# Trading Basics

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| Bear Market | * Market where shares are falling, encouraging selling |
| Bull Market | * Market where shares are rising, encouraging buying |
| Efficient Market Hypothesis | * A theory which states that asset prices fully reflect all available information such that a direct implication is that it is impossible to “beat the market” since all the information is already incorporated into the prices |
| Stock Market | * Exchange traded funds (ETF), corporate bonds and derivatives are based on stocks, commodities, currencies, and bonds * Primary market involves issuing new securities on an exchange and are done by underwriting groups consisting of investment banks that set a beginning price (e.g IPOs) * Investors typically pay less for securities on the primary market than on the secondary market * Secondary markets are typically the stock exchanges where investors can buy or sell securities * Main difference between primary and secondary markets is that in secondary markets investors exchange with each other rather than with the issuing entity * Primary market prices are often set beforehand which prices in the secondary market are determined by supply and demand * Functions include 1) fair dealing in securities transactions, 2) efficient price discovery, 3) liquidity maintenance, 4) security validity of transactions, 5) support all eligible types of participants, 6) investor protection, 7) balanced regulation. * Stocks: Ownership stake in a company * Bonds: Loans a company takes from bondholders, and interest is paid to the bondholders * Index: Aggregate of stocks that represents the entire market |
| Types of Traders | * Position/Trend: months to years * Swing: days to weeks * Day: hold throughout the day with no overnight positions * Scalp: hold for seconds to minutes with no overnight positions |
| Fundamental Analysis | * Measure a securities intrinsic value by examining related economic and financial factors and compare it to the security’s current price to determine whether it is overvalued or undervalued * The order of study is: current economic state (bear or bull market), then industry strength, then individual company performance * Focus on financial statements (revenue, earnings, future growth, return on equity, profit margins etc) * Contains two groups of analyses: quantitative which is capable of being measured or expressed in numerical terms, or qualitative which is related to or based on the quality or character of something |
| Technical Analysis | * Markets are efficient with values representing factors that influence a security’s price but market price movements are not purely random but move in identifiable patterns and trends that tend to repeat over time * Technical analysis only works if markets are weakly efficient * 3 main assumptions:   + The market discounts everything. Since the company’s fundamentals from broad market factors to market psychology are already priced into the stock, the only thing remaining is the analysis of price movements which is the product of supply and demand   + Price moves in trends. Prices move in short/medium/long-term trends such that a stock price is more likely to continue a past trend than to move erratically   + History repeats itself. The repetitive nature of price movements is often attributed to market psychology which tends to be very predictable based on emotions and you can use chart patterns to analyze these emotions and subsequent market movements to understand trends. * Generally involves looking at price trends, chart patterns, volume and momentum indicators, oscillators, moving averages, support and resistance levels * A criticism of technical analysis is that it works only because of a self-fulfilling prophesy such that short-term selling pressures can be created through mass psychological factors which creates movements that seem to have been predicted but are just the result of many people using the same trading strategy |
| Overbought | * Security that is believed to be trading above its intrinsic value such that it will likely to correct its value in the future * Calculated in fundamental analysis with price to earnings ratios such that if this ratio rises above that of its sector of relevant index, it is seen as overvalued * Calculated in technical analysis with relative strength index (RSI) which is 100 – (100/(1 + RS)) where RS is the ratio of average upward movement to downward movement over typically 14 days * Often use pricing channels such as Bollinger Bands to confirm the signal that the RSI generates by observing its standard deviation above and below the EMA |
| Oversold | * Security that is believed to be trading below its intrinsic value and has the potential for a bounce * Calculated in fundamental analysis with price to earnings ratios such that if this ratio rises above that of its sector of relevant index, it is seen as overvalued * Calculated in technical analysis with relative strength index (RSI) which is 100 – (100/(1 + RS)) where RS is the ratio of average upward movement to downward movement over typically 14 days * Often use pricing channels such as Bollinger Bands to confirm the signal that the RSI generates by observing its standard deviation above and below the EMA |
