

Discussion of “Exchange Rate Fluctuations and Firm Leverage” by Kalemli-Ozcan, Liu, and Shim

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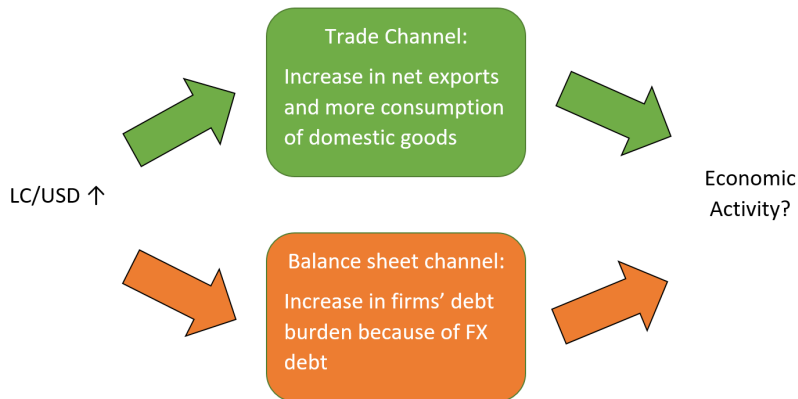
Federal Reserve Board

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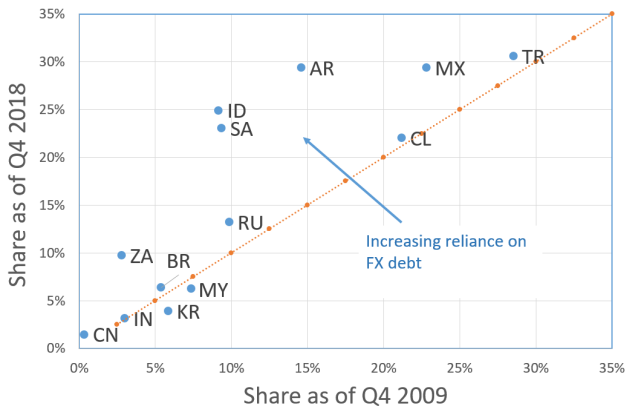
Effect of exchange rate changes on macro economy



How quantitatively relevant is the balance sheet channel? How does it operate?

Growing FX debt has made questions more pressing

Share of USD debt in non-financial credit



Source: BIS data, own calculations

This paper: Exchange rate movements and firm leverage

$$\text{Leverage}_{ijct} = \beta \text{FXdebt}_{c,t-1} \times \text{DummyXR}_{c,t}^k + [\dots] + \alpha_i + \gamma_c + \phi_{jt} + \epsilon_{ijct} \quad (1)$$

- Leverage_{ijct} : Ratio of financial debt over total assets at the firm-level
- $\text{FXdebt}_{c,t-1}$: Share of FX debt at the country level, 10 Asian economies, 2002-2015
- $\text{DummyXR}_{c,t}^k$: Dummy for exchange rate changes smaller or larger than k percent

Exchange rate change	Effect on leverage		
	Low FX debt (5%)	Mean FX debt (12%)	High FX debt (35%)
10 percent local currency depreciation ↓	0.06	-0.13	-0.4
10 percent local currency appreciation ↑	-0.004	0.01	0.03

Mean leverage=0.16

Results consistent with Salomao and Varela (2018) appendix results

Comments: Overview

- Important paper that I enjoyed reading a lot
- One of relatively few papers that use firm-level data to study firms' responses to exchange rate movements
 - ▶ Aguiar (2005), Kim et al. (2015), Kalemli-Ozcan et al. (2016), Salomao and Varela (2019), Hardy (2018), Niepmann and Schmidt-Eisenlohr (2017)
- General challenge:
 - ▶ Exchange rate movements are endogenous to economic activity, therefore micro-level data are needed
 - ▶ But micro data on FX exposures hard to get (FX debt, FX assets plus hedging)

Main comments:

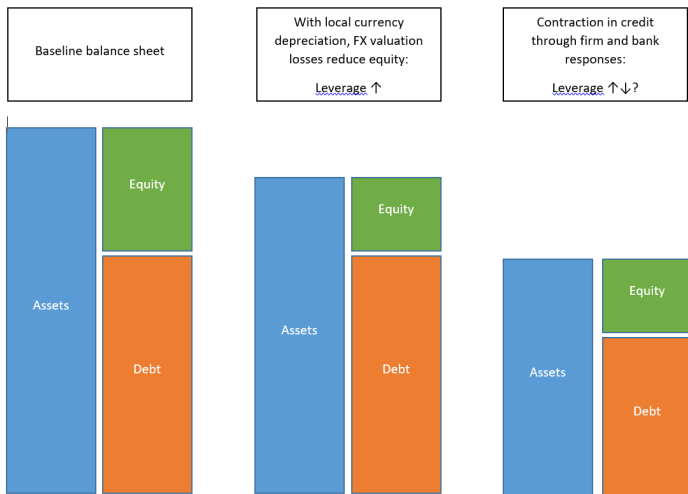
- 1 Data
- 2 Theory
- 3 Interpretation of the results

