Market Quality and Algorithmic Trading
Case of India

A Discussion

Summary

- Algorithmic trading improves *micro* market quality
  - Consistent with most major findings in the rest of the world
  - Clean data to tag algo trades compared to other studies that use proxies
- So why then do regulators worldwide want to put the brakes on algo/HFT trading?
  - Tail risk?
  - Infrastructure risk?

Who is using algos/HFTs in India?

- Interesting facts about the Indian market
  - 80% of trades are settled “intra-day”
  - Only 10-15% are FIIs/DIIs.
  - Algos account for 50-70% of large stocks trades, 20-25% in all stocks

- Who uses algos/HFTs?
  - FIIs-prop? FIIs-execution? Retail-prop?

- Strategies that require algos/HFTs
  - News
  - Basis trades
    - Cash-futures (single stock and index)
    - ETF-constituents (or ADR/GDR)
    - Inter-market (BSE-NSE)
  - Strategic short-term trading
    - Spread capture (“provide liquidity”)
    - Short-term alpha capture (“take liquidity”)
    - Front-running
    - Stat-arb
  - Scheduling of larger trades
    - VWAP algos

From a broker website

- Cash-Futures arbitrage with co-location and low latency (Return ~ 12-15%)
- Index arbitrage with co-location and low latency (Return ~ 12-18%)
- BSE-NSE cash arbitrage with co-location and low latency (Return ~ 20%)
- Statistical arbitrage on single stocks and baskets
  - 2008, 2009 was phenomenal (Return of more then 50% per year)
  - 2010 was flat
- Volatility arbitrage using vertical spreads and calendar spreads (Return varies across desks)
  - High frequency options directional, mostly intraday (Return varies across desks)
  - Nifty futures arbitrage between NSE and SGX using auto spreader etc. (Return ~ 14%)
- ADR GDR arbitrage – Not very poplar
- Trend following and lead-lag play on MCX commodities

Algo-related Timeline

- DMA (“one-touch”) introduction in 2008
- Major players like GS and CS offer algos in 2009
- Co-lo in early 2010
- SOR capability in late 2010
- SEBI sub-account restrictions in 2010
- Somewhere between 2011-12, NSE offers tick by tick data feeds
- Algo tax in 2012
  - Later doubled in 2013

Some Comments

- Follows Boehmer, Fong and Wu (2012)
  - Studies 39 markets using introduction of co-lo as the exogenous event
  - Results are similar with this paper except on volatility
- Another paper on Indian algo trading
  - Boehmer and Shankar (2013)
  - Time to completion for non-marketable limits have increased
- Interaction effects needed in regressions