Foreign investors under stress

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December 19, 2011

Part I

Questions

The financial globalisation question

- While many emerging markets have removed capital controls, a large mass of the developing world continues to have significant capital controls.
- While capital account liberalisation has many attractive features, policymakers in many developing countries have certain important concerns.

Concerns of policy makers in developing countries

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Part II

Measurement strategy

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1. How to focus on tail events? Analogous to a tail beta: Focus on the extreme days.
2. How to identify impacts? Treat a tail event as a shock, and use the event study methodology to trace out impacts.
3. Implement this using high frequency (daily) data for aggregative purchase/sale by all foreign investors (put together).

Measurement strategy

- The 5% of days in left tail has roughly 12 worst days of the year
- Treat these as events
- Use the event study methodology to measure the reduced form impact upon a series of interest
- There is event clustering: Hence identify windows (a week before and after) in which there is exactly one extreme value and treat that as an uncontaminated event.

Part III

Data

Data

- **Variables** NIFTY Index, S&P 500, VIX , daily FII flows, INR/USD, Call money rate.
- **Source** Daily FII flows obtained from Custodian reports to Government of India
- **Period** 05 January 1999 – 30 August 2011
- **Frequency** Daily
- **Renormalisation** Express FII flows as percent to the overall domestic market capitalisation.

Summary statistics: Event on NIFTY returns

Shocks	1.5%	2.5%	5%
Negative Shocks	51	84	167
No Contamination	16	25	46
Positive Shocks	51	84	167
No Contamination	31	39	69

Summary statistics: Event on S&P 500

Shocks	1.5%	2.5%	5%
Negative Shocks	51	84	167
No Contamination	18	35	54
Positive Shocks	51	84	167
No Contamination	17	37	69

Summary statistics: Event on FII

Shocks	1.5%	2.5%	5%
Negative Shocks	51	84	167
No Contamination	21	31	53
Positive Shocks	51	84	167
No Contamination	31	45	77

Summary statistics: Event on VIX

Shocks	1.5%	2.5%	5%
Negative Shocks	51	84	167
No Contamination	34	46	64
Positive Shocks	51	84	167
No Contamination	25	39	70

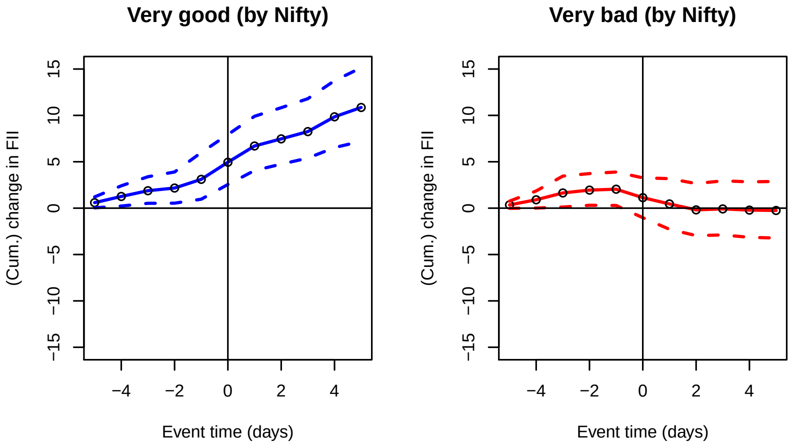
Part IV

Results

Q1: How do FIIs behave on extreme days of Nifty

- The domestic stock market does extremely badly; how do FIIs behave?
- Skeptics about financial globalisation worry that on and immediately after, there is capital flight by FIIs.
- This could lead to a fall in stock prices and a rupee depreciation.

Extreme event on NIFTY and response of FII

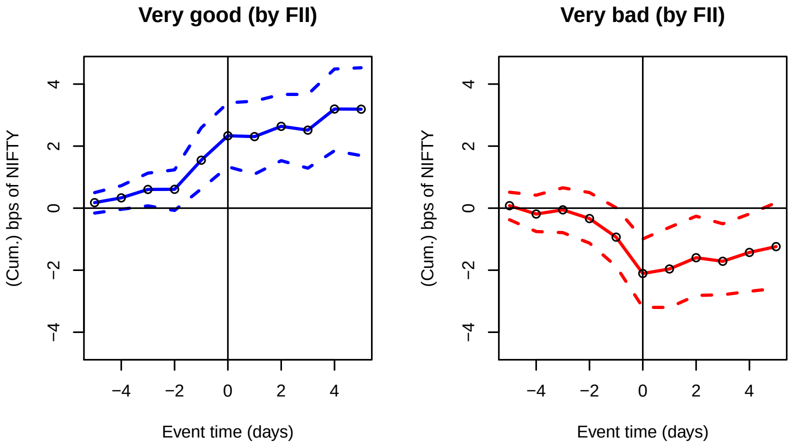


- Very good days on Nifty are associated with buying by FIIs both before and after the event date.
- Very good days on Nifty are generally positive news days: so FIIs could be responding either to the news or to Nifty.
- Relatively modest effects: Total buying of 6 basis points of Indian market capitalisation.
- Asymmetry: Such evidence is not found on bad days.

Q2: What happens to Nifty on extreme events by FIIs

- Domestic or global motivations give an extreme day on FII inflow/outflow.
- What happens to Nifty?
- Skeptics worry: Foreigners are a big fish in a small pond, there is overshooting and then gradually the market finds its correct level.
- Many in India believe that FIIs *cause* Nifty. (This is not found in the overall VARs).
- Or, if the domestic market is liquid enough, there would be an immediate impact (extreme events by FIIs are likely to be linked to news!) but after that the response would be flat.