New data source of countries' FX debt

- Very few sources for this type of information: Institute of International Finance Global Debt Monitor (IIF), Benetrix, Lane and Shambaugh (2015)
- FX debt share constructed as: Dollar, Euro and Yen denominated loans and bonds of the non-bank sector (BIS Global Liquidity Indicators) divided by credit to the non-financial (private) sector (BIS Total Credit Series)
- Publicly available BIS data allows one to construct FX debt share for only 13 countries but many more countries included in the paper
- Suggestions
 - ▶ More information on data construction
 - ▶ Comparison to other data sources
 - ▶ Make more data publicly available

Theory: Exchange rate changes and leverage

- Mechanically leverage increases after local currency depreciation
- Not entirely clear how leverage adjusts over which time horizon

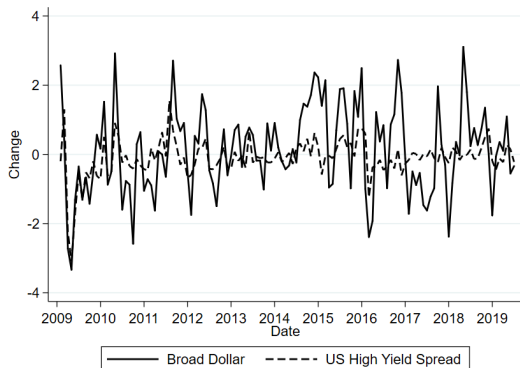


Suggestions

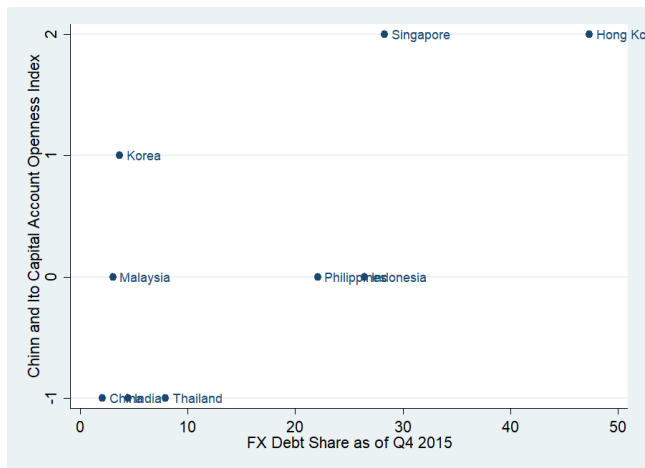
- Provide some theoretical background that explains why firms should decrease leverage after local currency depreciation
- Clarify and provide more evidence on the timing of the deleveraging
- Control for interaction term between credit-to-GDP gap and change in the exchange rate
- Link FX valuation adjustments of firms to changes in leverage

Interpretation of the results: The dollar cycle

- Dollar exchange rate is an indicator of risk appetite in global capital markets (Avdiev et al. (2019))
- Even credit conditions for U.S. firms are correlated with the dollar where mismatches do not play a role (Niepmann and Schmidt-Eisenlohr (2018), Meisenzahl, Niepmann, Schmidt-Eisenlohr (2019))



Share of FX debt is correlated with openness



Chinn-Ito index based on restrictions on cross-border transactions reported in the IMF's AREAER database

More work needed to disentangle channels

- Key to understand whether currency mismatches or the “global financial cycle” drive results
- Sousha (2019) finds that dollar shocks reduce investment even in countries with low FX exposure
- Suggestions:
 - ▶ Control for changes in the broad dollar index interacted with FX debt share
 - ▶ Control for country characteristics (e.g. openness) interacted with exchange rate changes

Conclusions

- It is key to understand the “financial channel” of the exchange rate
- This paper makes important progress in this regard by
 - ▶ Providing novel data on FX debt by country
 - ▶ Showing that firm leverage declines with local currency depreciation, the more so the more FX debt a country has
- In principle, financial channel of exchange rate could be limited to balance sheet channel but dollar movements affect firms without currency mismatches (existence of a “dollar cycle”)
- More micro data and more research are needed on this topic
- Sebnem and coauthors will make great contributions