| Intermarket Relationships | * Commodities, bonds, stocks and currencies are the 4 biggest markets which can be used to assess the overall market and can reflect the overall trend of the economy * If commodity prices are rising, the cost of goods moves up resulting in inflation, and hence bond prices fall as interest rates rise * Bonds and stocks are usually correlated and when bond prices begin to fall, stocks eventually follows as borrowing becomes more expensive |
| CFD Trading | * Contract for differences (CFDs) is an arrangement in derivatives trading where the differences in the settlement between opening and closing prices are cash settled * Since CFDs are OTC and is not regulated, the brokers credibility is based on its reputation and CFD trading is banned in the United States and heavily regulated in European countries * CFDs do not represent real contracts, rather contracts between client and broker * CFDs as a financial instrument allows traders to trade the price movement of securities, and the difference in the purchase (bid) and sale (ask) is netted to the broker as commission, however, this is the only commission for performing a transaction, and is reflected in the spread * Therefore, to break even, the security has to have a gain above its spread * CFDs are trade on margins, meaning the trader uses leverage to amplify profits or losses, and there is a margin requirement associated with the account * CFD markets typically do not have short selling rules, as the instrument does not need to be borrowed and there are no shorting costs * There is also no day trading requirements, and no capital requirements * The spread may be variable if the underlying asset is extremely volatile * If you cannot cover your losses, a margin call may be made where you would have to deposit more funds into your account or liquidate any positions |

# Trading Psychology

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| Psychology | * Fear: traders often overreact and liquidate when bad news strikes the market * Greed: traders often hang on to winning positions for too long, causing losses at the end * Rules: risk-reward rules should be set, including stop losses and profit targets * Review: traders should often review their past traders and reflect on their past mistakes or habits * Removing sources of bias such as media or news, and sticking to a simple strategy based primarily on the charts, you can get rid of many emotional factors. However, it is important to remember that the majority of the market is still influenced by emotions and mass psychology often drives price action |
| Investor Behavior | * There are many reasons why traders underperform, which can particularly be seen in comparing the average returns between actively managed funds and common indices * Fear of regret is a theory that traders become emotionally affected by the price at which they purchased as stock such that they avoid selling it at a loss and do not cut their losses, or if they discover that a stock which they did not buy increased in value such that the next time they jump in without doing their due diligence. Both scenarios results in high losses * Mental accounting also plays a part as investors hold on the gains without taking profit, resulting in the stock actually going down making traders hold on for even longer so that they can wait until the price gets back up * Prospect theory describes that people express different degrees of emotion towards gains and losses, such that people are much more upset in losses than they are happy in gains, which also explains why investors hold on to losing positions * Anchoring also plays a part as key price points which are deemed significant but actually just theorized value influence decisions of traders * Over and under-reacting can be seen when investors get overly optimistic when the market is going up causing a prices to continue past their intrinsic value, or when investors become overly pessimistic when the market is going down causing prices to drop past their intrinsic value, which can lead to panics or crashes * Most traders also would rate themselves as above average and overestimate their knowledge, such that they think they can time the market while this only causes too many trades being made resulting in losses |
| Why Most Traders Fail | * Random reinforcement occurs when traders attribute a random outcome to skill or a lack of skill, as the market occasionally reward bad habits and punishes good habits as it is dynamic * This can be seen when a new trader attributes a string of wins to intuition and an advanced trader who attributes a string of losses to a lack of skill * Random reinforcement can therefore create long-term bad habits that are hard to break * By employing technical tools, structured strategies and patterns, random reinforcement can be avoided * Even if you lose money on a trade following a specific strategy and trading a specific pattern, it is a sign of good habit and should be encouraged, as making money by blindly guessing will further increase bad habits and eventually lead to higher losses in the future. Traders therefore need to be disciplined. * Even though your strategy is completely against the market, you should go through with it anyways * Most investors also fall prey to the irony that traders are risk averse when chasing gains (take profits quickly) and risk seekers when avoiding losses (not taking a loss quick enough) |
