Stock (Equity) Fundamentals

Essential features of pricing, buying, venue

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About stocks

- Nearly 13,000 companies listed on the major exchanges in the U.S.
  - 8,000 NYSE Euronext and 5,000 NASDAQ OMX (in North America only)
- Many are overseas companies listed as ADRs (American Depository Receipts)
  - Royal Dutch Shell (RDS-A), America Movil (AMX), Royal Bank of Scotland (RBS), Sony (SNE), BP plc (BP)
- ETrade and other online brokerages also allows you to trade foreign stocks on foreign exchanges in their currencies!
- 4-5 letter listings (VRTX) typically NASDAQ, fewer (IBM, F) are NYSE
  - Some (MSFT) are listed on both
- Becoming a global, 24-hour market slowly
- NYSE (NYX) and NASDAQ (NDAQ) are stocks!

NYX opened at 13.60 on August 20, 2004, and was trading at 106 on Jan 17, 2007. Now 42.39 on Sep 4, 2013
What is a market index?

- An index is a weighted and summed list of stocks that is meant to indicate a measure of performance for a certain class of stocks.
- Most stock indexes are weighted by market cap, shares outstanding times price (DJIA not).
- Weights are adjusted for splits, mergers and acquisitions, and additions and deletions from the list.
- Most indexes are now represented by ETFs.
- The major indexes are represented by mutual funds.

The Major Stock Indexes

- The Dow-Jones Industrial Average
- The NASDAQ Composite (and 100)
- The S&P 500
- The Russell 2000 (small cap)
- The Russell 6000
- Various sector indexes
- Various global indexes

Source: bigcharts.com
The Dow Jones Industrial Average

Dow Jones Industrial Average 30 components

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>Alcoa</td>
</tr>
<tr>
<td>AXP</td>
<td>American Express</td>
</tr>
<tr>
<td>BA</td>
<td>Boeing</td>
</tr>
<tr>
<td>BAC</td>
<td>Bank of America</td>
</tr>
<tr>
<td>CAT</td>
<td>Caterpillar</td>
</tr>
<tr>
<td>CSCO</td>
<td>Cisco</td>
</tr>
<tr>
<td>CVX</td>
<td>Chevron Corporation</td>
</tr>
<tr>
<td>DD</td>
<td>Du Pont</td>
</tr>
<tr>
<td>DIS</td>
<td>Disney</td>
</tr>
<tr>
<td>GE</td>
<td>General Electric</td>
</tr>
<tr>
<td>HD</td>
<td>Home Depot</td>
</tr>
<tr>
<td>HPQ</td>
<td>Hewlett Packard</td>
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<tr>
<td>IBM</td>
<td>IBM</td>
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<tr>
<td>INTC</td>
<td>Intel</td>
</tr>
<tr>
<td>INJ</td>
<td>Johnson &amp; Johnson</td>
</tr>
<tr>
<td>JNJ</td>
<td>Johnson &amp; Johnson</td>
</tr>
<tr>
<td>JPM</td>
<td>JP Morgan Chase</td>
</tr>
<tr>
<td>KO</td>
<td>Coca Cola</td>
</tr>
<tr>
<td>KFT</td>
<td>Kraft food</td>
</tr>
<tr>
<td>MCD</td>
<td>McDonalds</td>
</tr>
<tr>
<td>MMM</td>
<td>3M</td>
</tr>
<tr>
<td>MSFT</td>
<td>Microsoft</td>
</tr>
<tr>
<td>PG</td>
<td>Procter Gamble</td>
</tr>
<tr>
<td>T</td>
<td>AT&amp;T</td>
</tr>
<tr>
<td>TRV</td>
<td>The Travelers Cos.</td>
</tr>
<tr>
<td>UNH</td>
<td>UnitedHealth Group</td>
</tr>
<tr>
<td>VZ</td>
<td>Verizon</td>
</tr>
<tr>
<td>WMT</td>
<td>Wal Mart</td>
</tr>
<tr>
<td>XOM</td>
<td>Exxon Mobile</td>
</tr>
</tbody>
</table>

Stocks that have been removed in recent years include Altria (MO), Honeywell (HON), AIG, Citigroup (C), and General Motors (GM)m Kraft food (KFT). Stocks in this index are equally weighted.

Relative Index Performance
DJIA vs. Russell 2000, Three years (9/4/13)

DJIA is black

DJIA is 30 large cap industrials whereas Russell 2000 is small caps only. Over this time period the small caps are clearly more volatile.

Source: bigcharts.com
Basic information about your stock ...

INTC

Go to yahoo or google to see what is there ...

