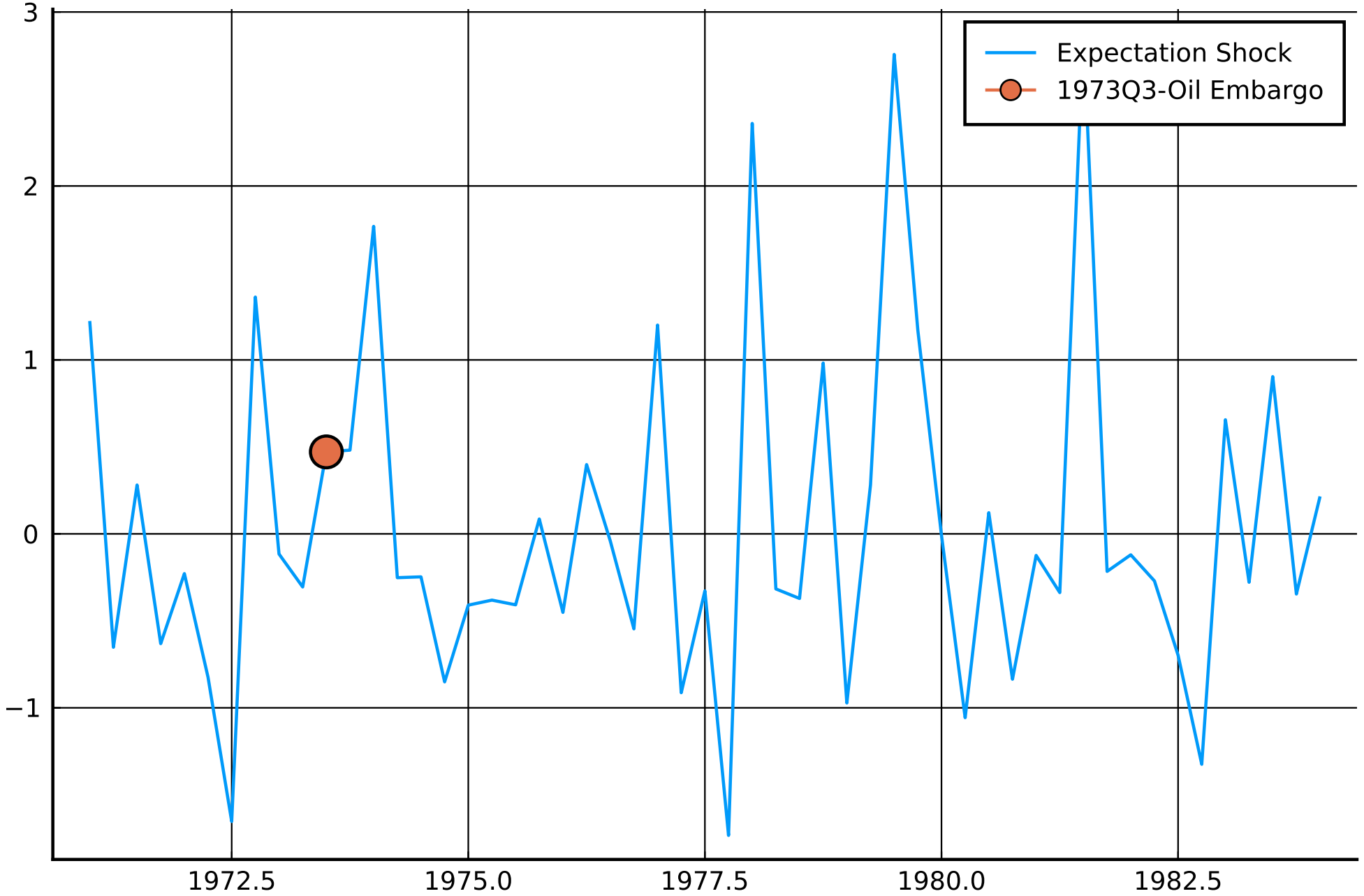
What is a **Shock to Inflation Expectations**? Empirics

- In data, it is partially identified with Volcker's appointment 1979.Q3
- But there other relevant shocks:

  Oil embargo 1973 - 1974.

  Iranian revolution 1979.

  Let's look at the estimated inflation expectation shocks.