| 7 Deadly Sins of Investing | * Pride – when you try to hold a bad investment and not cut your losses quickly * Lust – chasing a company due to hype and not technical or fundamentals * Avarice – act of selling low risk investments and shifting the capital to higher-yield and higher-risk ones * Wrath – when you blame everyone buy yourself for losing money, and don’t take time to reflect * Gluttony – putting all your eggs in one basket and not diversifying * Sloth – not doing due diligence * Envy – not following successful investors and despising them instead |
| Cognitive Bias | * Cognitive errors results from incomplete information which can be either belief perseverance or processing errors, the first of which is a traders attempt to avoid information which contradicts their own beliefs, and the second of which is when a trader fails to manage and organize information properly due to mental effort required to analyze data * Conservatism bias – when people emphasize original pre-existing information over new data * Base rate neglect – when people put too little emphasis on pre-existing information * Confirmation bias – when people seek information that confirms their exiting beliefs instead of seeking contradictory information which disproves their beliefs * Sample size neglect – error from inferring from a too small dataset * Hindsight bias – when people perceive actual outcomes as reasonable and expects, but only after the event * Anchoring – when people become fixated to original target numbers even though outcomes may deviate * Availability bias – when future events are perceived based on memorable past events * Framing bias – when a person processes the same information differently when it is presented differently |
| Handling Losses | * Dysfunctional coping strategies such as suppression, projection, denial, and self-delusion may add to stress in your life, cause you to blame others, or cling to investments hoping they will go up again * Sound coping mechanisms involve learning from your mistake and readjusting your strategy to recoup your losses slowly over time |
| Becoming Better Mentally | * Monitoring your performance can help you decide what strategies work and what don’t, with the estimated returns over the long run, and can help you avoid pitfalls of short-term risks which build up over time * You have to focus specifically on what you need to be improving, and not worry about others * You must learn how to cut losses quickly * Focusing on one investing style and a small number of strategies (2 to 3) which offers good returns is the best way to be consistently profitable * Always think about probabilities, such that you calculate the risk-reward ratio before going into any trade * Keep in mind that the market does what it does, and will not do what you think it will do, such that traders should not feel pressured to act too quickly, and not force your opinion on the market |
| Support and Resistance | * Support occurs due to the concentration of demand and resistance due to a concentration of supply * As the price rises from support, traders who go long may add to their current positions, and traders who are shorting begin to cover, while traders who have not taken a position may be ready to enter a trade and go long if the price comes back down to the support, such that overall, a large number of traders may look to buy at the current support level, adding to the strength of the support. The same behavior can be observed if the price falls and the support doesn’t hold, as traders start to look to short at this price while those who have long positions wait for the price to bounce back to the support, which has now become the resistance. * It is important to remember support and resistances can also form on trend lines going up or down * The charts can reflect the human emotions of fear, greed and optimism. Fear and greed can be seen when the price falls back to a support level, the traders who are already long will add to the position while traders who are shorting will cover since they are afraid of losing money. The support level hence reflects the mass psychology as traders gather at these price levels * New market highs or round numbers also attract traders to gather at these prices due to human emotion, as these prices may have been significant in the past (anchoring) |
| Anchoring | * A behavioral bias in which the use of a psychological benchmark carries a disproportionately high weight in a traders decision making * An example is that traders might assume a greater risk by holding an investment for too long in hopes that it will return to its original purchase price despite being down * Historical values such as returns, highs, or net profits can cause traders to expect something unrealistic |
| Behavioral Finance | * Behavioral finance describes how emotion and biases drive share prices as investors are often irrational * The market follows mass psychology, also known as the herd instincts * Investors often prioritize the possibility of recouping losses more than the possibility of taking gains, causing investors to recoup losses by hold their longs in bear markets hoping it will eventually bounce back * Due to the herd instinct, investors tend to imitate other investors as they are often fearful that other investors know more information about the price action of a particular security, and therefore will follow other investors * Investors are also often overconfident in buying the dip when the market might be in a bearish trend |
