New developments in finance @ IGIDR

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Bombay is a unique location, to mix industry + policy + academics.

Faculty:

- Kausik Chaudhari
- Subir Gokarn
- R. Krishnan
- Jayati Sarkar
- Subrata Sarkar
- Ajay Shah
- Susan Thomas
- Rajendra Vaidya

Numerous masters and Ph.D. students have gone on into finance careers in industry, government and academics.

Active finance research at IGIDR

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Data and computational challenges

The problem:

- Data management for finance research is hard.
- And now, the intra-day dimension
- Any one scholar, working alone, finds it daunting.

The response:

- Setup a data centre
- With staff focused on computer technology
- Organise intra-day data carefully
- Build tools and libraries for using this
- A research group where many tools are shared.

Bottom line: Pay fixed cost, but then the marginal cost of exploration should go down.

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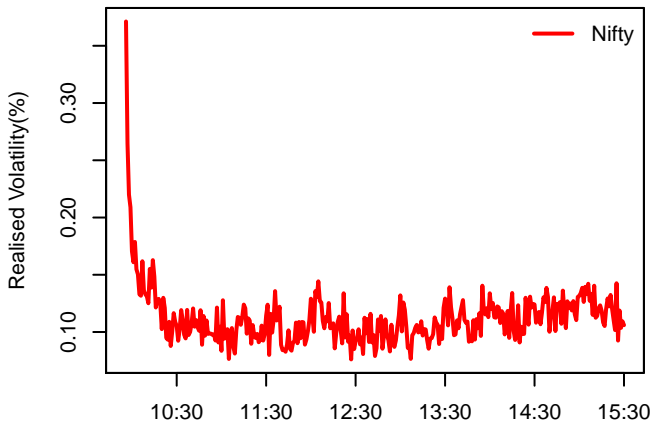
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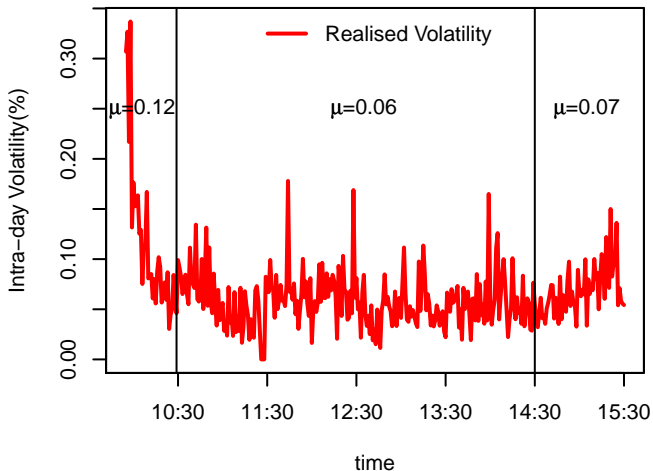
- Looked at the U-shaped curve of intra-day volatility
- Evidence shows the early price discovery is not rapid.
- **Tested and estimated** structural breaks in intra-day volatility to identify when the early price discovery is finished.

1−minute Volatility for Nifty on 06/10/2008

An example of an application

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- Evidence shows the early price discovery is not rapid.
- Tested and estimated structural breaks in intra-day volatility to identify when the early price discovery is finished.
- **Policy proposal:** call auction in the morning (policy paper of June 2010)
- Mid-July 2010, SEBI proposed call auctions for the opening for the Nifty stocks.
  Equity markets started market open using call auctions from 18th October.

Where we are

- We began in May 2010.
- 24 cores, 64G RAM, 14T of storage
- Flow of data from NSE has begun
- Software tools for handling this data are coming together
- A series of research projects are underway:
  1. Liquidity forecasting
  2. Microstructure considerations in constructing VIX
  3. Information share
  4. Financial conditions index, securities markets 'report card'
  5. Measuring macro-liquidity and its consequences
  6. Funding constraints, difficulties of arbitrage
  7. Improved risk measurement in clearing
- Outputs: Academic papers, policy papers, 'technical notes'
- Full-time staff: 3 researchers, 5 Ph.D. students, 1 database administrator

We welcome:

- Collaborative research projects
- Visitors
- Short-term appointments
- Long-term appointments
- Participation in our conferences and policy round-tables.