Exchange Rates and
the Transmission of Global Liquidity

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NBER Capital Flows, Currency Wars, and Monetary Policy

Summary

▶ Bruno and Shin (2015): Risk-taking channel of exchange rates

▶ This paper

  ▶ Evidence for this channel across major currencies

▶ This discussion:

  ▶ Paper in literature

  ▶ Review of main results

  ▶ Some suggestions

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- ▶ Bruno and Shin (2015 ReStud): "Cross-Border Banking and Global Liquidity"
    - ▶ Real appreciation of LC $\implies$ Capital flows to banking sector $\uparrow$

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  - ▶ USD appreciation $\implies$ Spreads widen
- ▶ Avdjiev, Du, Koch, and Shin (2017): "The Dollar, Bank Leverage and the Deviation from Covered Interest Parity"
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- ► Avdjiev, Bruno, Koch, and Shin (2018): "The Dollar Exchange Rate as a Global Risk Factor"
  - ► USD appreciation $\implies$ Cross-border flows ↓ $\implies$ Investment ↓

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- ▶ **Heterogeneity in Strength of Risk-Taking Channel by Currency**
  - ▶ **Funding Currency appreciation $\implies$ Reduction in cross-border flows in that funding currency**
  - ▶ **Global funding currencies: USD, JPY, and (maybe) EUR**

Framework

- Country-by-Country

$$\Delta xbl_{i,t}^c = \alpha_i^c + \beta_{\mathbf{i}}^{\mathbf{c}} \Delta \mathcal{E}_{i,t}^c + \sigma_{i,t}^c$$

- Panel

$$\Delta xbl_{i,t}^c = \alpha^c + \beta^{\mathbf{c}} \Delta \mathcal{E}_{i,t}^c + \sigma_{i,t}^c$$

- Variables

  - $\Delta xbl_{i,t}^c$ is the % growth rate of cross-border lending to country i in currency c
  - $\Delta \mathcal{E}_i^c$ is % change in BER_i^c or $NEER^c$
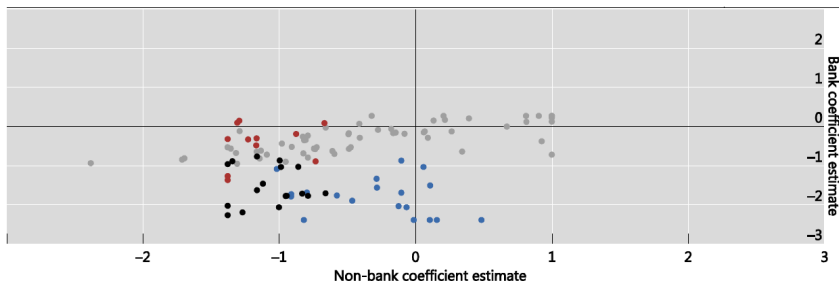 - $c \in \{USD, JPY, EUR\}$

Main Result: Country-by-Country

$$\Delta xbl_{i,t}^{USD} = \alpha_i^{USD} + \beta_i^c \Delta NEER_t^{USD} + \epsilon_{i,t}^{USD}$$

Estimated coefficients from country-specific regressions, US dollar

Main Result: Panel

$$\Delta xbl_{i,t}^{c} = \alpha^{c} + \beta^{c}\Delta\mathcal{E}_{t}^{c} + \sigma_{i,t}^{c}$$

	USD		JPY		EUR		
Sample	Full	Full	Full	Full	Full	Full	10-15
ΔBER	-0.224***		-0.222***		0.041		
	(0.067)		(0.062)		(0.042)		
$\Delta NEER$		-0.496***		-0.411***		0.116	~ -0.7
		(0.049)		(0.062)		(0.091)	
Obs	5,775	5,775	6,074	6,074	2,106	2,106	
R^2	0.042	0.045	0.023	0.026	0.068	0.069	

Composite of Tables 2, 4, 6, Graph 9

Interpretation:

- ▶ Dollar key global funding currency
- ▶ JPY has also been an important funding currency
- ▶ Post-2010 EUR gains that status

Mechanism

- Firm default probability P^{DEF} increases (balance sheet weakens) as USD appreciates ($\mathcal{E}_{USD} \uparrow$)

$$P^{DEF} = F\left(Revenues - \mathcal{E}^{USD} \cdot D^{USD}\right), \ F'\left(\cdot\right) < 0$$

- **Risk-taking channel**: If banks face constraints on how much risk they can take, a USD appreciation causes banks to reduce their lending because now borrowers have higher credit risk

Mechanism: Multiple Currencies

- Firm default probability P^{DEF}

$$P^{DEF} = F\left(Revenue - \mathcal{E}^{USD} \cdot D^{USD} - \mathcal{E}^{JPY} \cdot D^{JPY} - \mathcal{E}^{EUR} D^{EUR}\right)$$
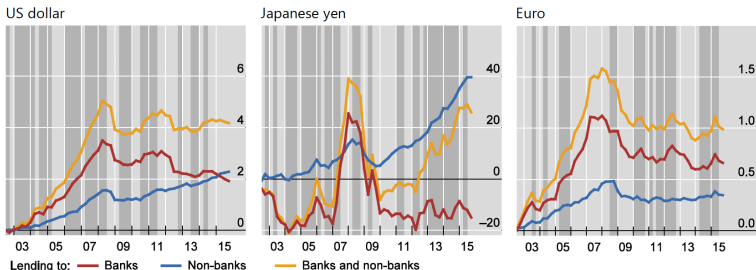
- P^{DEF} should be relatively more sensitive to the exchange rate in which a higher share of debt is denominated

International Use of Currencies

Cumulative flows of cross-border bank lending to non-residents

In trillions of the respective currency   Graph 2

The three panels show the cumulative lending flows to all borrowers worldwide located outside of the respective currency area (eg, in the left-hand panel, US dollar denominated cross-border lending to all borrowers located outside of the United States on a non-consolidated basis). Lending flows comprise loan issuance and holdings of debt securities. The shaded areas indicate a quarterly depreciation of the nominal effective exchange rate for the respective currency denomination.

Sources: BIS Locational Banking Statistics; BIS effective exchange rate indices.

Suggestion #1

- ▶ Examine sensitivity of *total* cross-border flows to movements in different currencies

$$\Delta xbl_{i,t} = \alpha_i + \beta^{USD}\mathcal{E}_{i,t}^{USD} + \beta^{EUR}\mathcal{E}_{i,t}^{EUR} + \beta^{JPY}\mathcal{E}_{i,t}^{JPY} + \epsilon_{i,t}$$

- ▶ Allows for possibility that currencies vary in how important they are for all global capital flows
- ▶ Global funding currency by β?

Suggestion #2

▶ What drives cross-country heterogeneity in β?

$$\Delta xbl_{i,t}^c = \alpha_i^c + \beta_i^c \Delta \mathcal{E}_t^c + \sigma_{i,t}^c$$

▶ Can heterogeneity in β be explained by the currency composition of country's debt? Other factors?

▶ Potential compliment to JPY panel regressions for Emerging Asia and EUR panel regressions for Non-euro area Europe results
  ▶ Uses the richness of the BIS LBS dataset to provide further evidence of channel

Conclusion

▶ Very interesting paper adding to an important and growing literature

▶ Compelling evidence for risk-taking channel of exchange rates for multiple currencies

▶ Suggestions to understand more about the cross-currency heterogeneity