

CERF Studentship Report: Project Update (April 2022)

Naoki Yago

Title: Exchange Rate Risk and Global Financial Instability

Presentation:

Title: Monetary Transmission under Heterogeneous Exchange Rate Exposure

- 2023 American Economic Association Annual Meeting, New Orleans

Title: Intervening against the Fed

Joint with Alexander Rodnaynsky (Cambridge) and Yannick Timmer (Federal Reserve Board)

Presentation by me:

- CERF Monday Lunchtime Meeting
- CERF Cavalcade (scheduled)
- 2nd Annual International Roles of the U.S. Dollar Conference, Federal Reserve Bank of New York (scheduled)

Presentation by co-author:

- 2023 Society for Economic Dynamics Annual Meeting, Colombia (scheduled)
- 1st annual conference of the Banco Central do Brazil (scheduled)

Non-technical summary:

Project 1: Monetary Transmission under Heterogeneous Exchange Rate Exposure

The project studies transmission of U.S. monetary policy to emerging market economies (EMEs) when firms are heterogeneous in terms of exposure to exchange rate risk. Recent literature shows that large firms have better access to foreign currency debt as they can tolerate the default risk relative to small firms (Maggiori et al., 2020). I use the data on identified monetary shock using a high-frequency method (Nakamura and Steinsson, 2018) and currency denomination of corporate debt. I found that, when the Fed tightens, large firms reduce the share of dollar debt over total debt, as well as investment in capital and financial assets, while there is little effect on small firms. These results imply that firm size heterogeneity and currency denomination of debt are important to understand the international transmission of monetary policy.

Project 2: Intervening against the Fed (with Alexander Rodnyansky and Yannick Timmer)

By identifying unexpected foreign exchange intervention (FXI) through deviations from estimated FXI rules, we study the interaction between US monetary policy surprises and FXI for exchange rates and stock prices across firms. We find that, without intervention, an unexpected Fed funds rate hike depreciates local currencies and decreases the stock price of firms, especially those whose debt is disproportionately denominated in US Dollars, consistent with the Global Financial Cycle literature. However, if central banks counteract by selling the US Dollar, the US monetary shock has a limited effect on the exchange rate and stock prices even for firms with US Dollar debt. These results suggest that FXI is a successful tool in muting the impact of the Global Financial Cycle.

The paper was accepted for 2nd Annual International Roles of the U.S. Dollar Conference, Federal Reserve Bank of New York; Society for Economic Dynamics Annual Meeting, Colombia*, and 1st annual conference of the Banco Central do Brazil* (*: presentation by co-author).

Project 3: Reserve Currency Paradox Redux: A Model of Rare Disasters and Flight to Safety

I explain the deviation from uncovered interest rate parity (UIP) using the disaster risk on external bond return. I measure the safety and liquidity of bonds using the creditor loss (haircuts). The bond return on external bond decreases significantly with small but positive probability. During disaster times, market become risk-averse and invest in safe dollar bonds. This not only leads to an endogenous deviation from UIP, but also UIP premium shows a right-tail and dollar appreciates during disaster. I constructed a simple three-period model to explain this mechanism and extend it to a more general infinite-horizon DSGE model with time-varying disaster probability using a non-linear solution method (Fernandez-Villaverde and Levintal, 2018). There are two next steps. Theoretically, I plan to study transmission of monetary and exchange rate policies via endogenous change in safety premium. Empirically, I will estimate the stochastic process of creditor loss on external bonds (haircuts) and study if this can explain the observed volatility and skewness of exchange rate and UIP premium.