Principles of Securities Trading

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Thinking about trading

- What's being traded?
- How is the market organized?
- What are the trading rules?
- What are the sources of value?
- What kinds of information are there?

What is being traded? Securities

- Equity (Stocks)
- Debt
  - Currency (foreign exchange)
  - Money market securities
  - Notes and bonds (sovereign, corporate, municipal)
- Derivatives
  - Options
  - Forwards and futures contracts
  - Swaps

How is the overall market organized? Market types.

- Search
  - Potential buyers and sellers try to locate each other directly (used cars, Craigslist)
- Broker
  - Agent working on behalf of buyer or seller locates a counterparty, but does not act as counterparty for customer trades. (Real estate; business brokers)
- Dealer
  - Responds to customer indications of interest. Acts as counterparty for customer trades. (FX, bonds, "Over the counter" derivatives)
- Exchange
  - Centralized trading facility (physical trading floor or virtual computer system).
  - There may be multiple exchanges.

What are the trading rules? The actual mechanisms

- Bilateral bargaining. Buyer and seller negotiate directly. (Face-to-face trading on an exchange floor.)
- Single-sided auctions. One seller with many buyers or (rarely) one buyer with many sellers. (Google IPO.)
- Double-sided auctions. (Used to open the NYSE and NASDAQ.)
- Continuous double-auction. Buyers and sellers can enter bids and offers at any time. Trades occur when prices match. (Continuous trading sessions on NYSE and NASDAQ.)

What are the sources of value?

- Private values
  - Investment horizon, tax situation, preferences for socially responsible investing, and so on.
  - Idiosyncratic to the buyer or seller.
  - One person's private value does not affect anyone else's.
- Common values
  - Future earnings, dividends, resale value, and so on.
  - Affect all buyers and sellers.

What are the kinds of information?

- Public information
  - News, accounting statements, market data
- Private information
  - Judgments formed from analysis and insight.
  - Illegal (“inside”) information

Securities Trading:
Principles and Protocols

Chapter 2
Overview of the US equity market

The elements

- Securities
- Exchanges
- Players and their motives
- Brokers
- Prices
- Make or take?
- The market in full swing.
- The buzzwords: liquidity, transparency, and latency
- Regulation

The securities (Table 2-1)

	Domestic equity market cap (end of year, $T)	Trading Volume (annual, $T)	Annual Turnover
NYSE	11.796	18.027	153%
NASDAQ OMX	3.845	12.724	331%
Tokyo SE Group	3.325	3.972	119%
London SE Group	3.266	2.837	87%
Euronext	2.447	2.134	87%
Shanghai SE	2.357	3.658	155%

Total global equity capitalization ≈ $31Trillion

Exchanges

- "Marketplaces"
  - Also: trading venues, market centers
- Examples
  - New York Stock Exchange (NYSE)
  - NASDAQ (from "National Association of Securities Dealers Automated Quotations")
- Products and services
  - Listing
  - Trading
  - Information

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Listing

- The corporation ("listed firm") must:
  - Meet financial and governance conditions.
  - Pay a listing fee (depends on size, ≤ about $100,000)
- Listing exchange provides
  - Certification and sponsorship
  - Monitors the trading process
- A listing is (in practice) necessary for a stock to be traded.

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Trading services and facilities

- Computer and communication systems
- Fee structures are complex.
  - Members have high fixed costs, but lower costs per message, per order, per trade, etc.
  - *Speed is priced.*

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Information (market data)

- Especially
  - Last sale prices
  - Current bid and ask prices.
  - Real-time order-book data.
- Market data generates substantial revenues.

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Exchange organization

- Intercontinental Exchange ("ICE") owns 11 exchanges, including New York Stock Exchange (NYSE).
- Euronext runs Paris, Lisbon, Brussels, Amsterdam Exchanges
- Nasdaq-OMX runs The Nasdaq Stock Market, OMX Nordic, etc.
- Historically, exchanges were member-owned cooperatives.
  - A membership ("seat") gave ownership rights and trading rights.
- Currently most exchanges are for-profit, publicly-held corporations.
  - They have stockholders and (trading) members.