Q2. Extreme event on FII and response of NIFTY

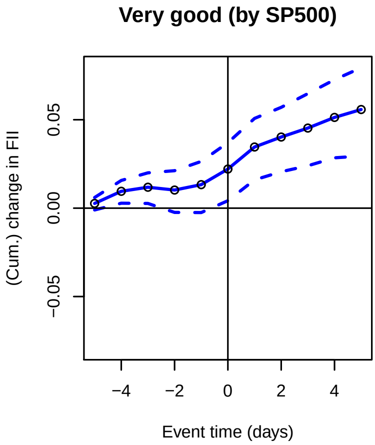


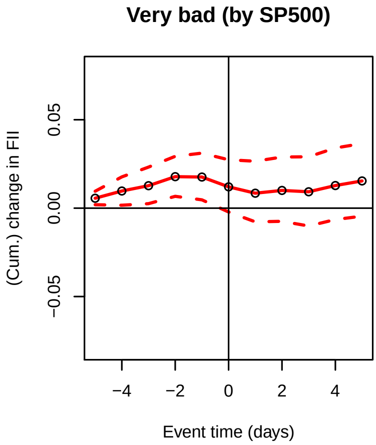
- Very good / bad days for FII investment are likely to be associated with news.
- It is hence not surprising to see Nifty being higher or lower on event date.
- But there is no evidence of overshooting. After the event is digested (on event date), Nifty is flat in the following period.
- Holds for extreme events of both kinds.

Q3: What happens to foreign investors on an extreme day for the S&P 500

- Skeptics worry: Crisis in the United States, investors pull money from emerging market funds.
- Recent research has brought out the role of fire sales by foreign investors when they face redemptions at home.
- Rational explanation: Bad news for the S&P 500 is bad news for all globalised economies, so what we are seeing is partly business cycle correlations.
- Are such effects present?

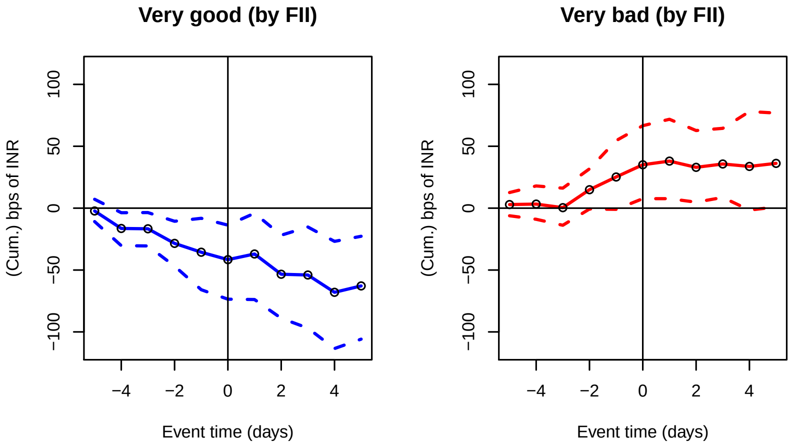
Q3. Extreme event on S&P 500 and response of FII





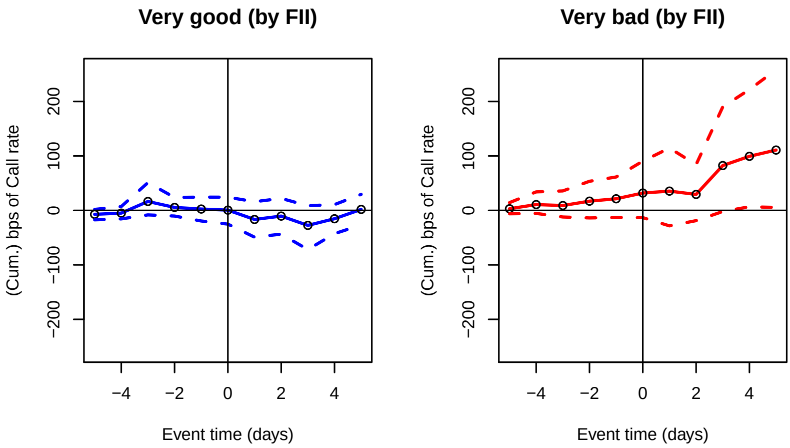
- FIIs seem to buy more Nifty when there is good news on the S&P 500
- But no such effects in the other direction.

Q4. Extreme event on FII and response of INR/USD



- Null of market efficiency: flat line after event.
- In both directions, this null is not rejected.
- So there is no evidence of overshooting or undershooting on the currency market, following extreme days of FII inflows/outflows.

Q5. Extreme event on FII and response of the call money rate



- Some evidence that, a few days after a sharp sale by FIIs, of a sharp rise in the call rate.
- One potential explanation: Suppose INR/USD is a pegged rate, then when FIIs leave, RBI sells dollars with partial sterilisation, so the local interest rate goes up. But in most of the data period, INR/USD was not pegged.
- Also, this effect should be visible on the same date, not 3 days later.
- The call rate is a very noisy time-series.

Part V

Summary and conclusions

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Innovations of our approach

- Treat extreme events (uncontaminated) as pure shocks and watch what happens
- Event study methodology

Results

Impact of extreme FII days on market prices Broadly consistent with market efficiency.

Impact of extreme market days on FIIs More money seems to come into India after extremely good days for Nifty and for the S&P 500. (Asymmetry).

- Foreign investors are not big fish in a small pond: Even on their extreme days (for whatever reason), there is no overshooting on either side.
- In all cases, the effects are relatively small.

Conclusion

- Results paint a relatively benign picture of India's engagement with financial globalisation
- In India's case, unusual success with achieving a highly successful equity market – maybe the liquidity of this market is what is driving the benign outcomes. Maybe in other countries the results will be different.
- Future work: Scale this up to more countries, try to go down into cross-sectional variation by firms.

Thank you.