#### Discussion of: International Credit Supply Shocks by A. Cesa-Bianchi, A. Ferrero, and A. Rebucci

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# Background

- Long-ongoing quest to understand interaction between capital flows, asset prices, and boom- bust dynamics in small open economies
- Examples: Caballero and Krishnamurty (2001, 2009), Mendoza (2006), Aoki, Benigno, and Kiyotaki (2009), Jeanne and Korinek (2010)...
- Recent renewed interest in role of global drivers of domestic real estate dynamics
- Darius and Radde (2010), Jara and Olaberria (2012), Aizenman and Jinjarak (2014), Banti and Phylaktis (2017), Sa, Towbin, and Wieladek (2011), Aizenman and Jothin (2011), Jinjarak and Sheffrin (2011), Tillmann (2013), Cespedes, Cesa-Bianchi, and Rebucci (2015)

#### Background

Typical results in literature:

Shock to global financial conditions or capital inflows empirically associated with RER appreciation, rise in consumption, and real estate prices increases in small open economies. Effects are mostly mild.

## **Structure of Paper**

• Theoretical model + empirical estimation

#### Theory

- Simple 2-country open economy model. Households demand home goods, foreign goods, & housing services. Global bank channels funds from more 'patient' to less patient country.
- Financial frictions: 1) Collateral constraint à la Kiyotaki and Moore (1997) limits household debt to a fraction of housing purchased; 2) Global bank subject to capital constraint & equity financing is costly

# **Theory: Key Mechanism**

- Focus on less patient case (small open economy) that borrows from global bank.
- If borrowing constraint is binding:
- Relaxation of capital requirement for global bank→credit supply ↑ → house prices ↑, consumption↑, RER appreciation

 Amplification effect: Both house price increases and RER appreciation can amplify credit supply shock by expanding borrowing capacity; effect larger when share of fx borrowing high

#### **Comments on Theory**

- Key mechanism absent when collateral constraint not binding.
- Higher LTV amplifies mechanism when collateral binds-- but may also make collateral constraint not binding
- →LTV can have perverse effects

### **Comments on Theory**

- Simple structure helps highlight important mechanisms but also imposes limits:
  - 2-period structure does not allow to fully capture amplification dynamics
  - No domestic intermediary/explicit role of domestic financial system/development
  - Mortgage debt not key in EMs; real estate as collateral for fixed investment is important - but model has no investment
  - General equ'n (2 country) feature not really used in discussion nor empirics
  - -Share of fx borrowing not explained

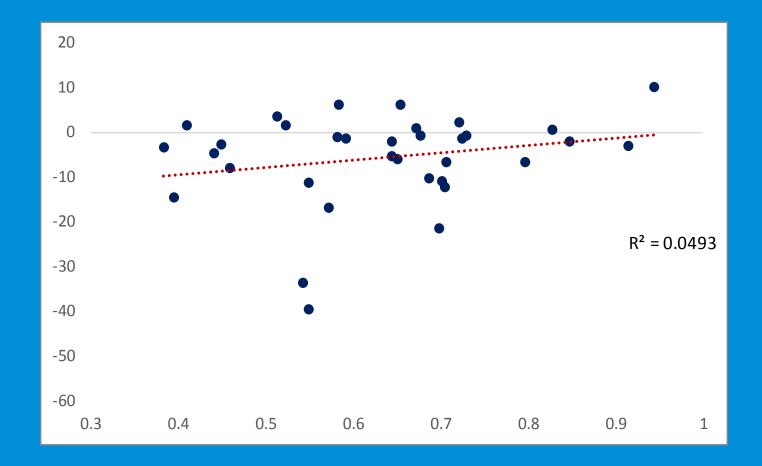
# **Empirical Analysis**

- PVAR model with 50 countries
- Credit supply shocks= Leverage of US Broker-Dealers (à la Bruno and Shin, 2015)
- Dynamics of consumption, house price, RER, and CA broadly consistent with model.
- Effects higher for countries with larger fx liabilities and larger LTV ratios

## **Comments on Empirics**

- Well executed
- Effects not very large, in line with stylized facts on boom-bust episodes
- Explore further role of housing markets and policies (Cerutti, Dagher, and Dell'Ariccia 2015)
- Examine role of domestic financial system, channels of transmission (e.g. Banti and Phylaktis 2017), exchange rate regime, types of capital flows (Igan and Tan 2015)

#### House Price Sensitivity to Global Financial Conditions and Financial Development



Sources: IMF Housing Watch, IMF GFSR April 2017, and Sahay et al (2015).

# Conclusion

- Carefully done, clear paper on important topic
- Suggestion: shorten theory and deepen empirics.
- Issues to explore: different types of capital flows/channels, financial development, housing policies, LTV/LTI effects