

Comment on Patnaik and Shah,  
“Does the Currency Regime  
Shape Unhedged Currency  
Exposure?”

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- This paper addresses an important issue for financial stability: To what extent is it necessary for financial stability that the currency exposures of banks and firms be regulated, and to what extent can we rely on market discipline?
- The paper is gratifying to those of us who have been arguing (for some time) that one of the advantages of greater flexibility is that it raises awareness among CFOs and others making financial decisions about the need to prudently manage those exposures, thereby strengthening market discipline and lightening the burden on regulators.
  - There is always going to be a “bloodhounds vs. greyhounds” phenomenon.” If we are going to have to rely on regulation to address these matters, we will always have problems.

- This view that the exchange rate regime has important implications for firms' financial behavior in turn has implications for the sequencing of liberalization measures.
- It suggests that opening the capital account (and thus allowing residents of various types to incur foreign-currency exposures) before moving to greater exchange rate flexibility can encourage imprudent behavior; it can be a recipe for disaster.
- This worry is reinforced by complementary argument that opening the capital account before taking steps to increase actual and perceived exchange rate variability can encourage imprudent lending (“carry trade”).

- The importance of these questions was brought to light by the Asian crisis. But it is very much at the center of the debate over the prudence of Chinese liberalization measures (with apologies to Eswar Prasad, are they putting “the cart” of financial and capital account liberalization before “the horse” of greater exchange rate flexibility?).
- It is in the air at the moment in Central and Eastern Europe, where limited flexibility has encouraged not just firms but also households to incur very large foreign currency exposures (euro-denominated mortgages) and allowed countries to finance very large current account deficits, raising fears for financial stability.
- [Can one make the same criticism of Indian policy?]

- While I am on the authors' side, it is also necessary to acknowledge the counter-argument.
- Namely, it is important to develop the relevant hedging markets and instruments before moving to greater exchange rate flexibility (otherwise, firms couldn't hedge even if they wanted to).
- This is the insight, as it were, behind China's approach to sequencing the capital account liberalization and exchange rate policies.

- The problem with the Chinese approach is that there will be relatively little interest participation in (in investing in the development of) those hedging markets and instruments in the absence of exchange rate flexibility.
- Thus, there was an IMF study a couple of years ago that gathered data on turnover in forward and future markets for foreign exchange in about 16 countries, and which showed that countries that moved to greater flexibility then tended to develop more liquid hedging markets.
- The implication is that the Chinese need not only to develop the market infrastructure but also to encourage participation by allowing more currency volatility. (Otherwise you get the appearance of a market but not the reality.)
- This suggests a more complex approach to sequencing, where you first develop the relevant infrastructure (by partly opening the capital account – otherwise it's impossible to trade currency forwards and futures), then let the exchange rate become a bit more flexible (to encourage participation), and then open the current account further (etc.).
- I haven't seen this more complicated sequencing problem analyzed formally.

- This also leads me to the observation that the authors' assertion that one can ignore the extent of market incompleteness in India when analyzing the effects of exchange rate instability in fact cuts both ways.
- On the one hand, this gives them more of a controlled experiment (unlike cross country studies, since the degree of market incompleteness varies across countries).
- On the other hand, it gives them an incentive to minimize/disregard any impact of changes in the degree of exchange rate volatility on the degree of market completeness.
- And, as an aside, one indeed wishes to ask whether it is actually the case that changes in the degree of market incompleteness (that is, the availability of hedging markets and instruments) has been constant over time.

# What do the authors do?

- They distinguish four periods of high and low exchange rate volatility in India.
- They gather information on share prices for the 100 largest traded firms.
- They relate share price valuations to exchange rate changes.
- They ask whether the sensitivity of share prices to exchange rate changes varies by period .



# And what do the authors find?

- Indeed, share-price sensitivity is less (“hedging is greater”) in periods of relatively high exchange rate volatility.
  - In addition, there is also an interesting result about how firms allow those exposures to vary with the actual (expected) trend in the value of the exchange rate.

# Questions about these findings

# Share price data vs. balance-sheet data.

- Authors argue that it is preferable to use share price data on the grounds that balance-sheet data miss off-balance-sheet exposures, by definition.
  - Subprime crisis leads an American to wonder whether share prices also miss off-balance-sheet exposures for extended periods of time.
- There are in fact surveys (of four Asian countries before and after the crisis, by Lehman Bros.) where firms were asked not only about on-balance-sheet but also off-balance-sheet currency exposures.
  - [See Leungnarimitchai, PhD dissertation, UC Berkeley, 2004).] Findings are, reassuringly, compatible with the authors.

