What Explains Global Inflation?

Ha, Kose, Ohnsorge, Yilmazkuday

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[1] The views expressed here are solely those of the author and do not reflect the opinions of the Federal Reserve Bank of Boston or the Federal Reserve System.

Summary

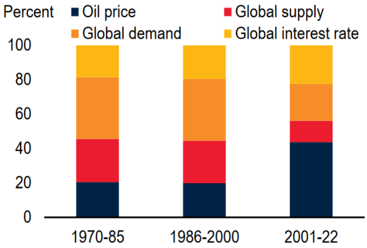
- Question: how does the global inflation factor respond to shocks in global supply, global demand, global interest rates, and global oil prices?
- Step 1: Identify the global inflation factor (as well as global output and interest rate factors) from individual G7 countries
- Step 2: Impulse response (FAVAR) using sign + narrative restrictions

$$\begin{pmatrix} u_t^{\pi,global} \\ u_t^{Y,global} \\ u_t^{R,global} \\ u_t^{\Delta op} \end{pmatrix} = \begin{pmatrix} - & + & - & + \\ + & + & - & - \\ * & + & + & * \\ + & + & * & + \end{pmatrix} \times \begin{pmatrix} \varepsilon_t^{GlobalSupply} \\ \varepsilon_t^{GlobalDemand} \\ \varepsilon_t^{GlobalInterest} \\ \varepsilon_t^{OilPrice} \end{pmatrix}$$

Primary contribution

- Oil price shocks are the largest contributor to global *headline CPI*, followed by global demand shocks.
- Global supply shocks are the largest contributor to global *core CPI*, followed by global demand shocks and interest rate shocks.

B. Variance decompositions of global inflation: over time



Stepping back: some context

1. The global inflation factor has increased in importance (literature reviewed in Ha, Kose, Ohnsorge 2019)

2. How does globalization affect inflation? Multiple channels, including...
   - Increased trade and linkages in global supply chains
     - Increased product and labor competition, greater flexibility of prices and wages (Rogoff 2004)
     - Increased use of imports as intermediate goods and in the CPI basket
   - Dollarization

This study combines these two literatures: how do different *global* shocks affect the global inflation factor?

- Cohesive, GE framework vs testing mechanisms ad hoc
- **Can we go a step further?**
- I'd like a better understanding of how the identified global shocks relate to these theories

Policy implications

- Global developments are important to individual countries' inflation

- Which global developments should policy makers be most attuned to?
  - Global business cycles vs trade, supply chain, and competition changes

- Supple and demand shocks have important difference...

$$\begin{pmatrix} u_t^{\pi,global} \\ u_t^{Y,global} \end{pmatrix} = \begin{pmatrix} - & + \\ + & + \end{pmatrix} \times \begin{pmatrix} \varepsilon_t^{GlobalSupply} \\ \varepsilon_t^{GlobalDemand} \end{pmatrix}$$

  - Positive supply shocks lead to lower inflation; positive demand shocks lead to higher inflation
  - Supply shocks imply a *trade-off* between inflation and output, while demand shocks don't

More specific comments

- What is the effect of global shocks on specific countries? How does this differ between developing and developed economies?
  - Robustness: construct leave-one-out global factors to see if they're driven by any one country. How do these leave-one-out factors effect individual countries?
- Focus on core CPI for main results
  - Monetary policy should respond to the more persistent components of inflation
- How persistent are the four global factors?
- What are the implications of stripping out global oil shocks from overall supply shocks?