It starts with the IPO ... (see the reading)

The stock is released to the public for the first time on the day of the Initial Public Offering (IPO). Thereafter the stock is traded in the secondary market. That is the stock market.
I would sell the TSLA right now. I admire Musk and his wonderful car - would love to own one (wife says no) but financially it is a pure subsidy play. Depending upon whose numbers you believe, somewhere between $20K and $35K of actual price of each Tesla is subsidized by clean air credits, which means that their profits are 100%+ subsidy, and that sort of thing can disappear in a single evening. Don’t get me wrong, I approve of Tesla and the subsidy, but it makes for very tenuous business. (Email to Chris Streiter May 9, 2013)

The 10 Most Successful First-day IPOs
(as measured by percentage gains in the first day)

<table>
<thead>
<tr>
<th>Company</th>
<th>IPO Date</th>
<th>IPO Price $</th>
<th>1st day close</th>
<th>Gain %</th>
</tr>
</thead>
<tbody>
<tr>
<td>TheGlobe.com</td>
<td>November 13, 1998</td>
<td>9</td>
<td>63.50</td>
<td>606</td>
</tr>
<tr>
<td>Broadcast.com</td>
<td>July 17, 1998</td>
<td>18</td>
<td>62.75</td>
<td>249</td>
</tr>
<tr>
<td>EarthWeb</td>
<td>November 11, 1998</td>
<td>14</td>
<td>48.69</td>
<td>248</td>
</tr>
<tr>
<td>Secure Computing</td>
<td>November 17, 1995</td>
<td>16</td>
<td>48.25</td>
<td>202</td>
</tr>
<tr>
<td>EBay</td>
<td>September 24, 1998</td>
<td>18</td>
<td>47.38</td>
<td>163</td>
</tr>
<tr>
<td>Yahoo</td>
<td>April 12, 1996</td>
<td>13</td>
<td>33.00</td>
<td>154</td>
</tr>
<tr>
<td>Rambus</td>
<td>May 13, 1997</td>
<td>12</td>
<td>30.25</td>
<td>152</td>
</tr>
<tr>
<td>Boston Chicken</td>
<td>November 8, 1993</td>
<td>20</td>
<td>48.50</td>
<td>143</td>
</tr>
<tr>
<td>Planning Sciences</td>
<td>April 30, 1996</td>
<td>10</td>
<td>24.13</td>
<td>141</td>
</tr>
<tr>
<td>Home Shopping Net</td>
<td>May 13, 1986</td>
<td>18</td>
<td>42.63</td>
<td>137</td>
</tr>
</tbody>
</table>

Source: Los Angeles Times, November 14, 1998. Original data source was Securities Data.
The Facebook IPO last summer ...

First day IPO trades are potentially very hazardous and are restricted. You are not allowed to trade first day in retirement accounts like IRAs, for example.

The Diamond Foods IPO

One of my successful IPOs from the old days (the best ever was LVS, Las Vegas Sands). Central Valley almond growers. This was supposed to go out at about 18. Notice how it fell considerably before it started to rise. Some of these fall considerably, and keep falling! July 21, 2005. DMND. Last year 90!! 9/3/13: 21.64.
Order routing

Your limit or market order

Broker (Ameritrade)

Exchange (NYSE Arca)

Order-flow Market Maker (Knight Capital)

Quotation Service

Clearing House

Brokers

• Discount/online
  – Low transactions costs, instant execution
  – ETrade, Ameritrade, Scottrade, TradeKing

• Traditional full-service
  – "Private clients" charge 1% or so of assets
  – Useful for very large accounts and clueless investors
  – Track record rather motley in 2000 crash.

• Specialized online
  – Allow exotic online interfaces for day-trades, options trading, programmed trading strategies

• Small-market traditional rip-off brokers
  – for ignorant people
Assignment: Peruse Scottrade, E*Trade, and TD Ameritrade

1. Fees for trading
2. Trading platforms
3. Requirements to open an account

The primary role of the broker ... executing your buy and sell orders ...

Figure 1 – Segment of an Ameritrade Trading Screen Showing Best Bid and Best Ask for Intel (INTC)

A market order to BUY will be executed at Best Ask ($18.37 per share) and a market order to SELL will be executed at Best Bid ($18.36 per share).
Types of orders

- **Market order**
  - An order for the broker to buy a stock at the best possible price.

- **Limit order**
  - An order to buy *sell* a stock only if the price falls below *above* some specified price.
  - Example: Buy MARY at $29 or below.

- **Stop loss order**
  - (For a stock already owned) Sell at market if the price falls below $26.

- **Stop Limit Order**
  - Combination of a limit order and a stop order: place a limit order at X if the stock falls below X (or Y).
The distinction between a limit and market order ...

Best Bid / Best Ask

- **Best Bid**
  - Of the limit orders submitted to buy stock, this is (supposed to be) the highest. This is relevant to you if you are trying to **sell** the stock with a **market order**.

- **Best Ask**
  - Of the limit orders submitted to sell stock, this is (supposed to be) the lowest. This is relevant to you if you are trying to **buy** the stock with a **market order**.
National Best Bid and Offer [ask] (NBBO)

Market and limit orders can be routed by many brokers through many market makers and other major transactors to any one of four exchanges in the United States. So how does a single Level II queue and, more important, how does a single Best Bid and Best Ask price emerge from this?

Since 1978 an organization called the Securities Industry Automation Corporation (SIAC) has executed a protocol called the Consolidated Quote Plan resulting in the Consolidated Quotation System (CQS). As part of this service CQS identifies the “Best Bid and Offer” (highest bid and lowest ask), which is disseminated by SIAC to subscribing market participants (including your broker) through the CQS Multicast Line.

