Granular Banking Flows and Exchange-Rate Dynamics
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Disclaimer: views are my own and not necessarily those of the IMF.
Motivation

- A large share of capital flows is intermediated by banks

- We don’t fully understand yet the banks’ supply of cross-border dollar lending
  - Efforts focused on GE impacts of cross-border bank lending (Cesa-Bianchi, Ferrero, and Rebuucci, 2018; Aldasoro, Beltran, Grinberg, and Mancini-Griffoli, 2023)
  - Others identify FX markets’ elasticity using variation from mutual funds (Camanho, Hau, and Rey, 2022), index rebalancing (Hau, Massa and Peress, 2010; Beltran-He, 2023)

- Inelastic banks could result in significant impacts on the exchange rate

- This Paper:
  Contributes to understanding of banks’ cross-border dollar lending and impacts on FX, by identifying elasticity of demand for dollars
This paper

**Theory:** Motivated by endogenous UIP under balance sheet constraints as in Gabaix-Maggiori (2015)

\[ q_{jt} = \phi^j \left( E_t \Delta e_{t+1} - (r_t - E_t r^j_t) + b_{ijt} \right) \]

**Empirical Setting**
- Uses micro data on cross-border dollar lending of banks operating in the UK since 1997
- Leverages bank-level granular shocks and size-variation of initial FX cross-border exposures

\[ z_t^j = q_{St} - q_{Et} = \sum_i \phi^j \left( S_{ijt} - \frac{1}{N} \right) b_{ijt} \]

- Intuition: Granular shocks are likely uncorrelated to macroeconomic conditions

**Main Findings:**
- Inelastic bank demand for dollars and elastic relative supply from ROW
- Heterogeneity across asset classes
- Shows evidence of banks’ balance sheet constraints impacting elasticity of demand
Comments

- Threats to identification
- Disentangling theoretical channel
- Additional refinements
Comment 1. Threats to Identification

Threats to identification arise from:

1. Exogenous premium
2. Endogenous premium
3. Other currency demand shocks
4. Measurement error of expectations and GE effects
Comment 1. Threats to Identification 1.1: Exogenous Premium

\[ q_{it}^j = \phi^j \left( \mathbb{E}_t \Delta e_{t+1} - (r_t - \mathbb{E}_t r_t^j) + b_{ijt} + \lambda_{ijt}^1 \mu_t + \lambda_{ijt}^2 \tau_t \right) \]

- Exogenous premium is a threat to identification with time-varying exposures to premium
  - Risk-premium shock, \( \mu_t \) (as in Farhi-Werning, 2012; Devereux-Engel, 2002)
  - CFMs (capital taxes and capital constraints as in Itskhoki-Mukhin, 2023)

- Need to show that GIV is not correlated with premium and CFMs
Comment 1. Threats to Identification 1.2: Endogenous Premium

- Alternative channel is currency risk exposures (as in Itskhoki-Mukhin, 2021)

\[ q^j_{it} + q^\text{domestic,j}_{it} = \phi^j \sigma^e_t \left( \mathbb{E}_t \Delta e_{t+1} - (r_t - \mathbb{E}_t r^j_t) + b_{ijt} \right) \]

- Two concerns that could lead to amplification bias
  - Risk bearing capacity depends on underlying volatility of FX
    - Estimates could be driven by periods of large volatility of FX
  - Banks cross-border dollar lending identified shocks correlate with domestic dollar lending
    - Role of dollar strength needs to be assessed
Comment 1. Threats to Identification 1.3: Other Currency Demand Shocks

Relative supply includes additional shocks from other passive investors and central banks

\[ q^j_{ROWt} = -\phi^j_{ROW} \left( \mathbb{E}_{t} \Delta e_{t+1} - (r_t - \mathbb{E}_t r^i_t) + b_{ROWjt} \right) + n^*_{jt} \]

- Affected by macroeconomic and global conditions and move exchange rates (e.g., Hau- Massa-Peress, 2010; Pandolfi-Williams, 2019, 2020; Beltran-He, 2023)

- Exposures of banks to these currency demand shocks are heterogenous
Comment 1. Threats to identification 1.4: Measurement Error of Expectations and GE Effects

- Estimation controls for observed FX and interest rate expectations

- Deviations of actual expectations from observed expectations are a potential threat to identification of the elasticity of demand

\[ v_t = \mathbb{E}_t \Delta e_{t+1} - \mathbb{E}_t \Delta \hat{e}_{t+1} \]

- Estimates could capture GE effects through expectations

- In line with timing and large persistence of the impacts on the FX (more than 8 months)
Comment 2. Disentangling Theoretical Channels

- This paper focuses on dollar-denominated cross-border bank-lending

- The paper could test these theories using data of banks total FX exposure

- Channels in the literature:
  - Balance Sheet Constraints (as in Gabaix-Maggiori, 2015)
    - Assumes balance sheet constraint only on FX cross-border position
    - Compatibility constraint
  
  - Currency Risk Exposure (as in Itskhoki-Mukhin, 2021)
    - Total exposure (including dollar lending to domestic)
    - Risk bearing capacity story
Comment 3. Refinements

- Optimal instrument following Gabaix-Koijen (2023)
  - Alleviates exogeneity assumption

- Heterogeneous risk-bearing of bank-intermediaries
  - Estimating weights in an iterative approach
  - Or acknowledging bank lending shocks come from variation in risk-bearing
    - Implications for identification in line with comment 1.1 and 1.2

- Implications of complementarity/substitution across asset classes needs to be addressed
  - Expanding model and empirical setting to address imperfect substitution across asset classes
  - Understanding portfolio choices of cross-border bank lending using granular shocks
  - Important for dollar liquidity provision in times of distress