

What?

Recent History

Pre-1998 (1)

Pre-1998 (2)

Revolution in
Trading

The current
environment

Implications

Market (Micro-)Structure for Asset Management

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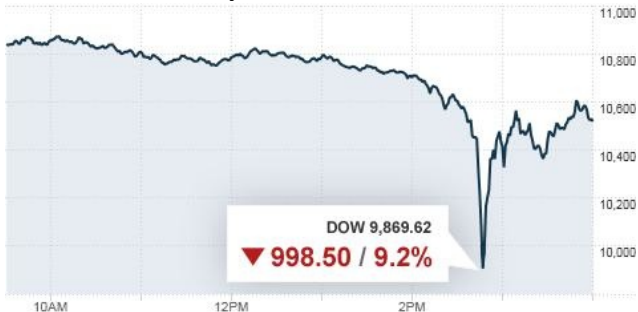
The current environment

Implications

- is the study of how transactions take place.
 - is closely related to the concept of liquidity.
- It has descriptive and prescriptive aspects.

In the news:

- ▶ *Flash Crash* of May 16, 2010



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In the news:

- ▶ October 2011: The Dark Pool operator Pipeline Trading Systems is fined for failing to disclose to customers that roughly 80% of the orders sent to its Dark Pool were filled by a wholly owned trading affiliate.
- ▶ Eventually Pipeline evolved into Portware LLC.
- ▶ Pipeline's innovation was large minimum order sizes to prevent algorithmic traders from detecting hidden liquidity and then front-running that.
- ▶ Other dark pools are restricting access to identifiable asset managers (not allowing algorithmic traders access).

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- ▶ NYSE :: Specialist Market
 - ▶ Highly Centralized
 - ▶ Physical Place important
- ▶ NASDAQ :: Dealer Market
 - ▶ Most trades routed to a dealer
 - ▶ No physical place

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Dealers and specialists could make large profits from the bid-ask spread.

- ▶ Tick Size: $1/8$ (anachronism).
 - ▶ Interesting side note: Bernard Madoff invented purchasing order flow
- ▶ NASDAQ Dealer Collusion (Odd-eighth avoidance).
- ▶ Traders could place limit orders, but questions of exposure.
- ▶ (And things were much worse in US options markets).
- ▶ Recent article about bid-ask spreads in munis notes that these are much wider than corporate bonds. (Munis fall outside regulatory umbrellas on market making.)

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Regulation:

- ▶ Decimalization (!)
- ▶ (Forced) Display of Limit Orders.
- ▶ Multiple Listing of Options

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- ▶ Reg NMS promulgated in 2007.
- ▶ Desire was to prevent old physical exchanges from holding back US markets from innovating and competing globally.
- ▶ Creates the concept of National Best Bid and Offer (NBBO) and the requirement that a small market order execute immediately at NBBO.

Market Fragmentation

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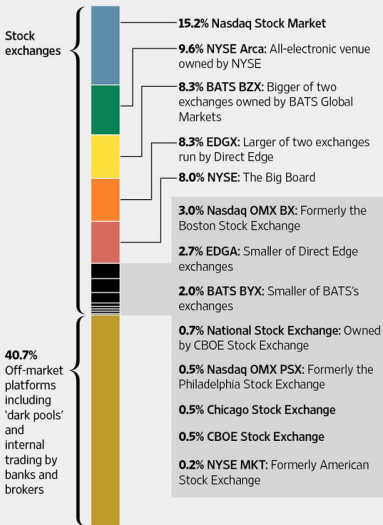
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Trading Places

The business of filling U.S. stock orders has grown increasingly dispersed in the recent years.

Share of the market among U.S. stock trading venues in January*



*As of Jan. 27. Note: Numbers don't add up to 100% due to rounding.

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- ▶ Technology :: High Frequency Trading (Really: High Frequency Quoting – fishing.)
 - ▶ Algorithmic Trading (now > 70%) of total volume.
- ▶ Fragmentation:
 - ▶ Dark Pools (13.5% of US volume).
 - ▶ Electronic Trading Networks.
- ▶ Competition amongst Exchanges: Maker-Taker: rebate to liquidity providers / charge access fee to liquidity takers.

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- ▶ Quoted Bid-ask spreads are much tighter.
- ▶ Public quotes are much shallower.
- ▶ Dealers no longer profit from the bid-ask spread. Emphasis is placed on the information in the order flow (*front running*).
- ▶ No longer any specialists. Dealership is dispersed (no accountability). (NYSE eliminated the position in October 2008. Specialists became Designated Market Makers. No longer have access to better information than floor traders.

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Last month—under pressure from Congress, the SEC announced that it will increase the minimum tick size for stocks with market cap less than \$750 million to five cents. Also the SEC wants private venues to use the same tick size.

What makes this interesting is that it is being structured as an experiment. Now imagine how society will be better off by a mandated larger tick size.

Under the current rules, trades can execute on sub-pennies, but quotes must be on pennies. (So negotiated trades, dark pool trades, etc. can execute on sub-pennies.)

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Example from Jan 27, 2014 *WSJ*: T. Rowe Price asked a broker to buy 2.5 million shares of an actively traded stock, and they tracked the broker's actions. "To hide the purchase from fast-moving traders, the broker placed and canceled many smaller orders all across the stock market, creating a dense smoke screen of phantom interest in the security. In total, the broker offered to buy 750 million shares of the stock while actually purchasing just 2.5 million."

Similar experiment by Invesco for a 1,000 share order: This order "traversed 10 separate exchanges and dark pools before it was filled. The order had also been sent to eight other venues where ultimately no shares were bought but where other traders may have had a chance to catch wind of Invesco's strategy."

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A major regulatory change from the financial crisis is a move to centralized exchange and reporting for swap transactions. Traditionally swaps have been traded over the counter, and the collateralization was done via private agreements—unlike the (standardized) margin accounts at organized futures and options exchanges.

Swap Execution Facilities (SEFs) and Designated Contract Markets (DCMs) began operation in October 2013.

One concern raised by swap traders is that the OTC format allows for more customization. By contrast, exchange-traded products are highly standardized.

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- ▶ Make trading costs *and execution* a point of distinction.
 - ▶ *Measure* both—and benchmark.
 - ▶ Don't give away order flow information.
 - ▶ Possible value in relationships.
- ▶ Recognize the effects of the new environment:
 - ▶ Heightened volatility :: **Reconsider** Limit / Stop Orders.
 - ▶ Black Pools *seem* an ideal venue—but are they subject to manipulation?