| Downward Trading Spiral | * Trading is risky and 90% of amateurs lose consistently, as trading is very speculative * While some traders begin by making money due to beginners luck, it may turn into consistent losses soon * Since a lot of traders try to recoup losses, almost having a gambling mentality * Borrowing money for trading is a good sign of trading addiction * All these things can also be called the casino mentality |
| House Money Effect | * The behavioral financial concept that people risk more after they win, as they perceive it as money that wasn’t really theirs in the first place * Technical analysts tend to “let the winners ride” by taking profit at a predetermined price before letting the rest ride the profit to another price target, such that the risk is calculated and the position is correctly sized |
| Black Swan Events | * Extreme outlier events in the market place that only happens once, which may cause extreme damage or extreme upsides, and cannot be predicted by forecasting tools |
| Value Trap | * When a stock has been trading low due to it being valued with biased metrics for a long time, causing traders to try and buy the stock only to find that its value is actually not undervalued and may fall lower |
| Hindsight Bias | * Psychological phenomenon in which past events seem to be more prominent than they appeared, leading traders to believe that an event was more predictable than it actually was which leads to the assumption of an over-simplified explanation for the past price action * This can often be seen after big market crashes where people say that the event was actually predictable, however, if it really was that predictable, then the event would have been avoided entirely |
| Media Effect | * When certain stories that the media publishes amplifies or influences current market trends |
| Confirmation Bias | * When investors filter out potentially useful facts and opinions that don’t coincide with their actual preconceived notions, ultimately leading to poor decision making in the long run * This is often seen when investors specifically look for news or indications that support their beliefs and not looking at other facts which disproves their beliefs that make be equally important * To avoid this, traders should look for contradicting evidence and not ask confirmation questions * This is also closely related to positive feedback which follows herd mentality, and can be avoided with setting strict trading plans and strategies |
| Sunk Cost Trap | * Tendency for people to irrationally follow through on an activity that is not meeting their expectations or prior criteria solely because of the time/money they have already invested in instead of cutting their losses |
| Regret Theory | * When people anticipate regret if they make the wrong choice, and this anticipation influences their final decision making, basically meaning they are fearful of losses which stops them from taking action * The theory can end in both ways, such that an investor who previously took a huge loss will be more careful next time and not invest, or an investor who previously did not invest in a stock than spiked will be less risk-averse next time and jump into the investment without conducting any research * These can all be avoided by following a specific strategy |
| Regret Avoidance Theory | * The tendency of a trader to refuse to admit that a poor investment decision was made, which leads to investors hanging on to poor investments too long or continue adding money in hopes that the stock will turn around, thus avoiding the feeling of regret |
| Analysis Paralysis | * When an individual becomes so lost in the process of examining various points of data or factors for a problem that they are unable to make a decision with it |
| False Market | * When prices are manipulated and impacted by erroneous information, such that investors tend to be irrational and over-react to news, skewing the market in illogical ways |

# Portfolio Management

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| Diversification | * Mixing a wide variety of investments within a portfolio * Diversified across many asset classes/geographies * Limits gains but reduces exposure |
| Efficient Frontier | * An investment portfolio that offers the highest expected return for a specific level of risk * Standard deviation of the security aligns with the risk, a lower covariance between the securities in the portfolio results in an overall lower portfolio standard deviation * Optimization of return versus risk should place a portfolio along the efficient frontier line * Optimal portfolios that comprise the efficient frontier also tend to have higher degree of diversification |
| Time-Weighted Rate of Return | * Measure of compound rate of growth in a portfolio, also known as a geometric return * Eliminates distortion effects of the portfolio created by inflows and outflows of money |
| Dollar cost average | * Regularly invest over a long period of time regardless of market fluctuations * Using ETFs is a good option for investment * Keep investing during the bear market will tend to see the real value of dollar cost averaging |