Expectation Shock
1973Q3-Oil Embargo
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1975.0
1977.5
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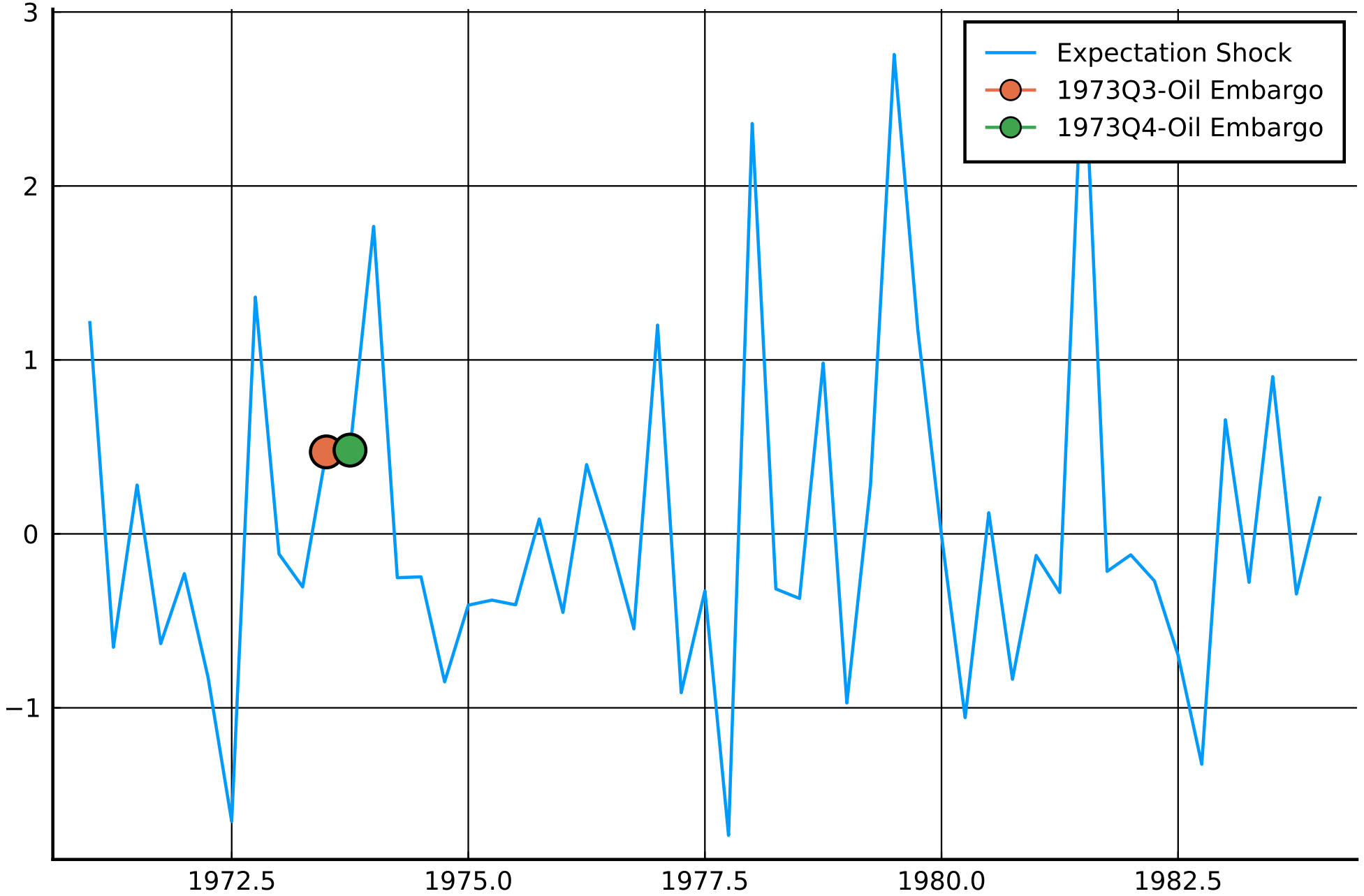
1982.5