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Brokers

- *Trading members* of an exchange have direct access to trading facilities.
- Most customers go through *brokers*
- Retail brokers
  - Full service
  - On line, discount
- Prime brokers

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Traders differ by holding period or horizon

- Long term (ten years or more)
  - Individuals saving for education or retirement or universities and charities with endowments.
  - Trade infrequently, low turnover.
- Medium term (business cycle, five to ten years)
  - Attempt to profit by timing the market to current economic conditions.
  - Trade infrequently, low turnover.

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- Short term (minutes to months)
  - Follow momentum strategies, technical (statistical) trading rules.
  - Frequent trading, high turnover.
- High-frequency (seconds and shorter horizons)
  - Profit from short-term trends and reversals in price movements
  - Frequent trading, high turnover, usually try to end the day "flat" (with no net position).

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Traders differ by motive

- Liquidity
  - Our non-financial incomes and expenses aren't smooth.
  - Unexpected inflows need to be invested; unexpected expenses need to be met by selling.
  - Liquidity motives are specific to the trader, and are external to the security.
  - Trading style: liquidity traders are often patient.

- Hedging
  - Someone who is exposed to financial or non-financial risk will …
  - Try to sell a security that is positively correlated with the risk or buy a security that is negatively correlated with the risk.
  - Hedging needs are usually specific to the trader.
  - Trading style: hedgers are often impatient traders. Risk reduction can be an urgent need.

- Information
  - An informed trader possesses a real advantage.
    - Illegal inside information
    - Advance knowledge of public information.
    - Superior analysis of public information.
  - Informed traders are often impatient because they need to trade before their information or insight becomes public.
- Who is the counterparty to our trade?
  - If liquidity trader or hedger, okay.
  - If informed, we generally lose.

Trading: what do we mean by "the price?"

- Last sale price
  - "AAPL last traded at $572.05."
  - Real (represented an actual trade) but might be stale.
- Bid and ask (offer) quotes
  - The market for AAPL is $572.10 bid for 1,000 shares, 500 shares offered at $572.14."
  - Current, but hypothetical.
  - The bid and ask might depend on how much we're buying or selling, and who we are.

Immediate trades

- To sell immediately, we agree to receive the bid price.
  - "Hit the bid"
- To buy immediately, we need pay the ask price.
  - "Lift the ask" or "lift the offer"
- Avoid the usage "hit the ask"

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Trading: the make or take decision

- The lowest ask price in the market is $20.50.
- If we want to buy, we can …
  - Take the ask (buy immediately), or
- Make our own bid
  - For example, $20.40.
- What are the pros and cons?

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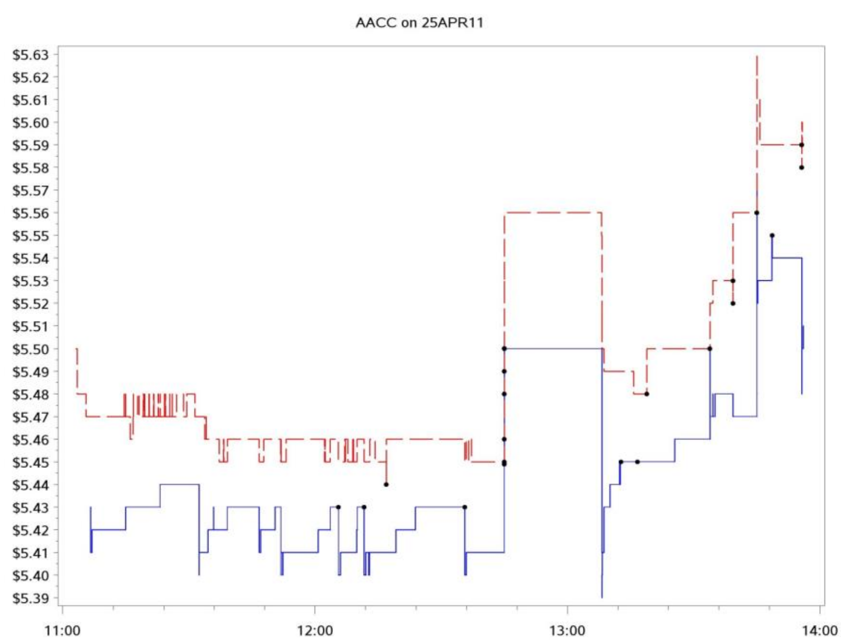
The market in motion

- Security markets are dynamic
- Bids and asks are entered, modified, canceled.
- Trades (executions) occur when someone hits a bid or ask.
- Example: Figure 2 1. Trading activity in AACC on April 25, 2011.
  - The bid (National Best Bid) is a blue solid lint; the offer (ask) price (National Best Offer) is a dashed red line; black dots represent trades. Source: NYSE daily TAQ.



