

COMPLETION REPORT

Chinese RMB Internationalisation and Its Impacts on Japanese Financial Markets and Trade

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1. Outcomes:

This research project aims to examine the Chinese RMB internationalization process and volatility as well as its impacts on Japan's financial industry and bond market performance. With China's rapid RMB internationalization in recent years by creating bilateral swaps, expanding trade settlement in RMB and establishing and expanding the offshore RMB bond market especially in the regional markets in Hong Kong, Singapore and Tokyo, it is found that there has increasingly been a high demand for hedging against foreign exchange risk associated with the RMB. The major findings of this project are: (1) the RMB volatility is associated with public information arrivals, which reduce the volatility persistence of all the exchange rate returns, and the strength of the impact of news on volatility seems to be inversely related to the maturity period of the non-deliverable forward (NDF) contract; (2) the estimated smoothing probability of the returns demonstrates that our model can produce consistent identification of the different economic states arising from changes in the macroeconomic and exchange rate policies, and the spot and the NDF with short-term maturities share a similar state structure of regime switching. In most of cases the effects of conditional volatility on contemporaneous returns are found insignificant; (3) the term structure of the Japanese bond yields with the presence of liquidity trap demonstrates different properties, with out-of-sample expanding window forecasts in general performing inferiorly vis-à-vis other non-NS models. The results show that the Nelson-Siegel (NS) class of models can be useful in forecasting longer horizons such as months, work better with a decay rate other than the conventional way of treating it, and can work well with time series models such as GARCH and EGARCH in terms of volatility forecasting and the NS-VAR model for yield forecasts; and (4) There are several important implications of our findings. From a public policy perspective, a deeper understanding of the factors influencing RMB volatility dynamics is important for charting the future policy directions of the RMB, implementing market regulatory guidelines and developing robust derivatives markets for the RMB. For market traders in the Japanese financial market, the successful implementation of trading strategies involving the RMB hinges on the ability to develop and provide a consolidated and holistic view of the RMB markets based on news arrivals.

In conclusion, even with the reduced budget amount, this project has been very productive and successful.

2. The Future Plan:

We are planning to extend our current research to investigate the spillover effects of the Chinese RMB internationalization on the financial market integration between China and Japan, especially the volatility spillovers between the equity markets and the exchange rate markets, and how the public information flows affect the RMB volatility and how these spillover effects affect Sino-Japanese firms' operations as well as the bilateral trade and investment between China and Japan. We look forward to the Foundation's continued support in the future.

Once again, many thanks for the financial support from the Sumitomo Foundation which has made this research project a great success.

Publication of the Results of Research Project:

Verbal Presentation (Date, Venue, Name of Conference, Title of Presentation, Presenter, etc.)

1. The preliminary results of this research project entitled “Does news matter in China's foreign exchange market? Chinese RMB volatility and public information arrivals” were presented in the 2nd International Conference on the Chinese Economy: Past, Present and Future held on 21st December 2015 at Tsinghua University, China.

Presenter: Kin-Yip Ho, co-author.

2. The preliminary results of this research project entitled “Modelling the dynamic yield curve model of Japanese bond market with an EGARCH process” were presented in an academic seminar held on 14th December 2016 at Dongbei University of Economics & Finance, Dalian, China.

Presenter: Zhaoyong Zhang

Thesis (Name of Journal and its Date, Title and Author of Thesis, etc.)

1. S. Saha and Z.Y. Zhang (2016), “Exchange Rate Pass-Through and Inflation in Australia, China and India: A Comparative Study with Disaggregated Data”, *Journal of Economic Research*, Vol. 21 (1), 1-33. **(ERA and ABDC "B"-ranked journal)**
2. K.Y. Ho, Y.L. Shi and Z.Y. Zhang (2017), “Does news matter in China's foreign exchange market? Chinese RMB volatility and public information arrivals”, *International Review of Economics & Finance* (Elsevier), available online January 2017 <http://dx.doi.org/10.1016/j.iref.2017.01.016>. **(ERA and ABDC "A"-ranked journal)**
3. S. Saha and Z.Y. Zhang (2017), “Democracy-Growth Nexus and its Interaction Effect on Human Development: A Cross-National Analysis”, *Economic Modelling* (Elsevier, North-Holland), Vol. 63, 304-310. **(ERA and ABDC "A"-ranked journal)**
4. A.K. Tsui, J. Wu and Z.Y. Zhang, “A Dynamic Yield Curve Model of Japanese Bond Market with an EGARCH Process” (under revision).

Book (Publisher and Date of the Book, Title and Author of the Book, etc.)