# Advantages and disadvantages of relying on share prices

- Share price reactions capture all respects in which exchange rate changes influence profitability (impact on foreign sales revenues, cost of imported inputs, valuation of financial assets and liabilities etc.), not just the balance-sheet effects, narrowly defined, that became the focus after the Asian crisis.
  - Only if one wishes to argue that all of these items should be regarded as foreign exposures is the use of share price reactions appropriate. Some (Morris Goldstein?) would wish to focus on financial exposures alone. Here I am inclined here to go along with the authors.
  - But the limitation of their method is that it tells us nothing about the form of those exposures, or the extent to which they are unhedged because firms prefer to leave them that way or because firms lack the ability to hedge them.

# Questions about controls

- Also, implementation requires that their equations include a comprehensive list of controls so that the exchange rate is not picking up the impact on profitability and share prices of other variables.
- Here the behavior of the market and the firm's beta are used to capture everything else.
  - For purposes of some simple portfolio models, one can reduce everything else to beta. I am not convinced that this is appropriate or sufficient in the present context. If the authors are going to be “beta purists,” then they shouldn't include the exchange rate as an additional explanatory variable. But if they are going to include the exchange rate (as is necessarily the case), then they are in no position to deny the relevance of other variables.
- What then about other firm characteristics not captured by its beta?
- And what about other economywide characteristics that vary over time?
- What about global factors?

# Questions about the sample of firms

- Not clear why we would want to take a sample of the largest firms.
- Largest firms might be appropriate if we were regulators and wanted to decide whether a systemically significant bank or firm was at risk.
- But we are scholars, and we wish to know how currency volatility is affecting hedging behavior by different kinds of firms (that constitute a representative sample).
- Doesn't this imply that we would be better off with a random sample of firms both large and small?
- Isn't this important to do insofar as we believe that large firms have more sophisticated financial-management systems and are better at hedging?
- And since, at this stage, the authors are only gathering data on share prices and exchange rates, isn't this straightforward to do.

# Questions about periodization

- Is the division of the last 15 years into four periods so straightforward? The authors' graph leaves little doubt about the existence of contrasting periods, but couldn't we debate about exactly when they start and end? They use a purely statistical approach to identifying breaks (without a lot of description). Are the results definitive (as they imply) or should one think in terms of confidence intervals?
- Are the results robust when we do a bit of sensitivity analysis with how the periods are defined (would be easy to do)?
- It would be nice if the authors told us more about what changes in policy and external conditions lay behind these differences in volatility. If the answer is, say, global growth or global risk tolerance (note the coincidence of the second period with the Tequila crisis), then shouldn't measures of these variables be included in their equations?

# Questions about volatility

- Is actual volatility the same as perceived volatility (where the latter affects firms' hedging decisions)?
  - This issue is actually quite important in the literature about the effects of intermediate exchange rate regimes. They encourage foreign currency exposures and therefore increase the cost of crises only if their collapse, and the subsequent rise in volatility, are not anticipated for a significant period beforehand. Is this always the case?
- Can one extract measures of perceived volatility from currency options (any availability at the end of the period) or through another technique? Wouldn't this be better than simply using lagged exchange rate changes?



# Do Indian firms learn?

- Presumably there was learning about volatility going on over time. One imagines that each time volatility rose or fell, it took at least awhile for firms to recognize this and adjust their behavior. If this is right, one would expect different results at the beginning of a subperiod than subsequently.
  - For example, an increase in volatility would mean no change in the sensitivity of share prices to the exchange rate in the short run (or even an increase in sensitivity if there are nonlinear effects on balance sheets and bankruptcy risk), and then a decline in sensitivity as learning about the new environment occurs and firms adjust their behavior. Can the authors test for this?

# Conclusion

- So, as in any good paper, there are many things to question.
  - Assumption of the constancy of the institutional environment.
  - Specification of the model
  - The periodization
  - The way the key independent variable is operationalized
  - The adequacy of the controls
  - Whether the dependent variable is capturing what the authors think it is.
  - [What have I left out...]
- But having said all that, I conclude that this is a convincing and valuable paper. It is convincing because its methodological strengths dominate its methodological weaknesses. And it is important because of the policy message it sends.

- Thank you.