This NBBO quote is what you see on an online trading site when you ask for a quote. This is also called a Level 1 quote. Normally this system insures that no matter what exchange or ECN your broker trades through, you will get best bid or best ask on market orders to sell or buy.

Other terms you should know

- Round lot
- Odd lot
- Block trade
- Splits
- Margin account
- GTD/GTC
- Day + EXT
A limit order to buy (sell) will be placed in the bid (ask) queue wherever it belongs.

A market order to buy will (normally) be executed at Best Ask (the top of the ask queue).

NASDAQ Level II / DOM Quotations

DOM: Depth of Market - other terms also now used.

Market Participant IDs (MPID)

Best Buy and Best Ask are shown in yellow.

BID queue represents limit orders to buy, Ask, to sell. The Bid queue declines and Ask queue rises.

(Sept. 1, 2010)

Limit orders make up the queues – you are being shown the best order for each exchange or market maker.

Typical Level II screen (Ameritrade) showing Bid/Ask queue for Ford with Best Bid (11.64) and Best Ask (11.65) at top. Bid queue represents limit orders to buy, Ask, to sell. The Bid queue declines and Ask queue rises.

(Sept. 1, 2010)
This is NASDAQ’s *Total View*, shown on Ameritrade, which shows the DOM on the NASDAQ market only. Sept 1, 2010 for Intel, very heavily traded (see daily volume) and so the queue is very tight with large combined orders.

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**More on Limit vs. Market Orders**

A market order to *buy (sell)* in an ordinary stock transaction will normally result in the immediate purchase of your stock at Best *Ask (Bid)*. In an orderly market for a liquid stock where there is only a penny spread between bid and ask a market order is suitable.

However, in a market for a less liquid stock there is often a wider spread between bid and ask. A limit order priced between bid and ask, or at least no higher than best ask when buying or no lower than best bid when selling, may be more suitable than a market order.

In a high-volume volume volatile market when the bid/ask queue is racing, you *must* use a limit order or you might end up getting a price you really don’t want!

When trading first day IPOs, options, futures and other derivatives, again you *must* use limit orders and get very good at doing that.

Rule of thumb: if trading practice using limit orders even in a stable market when market orders will suffice.
Illiquid Stocks and Big Spreads
(and why you must use limit orders sometimes)

NATH is a relatively illiquid stock (only 1900 shares at noon on Sep 1, 2010 – compare to INTC on same day) so there is a big spread between Bid (15.50) and Ask (15.56) and sometimes the spread is a lot wider than this. You may want to accept 15.56, or put a limit to buy at 15.52.

Short Selling

When you short-sell a stock you reverse the normal order of the transaction: (1) you sell the stock first, then (2) buy it back later. Normally you do this because you think the price of the stock will fall.

How is this possible? Technically when you make this transaction you borrow the stock in-kind and offer collateral in cash and you promise to pay the stock back in-kind and have the collateral returned. You borrow it (indirectly usually) from a party who is long in the stock for the long term (like a pension fund) and is willing to loan it to you, using your collateral to earn a small return.
Ameritrade short-selling process

1. Initiate with this now.

2. Close the transaction with this later.

Securities Lending and Short Selling

You (seller)

Broker: Ameritrade, Etrade etc.

Securities Lender: Pension, Mutual, Hedge Fund etc.

Stock loan

Cash Collateral

Cash invested

Cash

Stock

Buyer

You (seller) will be the one providing the stock for short selling. The securities lender will be the one providing the cash collateral. The broker will facilitate the transaction.

The original securities lenders will be typically large institutional investors like pension funds or mutual funds who plan to hold the stock in question for a very long time, like an S&P500 Index mutual fund. Therefore they are willing to lend that stock through an intermediary (the broker) so long as cash collateral is provided. They then take that cash collateral and invest it in a low-yield safe investment to enhance yield. Often (typically) there is a custodian bank offering a securities lending program, lending the securities and finding investments, for the securities lender (not shown).
Short sale data

- **Short Ratio**
  - The number of shares sold short divided by average daily trading volume.

- **Days Short (same thing)**
  - Given average daily volume, the number of days it would take to clear off (reverse) all short sales.

- **Short % of float**
  - Percentage of all shares outstanding that are short.
  - Levels as high as 50% were seen in 2008.

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Stock splits and reverse splits

(see the material in Chapter 1, especially for the discussion of reverse stock splits, which aren’t covered in this lecture)

A board of directors can choose, with shareholder approval, to split a stock 2-for-1 or 3-for-1 or some other proportion to reduce the price back to a range that may be more attractive to investors.

The amount owned and dividends and other rights are adjusted proportionately. Google is proposing a controversial 2-1 split right now, controversial because they want to eliminate voting rights for the new class of stock.
The Cabot Oil & Gas (COG) 2-for-1 split

In historical data series, the “adjusted” data will always account for the split (red line) so older data do not actually reflect the price that the stock was trading at.