Terms: Liquidity

- "Ease of trading"
  - In a liquid market, you can buy or sell in large size, quickly, without moving the price very much.
- Liquidity is sometimes characterized as immediacy + breadth + depth + resiliency.
  - Immediacy: How quickly can we trade? Sooner is better.
  - Breadth: How wide is the bid-ask spread? Narrower is better.
  - Depth: What quantities are sought at the bid or offered at the ask? More is better.
  - Resiliency: Following a large trade that moves the price, how quickly do the bid or offer "bounce back"? Faster is better.

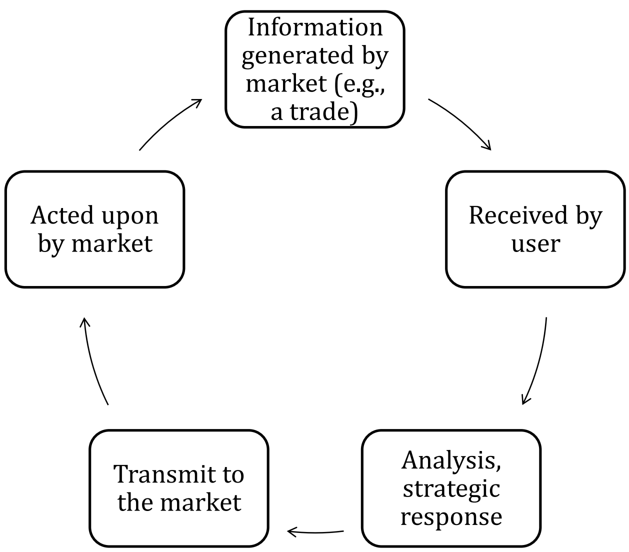
Liquidity as a "network externality"

- Network: relating to connectivity
- Externality: a cost or benefit that is not directly associated with the purchase or sale.
- With liquidity
  - The value of a market increases as more people participate in the market.
    - More people provide more trading opportunities and competition.
  - Liquidity begets liquidity.

Terms: Transparency

- How much can we observe about the trading process?
- Pre-trade transparency
  - Prices and volumes of recent trades; indicative prices for small and large trades; what does the limit order book (or books) look like?
- Post-trade
  - Who is my counterparty?

Terms: Latency (delay)



Most exchanges claim that the time from receipt of an order through transmission of an outcome is about 100 *microseconds*.

Regulation

- Modern securities trading is trans-national.
- Most securities regulation is based at the national level.
  - But some rule-making and enforcement is delegated to the exchanges.
  - Exchange rules often predate Federal regulation

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US Securities and Exchange Commission (SEC)

- Regulates trading in “securities”
  - Corporate stock, bonds, stock options, state and local bonds.
- 1933 Securities Act applies to *primary markets.*
  - The initial sale of a security, from issuer to investor.
- 1934 Securities Act applies to *secondary markets*.
  - Trading after the initial issue.

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US Commodities Futures Trading Commission (CFTC)

- Regulates trading in forward and futures contracts (including financial futures)
  - Regulates swaps (in partnership with the SEC)
- Historically, futures contracts were dominated by agricultural commodities.
  - Markets regulated by the CFTC look different from those regulated by the SEC

And some special cases

- Currency (foreign exchange, FX) is regulated indirectly.
  - The largest participants are banks (which are regulated by the Federal Reserve ("Fed") and the Office of the Controller of the Currency (OCC).
  - Because FX is the "underlying" for many forwards, futures and swaps, the CFTC has some jurisdiction.
- US Treasury markets are regulated by the Fed and the Department of the Treasury.

Industry Regulation

- The US Financial Regulatory Authority (FINRA) is a not-for-profit corporation that regulates many aspects of trading and broker/customer interactions.
  - If you work for a securities firm and have any dealings with customers, you'll take FINRA's "Series 7" exam.
  - FINRA oversees arbitrations of broker-customer disputes.

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European Union

- European Commission
  - Internal Market and Services Directorate General
    - Directorate G – Financial Markets.
      - The overarching regulation is the Markets in Financial Services Directives 2 ("MiFID 2").
      - Much regulation of trading is delegated to the home country (where the exchange is based).

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