Discussion of 'Indian rupee market intervention: Managing FX volatility or inducing additional capital inflows?' by Hiroko Oura

Ila Patnaik

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Main argument of the paper

- Two dimensions to currency pegging: sustaining a distorted exchange rate and reducing currency volatility
- Mainstream view: exchange rate distortions are bad, reducing currency volatility is not so bad
- Paper finds that the reduction in INR/USD volatility helped induce increased capital flows into India
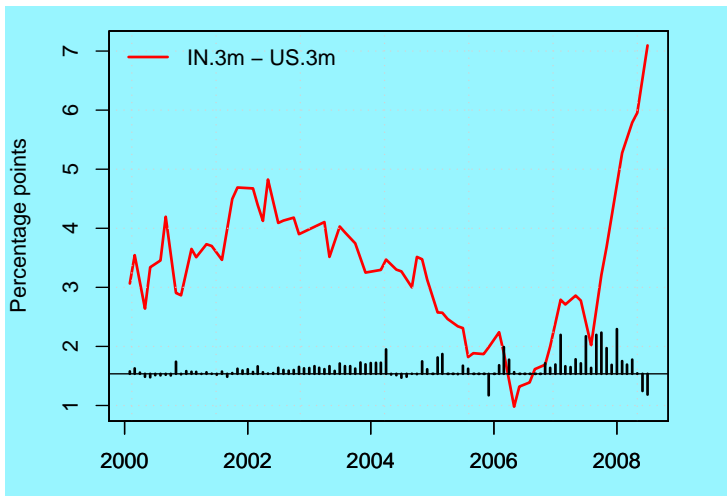- Lowering currency volatility has a cost
- An important and new idea.

Part I

Main contribution

Returns

- Interest rate differentials measure returns.
- Interest rate differenticals alone do not explain capital flows to India.

Has the spread influenced RBI intervention?

The missing ingredient: Risk!

Part II

Is there loss of monetary policy autonomy under a pegged exchange rate?

Shades of gray of the impossible trinity

- At the corner: fixed exchange rate + open capital account. We're pretty certain there is no monetary policy autonomy.
- What about shades of gray? Low exchange rate flexibility is not the same as fixed exchange rate.
- Emerging intuition: there is a smooth progression into loss of MP autonomy as currency flexibility goes down
- Annualised INR/USD volatility of below 5% is not that different from a fixed exchange rate.

Mechanism for loss of MP autonomy

- MP autonomy requires the ability to have a short rate different from the US
- Paper emphasises the profits from the 'carry trade' : borrow in the US, buy Indian treasuries, do no currency hedging.
- Reward = US.3m - IN.3m + INR.appreciation
- Risk = INR/USD vol
- Paper says: Look at the Sharpe's ratio of this trader = Reward/Risk
- Lower currency volatility drives up SR.
- Reduced exchange rate flexibility $\rightarrow$ increased attraction for the carry trade $\rightarrow$ more capital comes in $\rightarrow$ loss of MP autonomy.

Yen carry trade vs. dollar carry trade

- For dollar peggers like India, the yen carry trade has limited attraction since INR/JPY is a float
- But when the US cuts rates, the dollar carry trade is a serious problem.
- Contrast between US cutting rates vs. India facing high inflation.
- INR/USD volatility is the key in shaping the choice of the carry trader.

Part III

Supporting evidence

Fine structure of the INR/USD pegged exchange rate regime

Four sub-periods of the Indian exchange rate regime (Zeileis, Shah, Patnaik, presented in 1st research meeting):
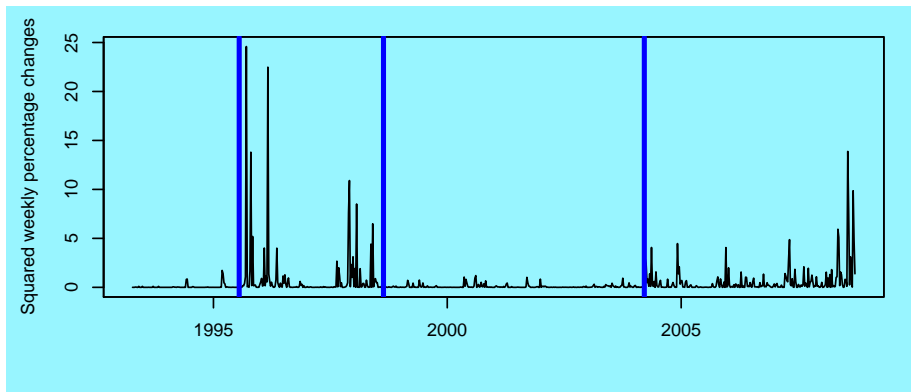
The behaviour of firms across these regime changes

