Stock Trading Systems: A Comparison of US and China

- April 30, 2016
- Session 5
- Joel Hasbrouck
  www.stern.nyu.edu/~jhasbrouk
1. Regulatory priorities for capital formation and growth.
- The information environment is much more important than the trading conditions.
- “Accounting”, “disclosure” and investor education are more important than market design.
2. Should price limits be symmetric? *Up* as well as down?
Volkswagen, October/November, 2008
3. Designated market makers: How can they help limit order markets?
Two BATS books from Wed, Jan 15 2014, about 3pm
Designated Market Makers

- The BAC book is liquid; the PRK book is not.
- An exchange wants to attract orders and trading volume.
  - If the limit order book is thin/empty, customers will go elsewhere.
- The exchange may engage/encourage a dealer to provide continuous liquidity (posting bids and asks if there are no customers)
The NYSE specialist

- The specialist was (prior to 2005) an NYSE member who stood at the center of trading.
- Over time a well-defined set of rules and procedures evolved to govern specialist trading.
  - These rules are often referenced today as a touchstone for regulation.
- Each listed stock had one specialist.
- Because the NYSE had a near monopoly on trading in its listed stocks, the specialist was central to the market (and very powerful).
The NYSE specialist in action

- NYSE trading occurred at a post.
- The specialist stood outside of the U-shaped desk. (His clerk was on the insider.)
- The parties to trading were the specialist and one or more members (“the crowd”).
- Orders were delivered electronically, but execution was under the control of the specialist.
- The specialist’s overarching responsibility was “maintaining a fair and orderly market.”
The specialist’s affirmative obligations

- He would always post a bid and ask (at a narrow spread).
- He would provide price continuity (avoiding large price jumps)
  - A sequence of trades: $50, 50 \frac{1}{8}, 50 \frac{1}{4}, \ldots 50 \frac{7}{8}, 51$ is okay.
  - A sequence $50, 51$ is not okay.
  - If there was bad news, the specialist would have to bridge transition, usually by making small sales on his own account.
The specialist’s negative prohibitions

- Public priority.
  - If the specialist were bidding 50, and a customer put in a limit order to buy at 50, the customer’s bid would have priority over the specialist’s.
- Couldn’t trade in a “destabilizing” fashion (buying on an uptick, selling on a downtick).
  - This might move the market: the specialist was supposed to be a neutral intermediary.
The specialist’s rights

- Only the specialist knew the contents of the limit order book.
- The specialist had a first-look at incoming orders.
- These advantages enabled most specialists to reap sizeable trading profits.
The decline of the specialist system

- In 1997 the tick size went from 1/8 to 1/16, and then in 2001 to $0.01.
  - The bid-ask spreads narrowed, and trading revenue declined.
- Around 2005, the NYSE became an automated market.
  - The specialist lost the right of first refusal.
- In April, 2005, seven specialist firms were the target of a U.S. civil action.
  - Criminal charges followed against individuals, but most of these were dropped.
- The NYSE still has “specialists” but they are now called designated market makers.
The Designated Market Makers

- Still responsible ...
  - For maintaining a fair and orderly market, and
  - Posting bid and ask quotes.
- The DMM does not get an advance look at the order.
- The DMM trades “at parity” with the customer.
  - He no longer “yields” to them.
- Fewer restrictions on “trading in a destabilizing fashion”
Can the specialist/DMM stabilize a market?

- Can provision of price continuity cushion adverse market shocks?
- Market break of 1987
  - Most specialists bought as prices declined ... but some sold (or sold short).
  - Some specialist units lost large amounts of money.
  - The specialist buying was viewed as appropriate, but completely insufficient to stem a decline.
How do high-frequency traders behave as market makers?

- They are proprietary traders: nobody expects them to stabilize the market.
- In the Flash Crash of 2010, performance was mixed.
  - Some firms continued to make markets.
  - Some withdrew.
  - Some aggressively sold, accelerating the decline.
- At best we hope that the current generation of HFT’s will cushion small, temporary shocks.
Market makers can provide liquidity, but not stability.

- How should they be compensated?
- Europe: paid by the listing company
- US: give them certain trading privileges.