Discussion of Colacito, Croce, Liu and Shaliastovich's "Volatility Risk Pass-Through"

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Introduction

- Interesting paper and a learning experience for me
- Summary
  - comparison with papers where markets are less complete (Aguiar and Gopinath, 2007; Fogli and Perri, 2015)
- Comments

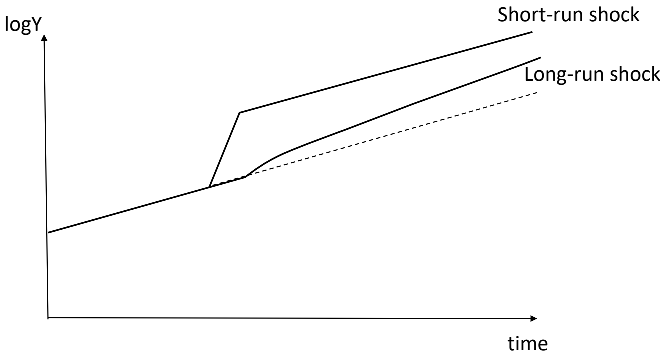
Summary

Model

- 2 countries (h and f)
- 2 goods (h and f)
- Cobb-Douglas with home bias + Epstein-Zin
- Endowment processes with 3 shocks
    - short-run growth shock
    - long-run growth shock
    - growth volatility shock
- Complete markets

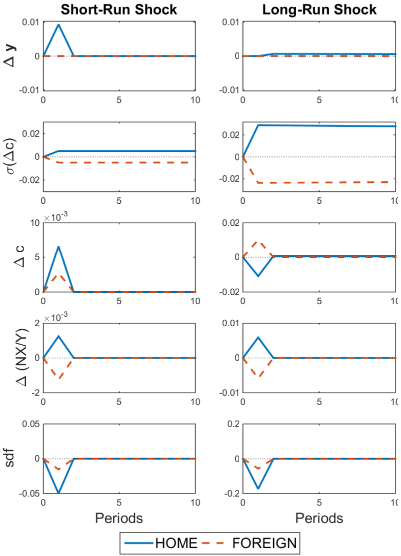
Summary

Shocks

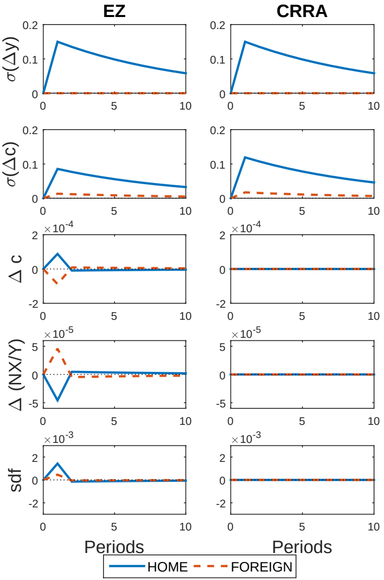


- Volatility of <u>short-run</u> shock is stochastic → volatility shocks

Summary


Short-Run Shock
Long-Run Shock
Δ y
σ(Δc)
Δ c
Δ (NX/Y)
sdf
×10^-3
Periods
Periods
HOME
FOREIGN

Summary

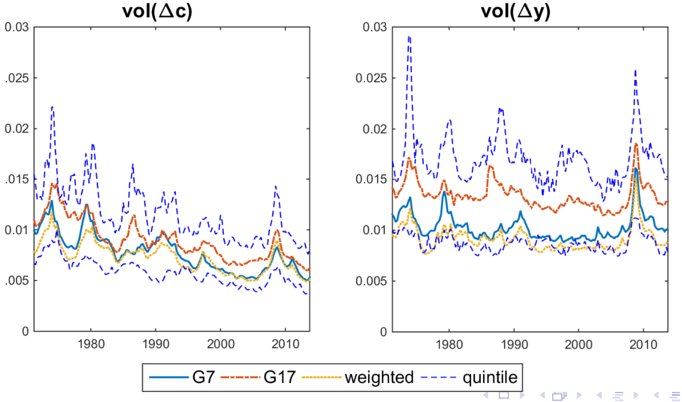


EZ
CRRA
σ(Δy)
σ(Δc)
Δ c
Δ (NX/Y)
sdf
×10^-4
×10^-5
×10^-3
Periods
Periods
HOME
FOREIGN

Data

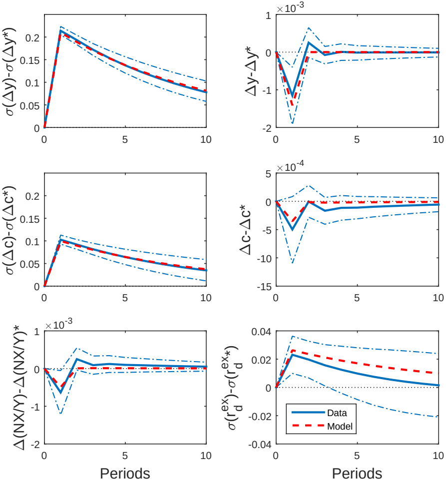
- Estimate volatility shocks in gdp and consumption growth in a latent variable model

$$
\begin{aligned}
z_t &= \rho z_{t-1} + e^{\sigma_t/2}\eta_t \\
\sigma_t &= \nu\sigma_{t-1} + \sigma_w w_t
\end{aligned}
$$



Summary

Compare IRF to volatility shocks in data and model



Comments

Comment 1: discrepancy between estimated and calibrated models

- Volatility shocks are latent variables (estimated not observed)
- But the model used to estimate volatility shocks does not assume the same stochastic processes as the calibrated model
    - no distinction between short-run and long-run growth shocks
    - no correlation between growth level shocks and growth volatility shocks
- A problem?

Comments

Comment 2: what do we need stochastic volatility for?

- By construction, we need a model with stochastic volatility to explain the second moments involving volatility
  - but again, these volatilities are constructed not observed
- To which extent do we need stochastic volatility to explain the moments that matter, i.e., the moments involving primitive observable variables such as output, consumption, real exchange rate, etc.?

Comments

Comment 3: financial frictions

- Mild form: incomplete markets
  - the properties of the model depend a lot on the level of market completeness
  - in the real world, what instruments can be used to insure against shocks to the volatility in short-run growth shocks?
- Strong form: the tail realizations in consumption and output that are interpreted as volatility shocks could result from financial amplification (Jeanne and Korinek, 2010, etc.)

Conclusions

- Interesting paper

THANK YOU