1. Exchange rate flexibility was low-high-low-high. Unhedged currency exposure did the same (Patnaik and Shah, presented in 1st research meeting)

2. In the 4th period, 93 out of 126 industry indexes were betting on appreciation (Patnaik and Shah, presented in this research meeting)

Part IV

Suggestions

Suggestions

- Time series models of currency volatility can be used as alternatives to the implied volatility from the OTC currency options market which has data only from 2004.
- The Moody's Baa spread can be used instead of the tbill rate as the relevant rate for private borrowers from emerging economies.
- Currency expectations are likely to play a role as well in expected returns from carry trade. These can be modelled using CIP deviation.
- Monthly FDI+FII data, even though not explicitly debt, should also be analysed similarly.

Three interest rates
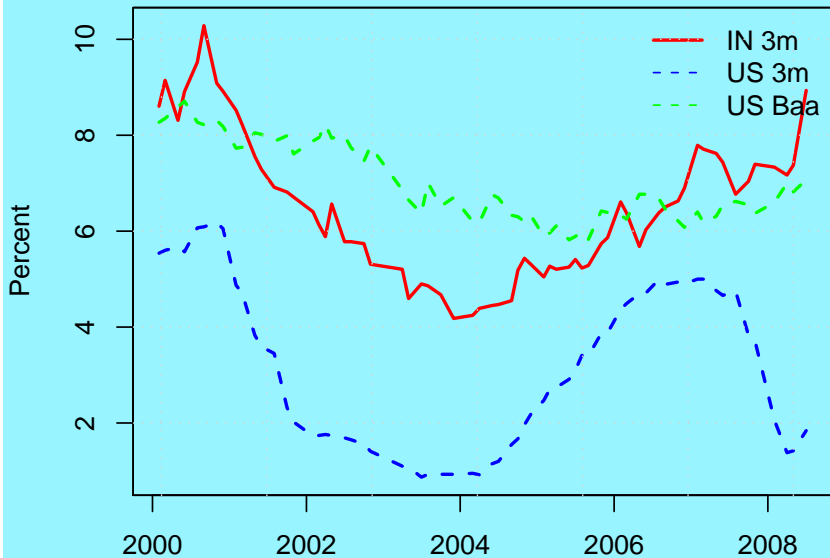
Two spreads of interest
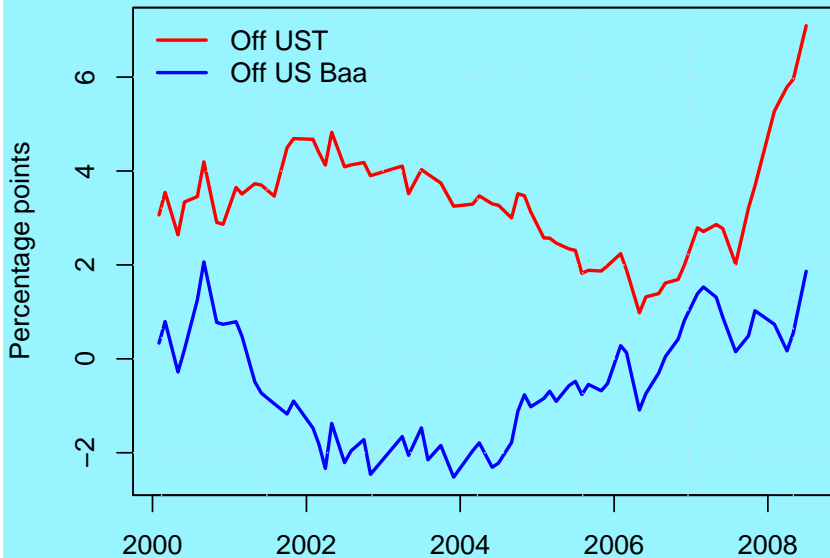
A technical detail: option implied volatility

- The INR/USD currency option market is OTC and illiquid
- It is a weak series and it limits the span of the dataset
- Alternative strategy:
    1. Compute the intra-month vol of each month
    2. Estimate ARMA models of this series
    3. Use information at time t to make three forecasts
    4. Average this
- This is roughly what an intelligent human would do.