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# Stock Trading

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| Market Psychology | * When volume is high, traders losing on their positions tend to close as quickly as possible to minimize losses. This causes the volume to drop as these investors exit the market. However, trends based on moderate volume may last a long time since the losses happen over a longer period of time. * On-balance volume is a running total which rises or falls everyday based on whether prices close higher or lower than the previous day. High on-balance volume indicates bullish market. All time on-balance volume low indicates a bear market. When on-balance volume does not agree with how the market is moving, then it indicates the volume, or emotion of the market, is not consistent with the price and is due for a shift in price to correct this * Accumulation/Distribution takes into account opening and closing prices, and takes into account opening prices compared to the previous closing day. This impacts mass psychology as if an up-trending stock has an open higher than the close, then the stock may appear weaker than it actually is * Open interest also shows the bullishness or bearishness of the market, impacting the prices |
| Desk Trader | * Someone who trades on behalf of other companies or investors and not on their own accounts * Fixed-income traders trade bonds, notes and often work for banks * Noise trader makes short term buy/sell based on trends and are purely technical analysis driven * Sentiment trader identifies trends with a combination of technical and fundamental analysis * Arbitrage trader simultaneously buys and sells securities from the imbalance in price through buying/selling in different markets to profit from price errors |
| Bid-Ask Spread | * Represents the supply and demand of a security, (bids reflect demand, ask reflect supply) * Bid is the amount the buyer is willing to pay for the security * Ask is the amount the seller is willing to sell the security for * Ask is always higher than the bid, and the difference between the bid and ask is the bid-ask spread * Larger volume has lower spread, while lower volume as higher spread * Spread is larger during higher volatility and uncertainty in the market * If the stock price is lower than usual, then the bid-ask spread tends to be larger |
| Outstanding Shares | * All of a company’s authorized shared (legal amount that they can issue) held by current shareholders * Found on balance sheets under the heading “Capital Stock” * Stock splits, reverse stock splits, capital raise, and share buybacks change the total outstanding shares |
| Float | * Regular shares of a company issued to the public for trading * Is the outstanding shares minus the number of restricted stocks * The higher the float, the lower the volatility, and the opposite also applies |
| Splits/ Reverse Splits | * Stock split splits current stocks into several stocks, decreasing its price and increasing the number of outstanding stocks, and could potentially increase demand due to the affordable lower price * Reverse split is the opposite of a stock split, in which shares are combined increasing the price and decreasing the number of outstanding stocks, commonly used to keep the price above a certain price to either gain more respectability in the market or to prevent the company from being delisted |
| Trade Volume | * The total number of shares traded in a day, including buying and selling * If a stock is rising on a high volume, it is much more likely to continue than a stock rising on a low volume which could mean a dead cat bounce * Low volume can cause liquidity issues and investors could trapped in a pump and dump * Lower volume means lower liquidity which can result in higher bid-ask spread * Best to look at 3-month average daily trading volume to judge trade volume |
| Position | * Amount of assets owned by an investor, and include short and long positions |
| Best Times of Day | * Opening hours are volatile due to the factors from the after hour events which may affect the price * The most volatile open hours is the first hour, and may be the second * Middle of the day tends to be the calmest and most stable period, as impact of the afterhours have already been reflected in the change in stock price, and traders are waiting for further news * The closing hours of the day tends to have increased volatility again, as traders are closing their positions or attempt to ride a momentum into the next trading day * Mondays tend to have the lowest stock prices and Fridays tend to have the highest prices * September tends to have the lowest prices while October-December tends to see the price rise * Note that these are just historical averages of market indices and may not be profitable strategies |
| Market Capitalization | * Multiplying a company’s outstanding share number and the price per share, giving a total value to the company, and measures how well the company is performing in the market * Mega-cap: >$200 billion market cap, are blue chips * Large-cap: $10 billion to $200 billion, are blue chips * Mid-cap: $2 billion to $10 billion * Small-cap: $300 million to $2 billion * Micro-cap: $50 million to $300 billion, mostly are penny stocks * Nano-cap: < $50 million, pink sheets |
