

CERF Studentship Report: Project Update (August 2021)

Naoki Yago

Title: Exchange Rate Risk and Global Financial Instability

Presentation:

Title: Dominant Currency Debt, Firm Heterogeneity and Monetary Policy¹

Presented at 2021 Macro PhD Workshop, the University of Cambridge.

Non-technical summary:

Project 1: Monetary Transmission under Heterogeneous Exchange Rate Exposure

The project studies transmission of U.S. monetary policy to emerging economies when firms are heterogeneous in terms of exposure to exchange rate risk. It is well known that U.S. monetary tightening increases corporate borrowing risk in emerging economies due to the currency mismatch on balance sheet. However, data shows that large firms have more access to foreign currency debt than small ones as they can tolerate default risk. Hence, the effect of monetary transmission cannot be understood using representative agent framework. In particular, difference in balance sheet conditions leads to heterogeneous response of firms to monetary tightening, which potentially has a large impact on aggregate business cycles.

As a preliminary step of this research, I constructed a simple model without nominal rigidity and exchange rate risk. I studied how an exogenous increase in borrowing cost affects firms with different debt exposure. The result shows that small firms with low capital stock reduce investment and leverage due to higher default risk. I am currently extending the model to an open-economy New Keynesian model and studying how U.S. monetary tightening leads to exchange rate fluctuations, giving rise to potentially heterogeneous response across emerging economies' firms.

Project 2: High-Frequency Identification of Foreign Exchange Intervention (with Alexander Rodnyansky and Yannick Timmer)

We empirically assess how foreign exchange rate intervention (FXI) and exchange rate movements affect heterogeneous firms. Assessing the causal effect of FXI is challenging since the policy is not randomized but responds endogenously to exchange rate movements. In order to isolate the surprise component of intervention, we use high-

¹ The title of this project was revised to “Monetary Transmission under Heterogeneous Exchange Rate Exposure.”

frequency data on exchange rate and stock price.

In this project, I am collecting high-frequency data on exchange rate and stock price and conducting regression analyses. As a preliminary step, I conducted an analysis using daily data on FXI and exchange rate. I found that the emerging economies' purchase of U.S. dollars strengthens the depreciation trend of local currency, while their sale of U.S. dollars weakens the depreciation trend. I am currently combining the FXI data with firm-level data on stock price and balance sheet positions and studying heterogeneous response of firms with different degrees of foreign currency leverage.

These projects would provide insights on the effects of exchange rate fluctuation both in micro- and macro-levels and how policymakers should manage the risk.

Project 3: Financial Market Globalization and Asset Price Bubbles

Recent boom-bust episodes concerning asset prices were preceded by massive in- and outflows of foreign speculative investments. These large fluctuations in asset prices are called “bubbles” as they are difficult to be explained by economic fundamentals.

I showed that, in assessing the effects of financial globalization on asset bubbles, the conditions of financial market play an important role. In particular, in economies with either developed or underdeveloped financial market relative to the foreign one, bubbles cannot arise under financial autarky but they can arise under financial globalization.

This paper was awarded the honourable mention for 2021 best student paper award in finance.

CERF Studentship Report: Research Outputs (August 2021)

Naoki Yago

Presentation

Title: Dominant Currency Debt, Firm Heterogeneity and Monetary Policy²

Presented at 2021 Macro PhD Workshop, the University of Cambridge

<https://www.econ.cam.ac.uk/seminars/seminars-archive/seminars-archive-2020-2021>

Working paper

Title: Financial Market Globalization and Asset Price Bubbles

² The title of this project was revised to “Monetary Transmission under Heterogeneous Exchange Rate Exposure.”

Abstract:

We construct a two-country model of rational bubbles with asymmetric degrees of financial development. We show that whether financial globalization gives rise to bubbles crucially depends on the levels of financial development in the two countries. In economies with either developed or underdeveloped financial market relative to the foreign one, bubbles cannot arise under financial autarky but they can arise under financial globalization. Moreover, unlike previous literature, bubbles in sufficiently well-developed financial markets lead to welfare losses in other countries.

Web link:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3695350