Forecasted INR/USD volatility
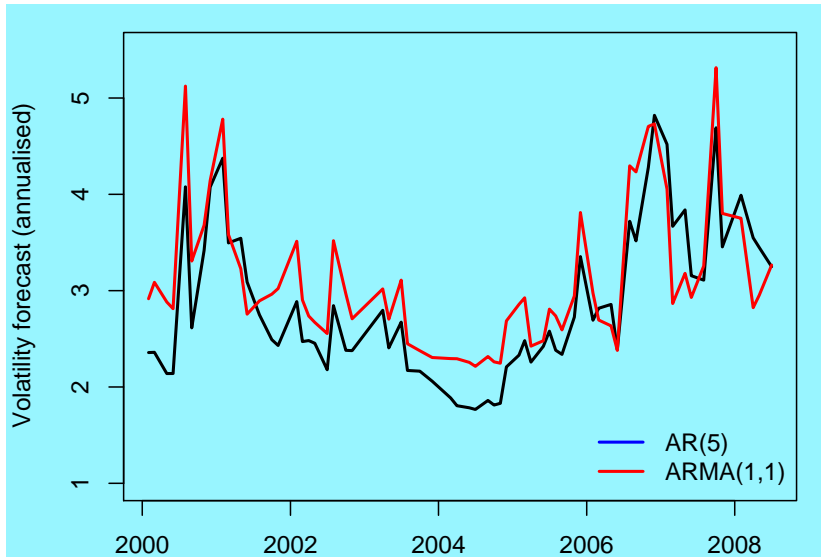
Measurement of currency expectations

- Covered Interest Parity arbitrage in India is blocked by capital controls
- CIP Deviation is hence an interesting measure of currency expectations (Patnaik and Shah, 2006).
- This can be used as a measure of expected change of INR/USD exchange rate.

Extend beyond debt flows

Monthly data is available for FII and FDI flows.
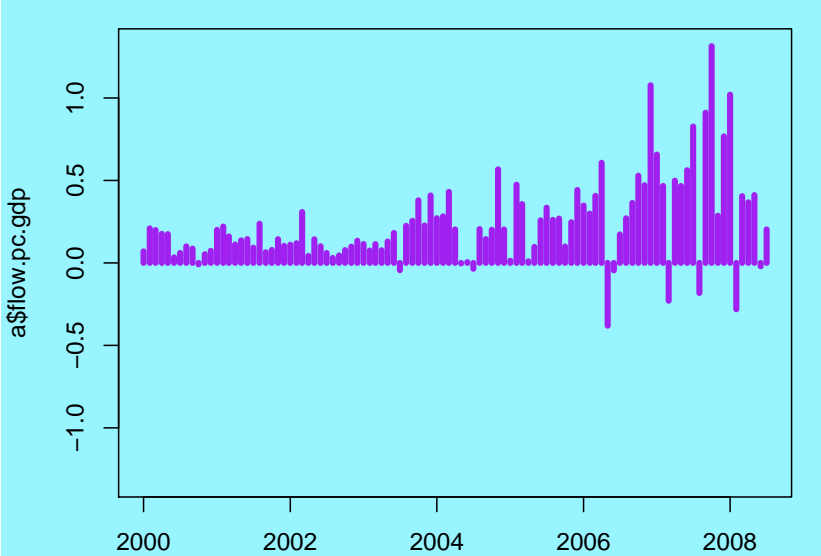
Explaining investment flows

Robust regression using data from Feb 2000 to Jul 2008:

Parameter	Coefficient	*t* statistic
Intercept	0.8181	1.743
VIX	-0.0375	-3.094
Baa spread	0.1371	3.386
SR for CIP Devn	0.1828	2.043

Part V

In summary

Summary

- The paper makes a new and important contribution to the literature on exchange rate management.
- The key result of the paper is that lowering exchange rate volatility is seen to have increased capital inflows into India.
- There is other supporting evidence for the key result of the paper.
- Some suggestions to expand the scope of the study.

Thank you.