| Impact of Interest Rate Changes | * Interest rates impact the entire market as it is the rates the banks lend and borrow from each other * Usually takes 12 months for the effects of interest rate changes to affect the economy * Discount rate is the rate at which institutions borrow from the reserve banks * If interest rate rises, it costs banks more to borrow, and thus, cost individuals more to borrow, decreasing the amount of money spent in the market, which in turn decreases business * Usually, higher interest rates negatively influence the market, however, some sectors such as the financial industry are positively impacted * Interest rates also impact bond in a way such that higher interest rates means it is more expensive for companies to borrow money, causing bond prices to drop * When interest rates drop, it means the federal reserves are trying to fix a slow economy, which in turn leads to better business and economic growth * Interest rate changes mostly impact the stock market through mass psychology, causing people to change their investment strategies due to announcements in potential changes in interest rates |
| Momentum | * Measurement of the speed and velocity of price changes, or the rate of change |
| Margin Account | * An account created by a broker to lend customers cash to buy securities, often containing limits and restrictions and has interest rates associated with borrowing * Since regulations say you must have 150% of your position when you short (regulation T), you must have the fund available in this account for shorting * The account can also liquidate your positions if you cannot repay debts * Interest rate is charged on money borrowed, which also keeps the commissions low * Margin excesses may be generated when there are still money available to borrow in your account, and this can be used to invest in other securities |
| Lock-Up Agreement | * Contract between insiders of a company prohibiting them from selling any shares for a period of time * Helps protect investors such that it avoids a group of insiders taking an over-valued company public and dumping it on other investors and running away with the profits |
| Super Upside Note | * Investment in which a long position is leveraged to buy additional shares of the same security * Stop-loss is commonly used to limit risk |
| Do Not Increase | * Instruction on stop order for a broker to not increase the number of shares bought or sold in a stock split |
| Hamptons Effect | * Dip in trading that occurs before Labor Day weekend which is followed by an increased trading volume as investors return from the long weekend |
| Speculative Flow | * When money is poured into a sector as a result of speculation, causing likeminded investor to also invest and speculate, causing a short-term rise in price which is often not sustained |
| Weak Longs | * Investors who hold long positions and are quick to exit when there is a sign of weakness * Is a short-term investment strategy for undervalued companies, and sells when stock consolidates * When weak long positions are closed, this causes a selling pressure which consolidates a stock which had a significant uptrend, and may also create an opportunity for investors to buy the dip * Example include companies which have earnings announcements tend to top out as traders close their positions and realize their profits |
| Cooling-Off Rule | * Consumer protection law that allows the buyer to release themselves from a purchase agreement within a set number of days of purchase |
| Block Order/ Block Trade | * Large order placed for a sale/purchase of a large number of securities, often over 10k shares or $200k * Values above exclude penny stocks which have different thresholds * Often sold at a discount when unloading securities quickly, otherwise known as “blockage discount” |
| Bagel Land | * Slang term for a security that is approaching $0 in price, often indicating total losses for investors |
| Dilution | * Decrease in ownership percentage of current shareholders when new stocks are issued |
| Preferred Stock | * Holders of preferred stock have higher claim on dividends than common stockholders * Preferred stockholders have none or limited voting rights in a company * Preferred stockholders have preference in the event of a liquidation |
| Tender Offer | * An offer to purchase shares from shareholders in a corporation |
| After Hours Trading | * Trading securities aftermarket hours * Risks involve less liquidity, wider bid-ask spreads, competition with institutional investors, and volatility * Benefits involve trading on new information, price opportunities due to volatility, and time convenience |
| Trading Halt | * Temporary suspension of trading for a security in anticipation of news, to correct order imbalances, fixing technical glitches or due to regulatory concerns |
| Full Dilution | * The total number of shares that will be outstanding after issuing conversions such as convertible bonds and employee stock options, resulting in the dilution of all existing shares |
| Share Repurchase | * A company buying back its shares from the marketplace to improve financial statements, boost value of the stock, but may also result in stocks falling in price |
| Offset | * To offset a position, a trader takes the equivalent shares but opposite action when opening the position to reduce the net position to zero, eliminating all risks |
| