Vocab Sheet:

* Risk Premium (Risk Premia): A risk premium is the return in excess of the risk-free rate of return an investment is expected to yield; an asset's risk premium is a form of compensation for investors who tolerate the extra risk, compared to that of a risk-free asset, in a given investment. [风险溢酬; 风险溢价]
* \***Security**: a fungible [the ability of a good or asset to be interchanged with other individual goods or assets of the same type], negotiable financial instrument that holds some monetary value
* Cross Sectional Analysis: Cross-sectional analysis is a type of analysis where an investor, analyst or portfolio manager compares a particular company to its industry peers. Cross-sectional analysis may focus on a single company for head-to-head analysis with its biggest competitors or it may approach it from an industry-wide lens to identify companies with a particular strength
* Stop Loss Order: an order placed with a broker to sell a security when it reaches a certain price
* Long position (long): is the buying of a stock, commodity, or currency with the expectation that it will rise in value
* Short position (short): whenever a trader sells a security with the intention of repurchasing it or covering it later at a lower price [做空]
  + Naked short: when a trader sells a security without possession of it
    - Illegal with US equities
  + Covered short: when a trader borrows the shares from a stock loan department; in return, the trader pays a borrow rate during the time the short-position is in place
  + Short squeeze: when a heavily shorted stock suddenly increases in price as traders that are short begin to cover the stock [very dangerous]
    - Also known as bear squeeze or bear trap
  + Crowded short: a trade on the short side with a large number of participants, which greatly increases the risks of a short squeeze
  + Days to cover [short ratio]: measures the expected number of days to close out a company’s issued shares that are currently shorted and divides that by the average daily trading volume to give an approximation of the time required to close out those short positions
* **Law of One Price**: securities with identical pay offs should have the same price
* **Arbitrage Opportunity**: a feasible trading strategy involving two or more securities with either of the following characteristics
  + it does not cost anything at initiation, and it generates a sure positive profit by a certain date in the future
  + it generates a positive profit at initiation, and it has a sure nonnegative payoff by a certain date in the future
* Market Equity (ME): size
* Common Equity (BE): firm’s book value of common equity
* Earning Price Ratio (E/P)
* Leverage: Leverage results from using borrowed capital as a funding source when investing to expand the firm's asset base and generate returns on risk capital.
* **Forward Rate:** A forward rate is an interest rate applicable to a financial transaction that will take place in the future. Forward rates are calculated from the spot rate and are adjusted for the cost of carry to determine the future interest rate that equates the total return of a longer-term investment with a strategy of rolling over a shorter-term investment [即期利率]
  + Future yield on a bond
* **Spot Rate** [Zero Coupon Rate]: The spot rate is the price quoted for immediate settlement on a commodity, a security or a currency. The spot rate, also referred to as the "spot price," is the current market value of an asset at the moment of the quote. [零息利率/即期利率]
* Face Value: money amount the bond will be worth at maturity [for bonds referred to as par value or par]
* Coupon rate: interest rate agreed on for bonds, usually fixed [on face value]
* Premium: costs to invest [issue price for bonds]
* **Yield**: the total return that will be out by a bond’s expiration date
  + Yield to call: for callable bonds, the total return until held date [as opposed to yield to maturity]
* Yield Spread: the difference between yields on differing debt instruments of varying maturity, credit ratings, and risk
* Excess return: investment returns from a security or portfolio that exceed the riskless rate on a security generally perceived to be risk free [deposit or bonds]
  + Based on alpha adjust [success from portfolio instead of market] to beta [risk calculated by regression]
* Affine term structure model: financial model that relates zero-coupon bond prices (i.e. the discount curve) to a spot rate model. It is particularly useful for deriving the yield curve – the process of determining spot rate model inputs from observable bond market data
* Short Rate Model: A mathematical model that describes the future evolution of interest rates by describing the future evolution of the short rate
  + The short rate: is the interest rate [continuously compounded, annualized] interest rate at which an entity can borrow money for an infinitesimally small short period of time from time t.
