Discussion of

"Sources of Borrowing and Fiscal Multipliers"

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The views expressed on this presentation do not necessarily reflect the positions of the Federal Reserve Bank of St. Louis or the Federal Reserve System.

Does it matter who the government borrows from?

Yes: foreign-financed $G \uparrow$ yield larger multipliers than domestic-financed

Why is this?

- Borrowing from abroad: investment is **crowded-in**

- Borrowing domestically: investment is **crowded-out**

- Impact on consumption is similar across cases

Authors show that this result:

- Holds in the data, across countries

- Can be rationalized by a relatively standard SOE model

This Paper: Empirics

- 33-country SVAR, 1995:Q1-2016:Q4

$$\{G_t, Y_t, C_t, I_t, (B_t - B_t^*)/B_t^*\}$$

- Standard timing assumptions identify fiscal shocks

- Sign restrictions on the domestic/foreign debt ratio identify whether shock is foreign- or domestic-financed

- Foreign (domestic)-financed fiscal shocks generate larger (smaller) multipliers and make $I_t \uparrow (\downarrow)$

- Many robustness checks

This Paper: Model

- Simple SOE model with three types of debt

  1. Private external

  2. Public domestic

  3. Public external

- Basic model: with sufficiently high financial frictions, foreign-financed fiscal shock crowds in investment

- Model challenges:

  - Domestic-financed fiscal shocks generate larger multipliers on impact

  - Components of domestic absorption (such as consumption) react in the same way

1. Model transmission channels of fiscal policy and interest rates

2. Model-based identification of foreign vs. domestic-financed shocks

3. Financial frictions and capital account openness

Main Result
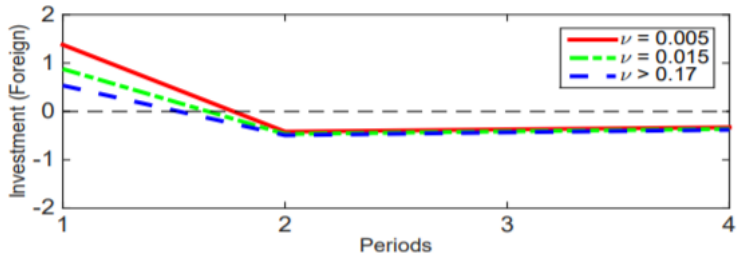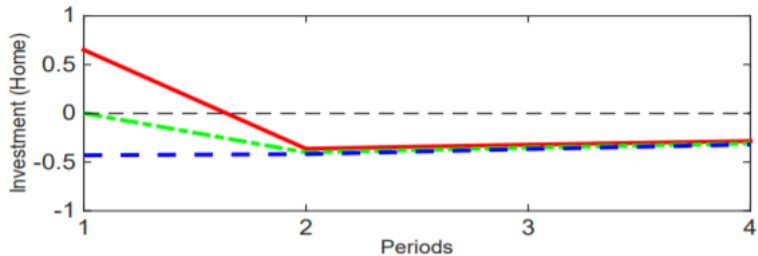
Interest Rates in the Model

"*The fundamental mechanism that brings about the different effect of govt spending on investment relies on the specification of the economy's resource constraint*"

- Is it the resource constraint or the interest rate specification?

$$R_t^{f,k} = r^* + \nu \exp\{\exp(b_t^{f,k} - \bar{b}) - 1\}$$
$$= R_t^h = R_t^f \simeq 1 + r_{t+1}^k$$

- All interest rates in the economy ($+$ MPK) pinned down by private external borrowing

$$\mathbb{C}(b_t^{f,k}, MPK_{t+1}) > 0 \Rightarrow \mathbb{C}(b_t^{f,k}, I_t) < 0$$

Interest Rates in the Model vs. Data

- **Main Result:** DF $G \uparrow$ crowds-out investment, while FF crowds-in.

- DF $G \uparrow$ raises private external borrowing, while FF $G \uparrow$ lowers it

- All of this hinges on $\partial R_t^{f,k}/\partial b_t^{f,k} > 0$

Is this consistent with the data?

- Does it make sense to assume that interest rates react directly to private external borrowing as opposed to total borrowing?

- Relaxing this assumption could overturn the result

- Given specification + results, a FF shock can <u>lower</u> total external borrowing

Interest rates and Impact Multipliers

K_t fixed in the SR + domestic financing crowds out $I_t \Rightarrow MPL_{t+j} \downarrow$

- DF causes a "more negative" wealth effect that results in larger impact multiplier

- Authors solve this by assuming a wedge for public borrowing costs

$$R_t^f = R_t^h \left[1 + \chi b_t^h / b^h \right]$$

- Implicit double whammy for DF: not only $R_t^h \uparrow$ (due to private borrowing $\uparrow$), but also $R_t^f \uparrow$ by *more* than that

- Does it make sense that <u>foreign</u> cost of borrowing responds *only* to <u>domestic</u> borrowing?

- Relaxing this assumption could overturn the result

Interest Rates in the Model vs. Data

- Model results rely on specific assumptions for how interest rates are determined.

- Are these assumptions consistent with the data? Should be easily testable.

If we take the model seriously, and test these assumptions:

- Alternative identification scheme for DF/FF shocks

- DF shocks associated with <u>increases</u> in private capital inflows

- FF shocks associated with <u>decreases</u> in private capital inflows

- DF shocks should result in larger increases in interest rates, both for government and private sector

Financial Frictions and Capital Account Openness
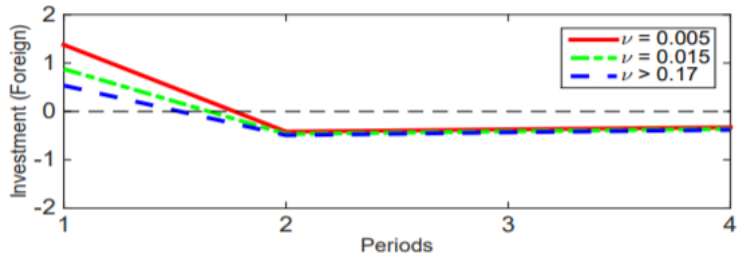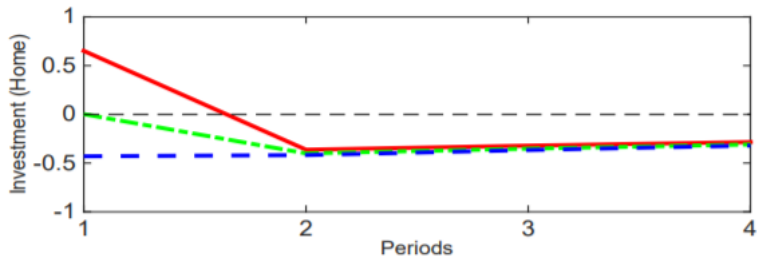
Financial Frictions and Capital Account Openness

- Authors show that for sufficiently low financial frictions, fiscal shocks can raise investment regardless of the source of borrowing

- "Easy" way to measure private sector financial openness:

$$\frac{\text{Gross Capital Flows}_{it}}{\text{GDP}_{it}}$$

- More convincing sample split than some of those used to measure the extent of private borrowing frictions

  1. GDP volatility

  2. Share of foreign loans

Conclusion

- Very nice and polished paper

- Main result makes a lot of sense, and seems quite robust

- Comments should be taken more as food for thought for future
  work