**Chapter 3: Trading**

* Primary market
  + Trading directly with the firm that issues the security
  + Example: buying shares during an IPO
* Secondary market
  + Trading with other investors, who are not the issuing firm
  + Example: buying shares on E\*Trade
* Types of secondary markets
  + Auction market
    - Used for stocks, options, and futures
    - Limit order/offer-driven markets
    - Best order “wins”
    - Individual traders trade with other individuals
      * These trades are generally matched on an exchange
      * This process is more complex than it appears
    - Individual traders rarely trade on their own. They typically use a broker
      * An occasional trader wouldn’t/can’t invest the time to find the best price
    - Markets organized around limit order books
      * Limit order book: compilation of all standing offers to buy or sell
      * Incoming orders are generally filled from these orders
    - Designated Market Maker (DMM)
      * Formerly known as “specialists”
      * Runs/maintains order book
      * Liquidity provider that functions similarly to a dealer
      * Supports the market’s reputation for providing liquidity
        + They can step in and provide additional supply/demand to keep the market running smoothly
    - The broker’s role is limited to finding the best price and fulfilling the client’s trade
      * Each trader also employs a custodian
      * The buyer’s custodian holds the cash
      * The seller’s custodian traditionally held physical paper stock certificates
        + Now, a central securities depository holds those records
        + This entity is the Depository Trust & Clearing Corporation (DTCC) in the US
    - The exchange’s role is essentially limited to matching the trades
      * The trade is sent to a clearinghouse to actually be executed
      * The clearinghouse eliminates counterparty risk, as it buys from the seller and sells to the buyer
    - The issuing company employs a share transfer agent
      * May be known as a registrar outside of the US
      * Maintains an up-to-date register of the firm’s shareholders
        + Ensures that dividends flow to the proper recipients
  + Dealer market
    - Used for bonds, currency swaps, and other OTC derivatives
    - Quote-driven
      * Dealer’s offer prices
    - Many dealers for each security who maintain inventories to meet demand
    - All trades go through a dealer, individual traders don’t trade with each other
    - Works better than alternative structures for low volume securities
      * Spread on trading incentivizes the dealer to continue trading
      * Reduces search costs for individual traders
* How are prices determined?
  + In both types of markets, there are separate prices for buying and selling
    - The single “stock price” we see is the price at which the last trade executed
    - This price holds little meaning for us in most circumstances
  + Bid: dealer’s buying price
    - Our selling
  + Ask: dealer’s selling price
    - Our buying
    - The ask price will always be higher than the bid price
  + Where do bid and ask come from?
    - In a dealer market, these are given by dealer quotes
      * All trades have to go through a dealer, so they are the only ones who post prices
    - In an auction market, these are compiled into the limit order book and sorted from best to worst (from the counterparty’s perspective)
      * The “best” bid is the highest price (ordered highest to lowest)
      * The “best” ask is the lowest price (ordered lowest to highest)
    - Your order will always be matched with the best opposing order
      * A sell will be matched with a bid offer
      * A buy will be matched with an ask offer
    - When you intend to sell, you will look at the bid price
    - When you intend to buy, you will look at the ask price
* Order types
  + Market orders
    - Buy or sell orders that are to be executed immediately at current market bid or ask prices
    - No price control
    - Generally receive the best matching price available
      * A market buy order will match with the best available ask
      * A market sell order will match with the best available bid
    - In any event, you will not necessarily get the same price that you expect
    - Example: at what price would we execute a market buy for 500 shares?
      * Look at the ask side, take the best price (lowest) as long as there are enough shares available
      * 500 shares at $30.76
    - Order execution price
      * Often, an order will need to be matched with multiple offers in order to be filled
        + In that case, there will be several trades occurring at different prices
        + Since they’re all occurring at once, the broker will only charge you a single commission
        + Your broker will report a single price, which is the weighted average of these different transactions

Price= (Σi=1Sharesi x Offer Pricei) / Total Shares

* + Limit orders
    - A price contingent buy or sell order which can be executed only if the market reaches or betters that price
      * Limit buy: order to buy a stock at or below a specified price
      * Limit sell: order to sell a stock at or above a specified price
      * Limit order book: collection of limit orders waiting to be executed
    - Limit orders specify a “worst-case” price
      * They will only be executed if the market price is equal to or better than the limit price
      * You are willing not to trade if you don’t get the price you asked for
    - Example: limit buy for 1500 shares with a limit price of $30.75
      * Look at the Ask side, $30.75 is the lowest you will go
      * The current best offer is for $30.77 which is too high
      * This trade will not be executed and will be listed as an offer on the Bid side instead, 1500 shares at $30.75
    - Example: limit sell for 500 shares with a limit price of $30.74
      * Need at least $30.74
    - Issues with limit orders
      * Double commissions
        + Since limit orders can be partially filled, they may be filled in two or more transactions, this can result in multiple commission charges
      * Can’t force the price
        + Just because you place a limit order, doesn’t mean that you will actually be able to trade at that price
      * Offer prices
        + Once the limit order is listed in the order book, you will only typically receive the limit price
        + A limit order that is executed right away might receive a better price
  + Stop orders
    - An order executed if and only if the stock hits a price limit
    - Why not use a market order?
      * Lock you in and eliminate potential upside
      * What if the stock price goes up after you sell?
      * What if the stock price goes down after you buy?
    - Why not use a limit order?
      * May or may not execute
      * You may get “stuck”
    - A stop order will allow you to set a “give up” price
      * You set a price at which you’re no longer willing to lose any more money and you want to close out the position
    - Types of stop orders
      * Sell stop
        + Order to sell stock if price falls below a set level
        + Designed to limit losses or lock in a certain profit
        + Also known as a stop-loss order
      * Buy stop
        + Order to buy stock if price rises above a set level
        + Used to trigger a purchase when you are short the asset
        + Also known as a stop-buy order
    - Stop order facts
      * Stop orders only serve as a trigger mechanism for placing a market or limit order
        + They are not executed directly
      * Stop orders are able to trigger a buy or sell, but they don’t guarantee a particular price
        + This means that the stock could continue to move in the wrong direction for you and you could receive an even worse price
      * Why use a stop order?
        + They provide some automation, so we don’t have to sit in front of our computer all day
        + They are cheaper than other alternatives like a protective put—the only cost is the commission on the trade
    - More stop orders
      * Both a sell stop and a buy stop come in one of two varieties:
        + Stop market

When triggered, the stop order will generate a market order

Guarantees that the order will execute if the stop is triggered

* + - * + Stop limit

When triggered, the stop order will generate a limit order

Requires setting both the stop price and the limit price

May not execute if the price moves past the limit price before it is processed

* + - * + Most stop orders are stop market
    - NYSE and Nasdaq stopped accepting stop orders
      * The major exchanges no longer accept stop orders
        + In February 2016, NYSE joined Nasdaq in no longer accepting stop orders
        + All existing orders were cancelled
      * Why are stop orders still relevant then?
        + Brokers can still perform them
        + Just because a stock is listed on an exchange, doesn’t mean all of its trading takes place there
* Listing venues versus trading venues
  + US has 14 stock exchanges
  + Exchanges (NYSE, Nasdaq)
    - Most exchanges are linked by the consolidated quotation system
    - Broker or customer can see all activity from one screen
  + Exchange listing
    - A listing is a sponsorship (companies pay to be listed)
    - The exchange monitors the financial statements, governance, and trading activity
    - The listing exchange is a “home” for trading activity
* Trade execution
  + For an exchange-listed stock, a broker may direct an order to:
    - That exchange
    - Another exchange (ex. A regional exchange)
    - “Third market maker”: a firm that stands ready to buy or sell at publicly quoted prices
  + The broker could choose to send your order to an ECN (Electronic Communications Network) or another division of their own firm to be filled out of the firm’s inventory
    - Broker’s firm profits on the spread (and your commission)
    - Broker has fiduciary duty of best execution
  + SEC rules specify disclosures that can give us more info about our trade execution:
    - Market centers required to make monthly disclosures on their quality of execution
      * Info about effective spreads
      * How their executions compare to public quotes
    - Brokers must make quarterly disclosures of the market centers they use for “significant” numbers of trades
      * They must also respond to client requests for routing info for individual trades made in the last 6 months
* Order instructions
  + Instructions (designations) are special instructions that you can give your broker regarding how long an order will remain active and/or how it should be executed
    - Typically apply to limit orders
  + Two most commonly available are:
    - Time in force designations
      * Day order
        + Automatically terminated at the end of the day if not filled
        + Sometimes called a “good till day” order
      * Good till cancelled
        + An order that remains in effect until it’s executed or explicitly cancelled

Most brokers automatically cancel it after 1 to 2 months

* + - * + The NYSE and Nasdaq no longer accept good till cancelled orders, but you may still be able to use them

Same situation as stop orders

* Margin transactions: you only provide a portion of the proceeds for the investment
  + Broker supplies remainder as a loan
* Margin account: an account you have with a broker in which you place collateral to cover your position
  + Broker requires collateral to cover credit risk
* What is margin?
  + Difference in the market value of a collateral and the amount of the loan against it
    - Typically the collateral we think about are stocks
    - Our broker usually lends to us
  + Margin = equity / value of stock
* Margin trading rules (for stocks)
  + These are three important requirements when trading on margin