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Current Research

My field is international finance and my current research focuses on nonlinear models of international capital flows and foreign exchange rates.

International capital flows

International capital flows behave very differently during normal and crisis times. The direction of flows can change rapidly, and sometimes this happens without a significant change in economic fundamentals. These suggest nonlinear models may be a better fit to describe the dynamics of capital flows.

In the first and second chapters of my dissertation, I use nonlinear time series models to study gross capital flows and find the flow dynamics are different in normal and abnormal periods. I also use a generalized impulse response function and simulation methods to show that the impact of capital flow shocks depends on the history of flows and the existence of future shocks. The nonlinear model also suggests that common capital flow determinants, the push and pull factors, have different effects on capital flows in normal and abnormal times.

In the book chapter and Selected Issues paper I coauthored during the internship at the IMF, I study capital flows relating to ASEAN countries and find intraregional flows are less affected by global factors, more sensitive to institutional quality, and decline less in crisis times. These suggest that intraregional financial integration may help ASEAN countries withstand external shocks.

Foreign exchange rates

The foreign exchange market is more than 5 trillion dollars in size and is highly liquid. Although various theories link foreign exchange rates to fundamental determinants such as differentials in money supplies and economic growth rates, market forces can drive the exchange rate away from model predictions for an extended period of time. This creates profitable speculative strategies such as the carry trade which could be a sign of rational bubbles.

In the third chapter of my dissertation, I apply the PSY real time bubble detector to examine whether bubbles exist in some of the most commonly traded currency pairs. I find bubbles in most of the currency pairs although bubbles tend to be relatively short-lived and infrequent. I also use a trivariate VAR model to separate the impacts of permanent fundamental innovation, transitory fundamental innovation, and nonfundamental innovation on foreign exchange rates. Similarly, I find the nonfundamental innovation tends to have the largest impact on foreign exchange rate, another evidence that bubbles may exist in the foreign exchange market.

Future research plans

I will continue working on capital flows and foreign exchange rates related topics in the near future. I plan to continue to explore what nonlinear time series models can reveal. Given the complexity and importance of these two topics, new methodologies, especially nonlinear ones, are very likely to give us new perspectives and insights.

For international capital flows, new and more specific data is being released continuously which allows us to gain better understanding of the drivers of these flows. Both nonlinear time series methods and panel analysis can be used to study bilateral capital flows of higher frequency, which may further highlight the relationship between capital volatility and market sentiments.

For foreign exchange rates, besides continuing my research on bubble testing, I also plan to build on an extensive literature review I have already completed on foreign exchange intervention and evaluate the effect of central bank policies. Most empirical evidence suggests that foreign exchange intervention is effective, but factors such as intervention frequency, intervention size, and intervention methods may influence the effectiveness. Since currency undervaluation and currency crisis are still important problems, such research is quite relevant for policy.

To summarize, I have conducted both nonlinear time series studies and panel studies on capital flows and foreign exchange rates, and I expect to extend my work in this direction in the near future. In the medium term, I plan to add some policy related work to my research agenda, probably focusing on specific regions. In the long term, I see myself developing expertise in the principles of international finance and time series modeling, as well as country specific knowledge and insights.