Expectation Shock
1973Q3-Oil Embargo
1973Q4-Oil Embargo
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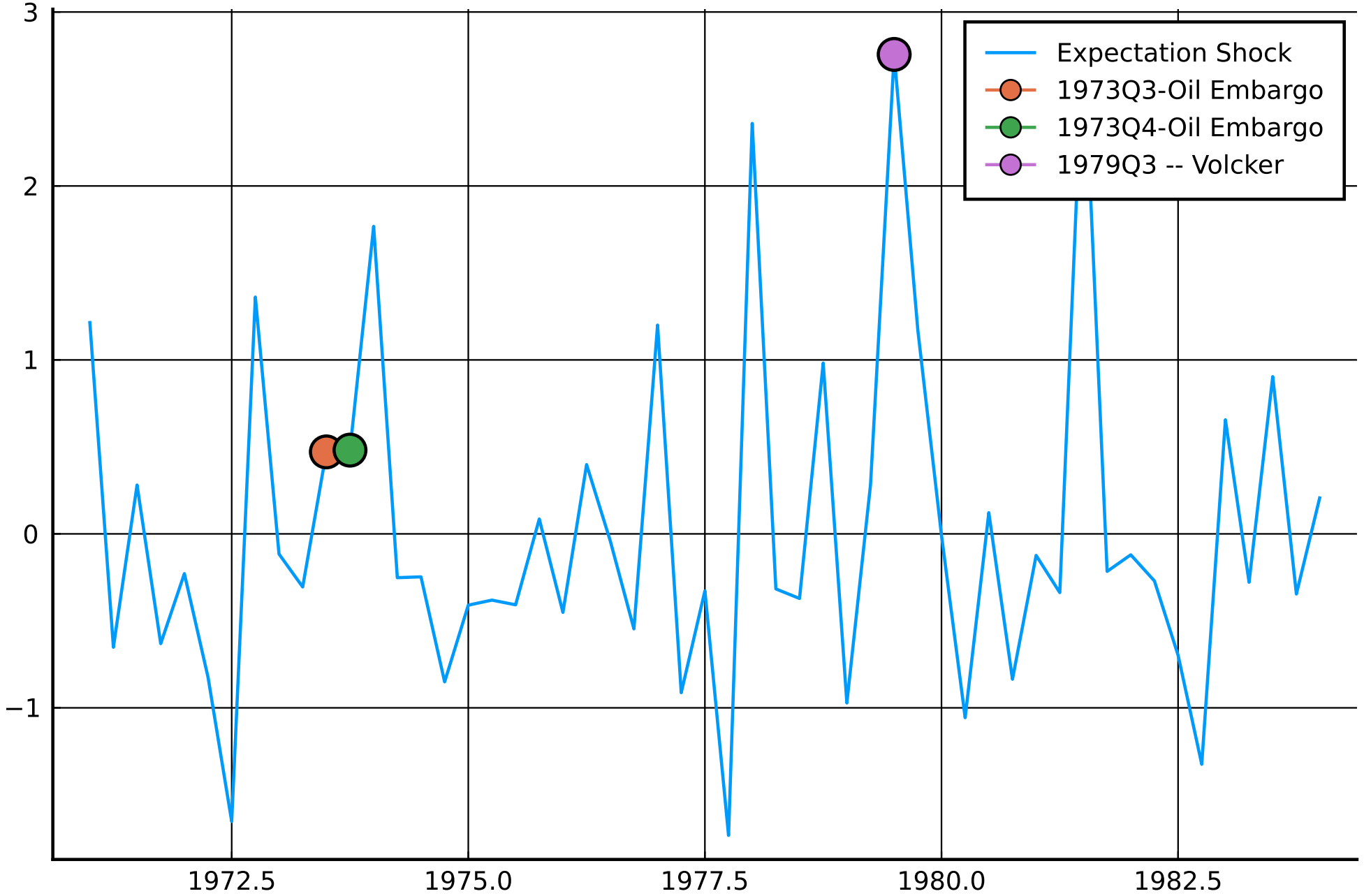
Expectation Shock
1973Q3-Oil Embargo
1973Q4-Oil Embargo
1979Q3 -- Volcker
3
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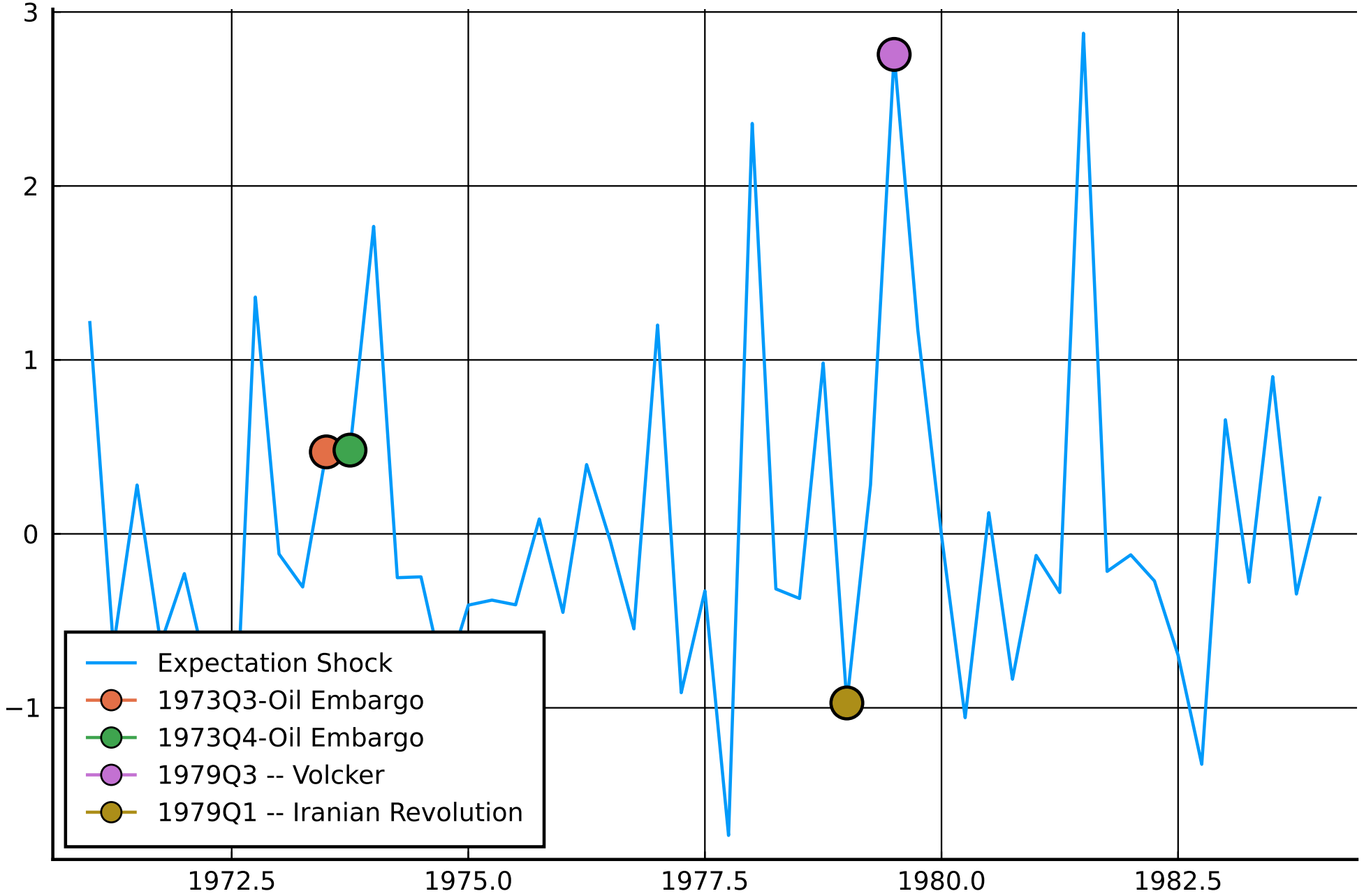
1972.5
1975.0
1977.5
1980.0
1982.5


3
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Expectation Shock
1973Q3-Oil Embargo
1973Q4-Oil Embargo
1979Q3 -- Volcker
1979Q1 -- Iranian Revolution

Comments

- How much do 1970s bring to analysis?
- Similar to fiscal policy shocks, there is an anticipation effect.
- Use insights from that literature to sharpen identification.

Comments

On endogenous uncertainty

- Endogenous uncertainty is a symptom of **nonlinearities** in the model.
- These nonlinearities arise from adjustment costs.
- Calvo and Rotemberg are not the same.
- Unorthodox monetary policy rule: growth and level output responses.
- There is an endogenous probability of exit for firms.

  Perturbation approach does not guarantee that probability is between 0 and 1.