* Mean Reversion: In finance, mean reversion is the assumption that a stock's price will tend to move to the average price over time
* Autoregressive Model: In statistics, econometrics and signal processing, an autoregressive model is a representation of a type of random process; as such, it is used to describe certain time-varying processes in nature, economics, etc.
* Basis Points (bips/bps): unit of measure to describe change in the value or rate of a financial instrument
* **Duration**: a measure of the sensitivity of the price of a bond to a change in interest rates
  + Measures how long in years for an investor to be repaid the bond’s price by the bond’s total cash flow
* **Bond Duration**: the duration of a financial asset that consists of fixed cash flows is the weighted average of the times until those fixed cash flows are received
  + Aka **Macaulay duration**
    - f = cash flow number
    - CF = cash flow amount
    - y = yield to maturity
    - k = compounding periods per year
    - t\_f = time in years until cash flow is received
    - PV = present value of all cash flows
* Bond Quote: the last price at which a bond traded
* Aggregate Risk: the amount of an institution or investor’s exposure to foreign exchange counterparty risk from a single client
* Annuity: a financial product that pays out a fixed stream of payments to an individual [primarily used as an income stream for retirees]
  + Period of time when an annuity is being funded and before payout begins is referred to as the accumulation phase
  + Once payment begins, it is referred to as the annuitization phase
* **Options**: financial instruments that are derivatives or based on underlying securities such as stocks
  + An options contract offers the buyer the opportunity to buy or sell the underlying asset
  + The financial equivalent of an insurance contract
  + Unlike **futures**, they can choose not to buy or sell
    - Call Option is to buy; Put option is to sell… at a stated price within a given time frame
  + E.g. Cap (a financial option): a corporation that that issues a floating rate bond pays only the floating reference interest rate if the interest rate increases above some cutoff point (strike rate)
* On the run: most recently purchased treasury bonds
* Off the run: treasury bonds that have been purchased for a while
* Repurchase Agreement (Repo): a form of short-term borrowing for dealers in government securities
  + A dealer sells government securities to investors, usually on an overnight basis and buys back the following day
  + Used to raise short term capital
  + A trader wants to buy a treasury bond for short term capital; he buys bond from the market at price Pt then delivers the bond to the repo dealer for Pt – haircut
    - He then hopes to sell it at some future time at PT and pays the repo dealer (Pt – haircut)\*(1 + repo rate rate x n\360)
  + Effectively borrowing money to purchase bond
* General Collateral Rate: repo rate on most treasury securities [off the run treasuries]
* \***Swaps**: a contract according to which two counterparties agree to exchange cash flows in the future
  + Change the sensitivity of their cash flows to fluctuations in interest rates
  + Alter the timing of their payments and revenues
  + Invest within complex trading strategies
* Futures market: market participants can lock-in a future interest rate
* Future contracts: contracts according which two counterparts decide to exchange a security at a prespecified time in the future for a price agreed upon today
* Forward contracts: same as future contracts except that forward contracts are not traded on a regulated exchange but only on the over-the-counter market
* Over-The-Counter (OTC): refers to the process of how securities are traded for companies that are not listed on a formal exchange
  + Traded via broker dealer network
* Adjustable Rate Mortgage (ARM)
* Discount Factor: between two dates, t and T, provides the term of exchange between a given amount of money at t versus a (certain) amount of money at a later date T [denoted Z(t, T)]
* Compounding frequency of interest accruals: the annual number of times in which interest is paid or reinvested on the invested capital
* \***Term structure of interest rates** (spot rate curve or yield curve): at a certain time t defines the relation between the level of interest rates and their time to maturity T-t
  + Discount curve: at a certain time t defines instead the relation between the discount factors Z(t,T) and their time to maturity T-t
* \***Term spread** (slope): the difference between the long-term interest rates and the short term interest rates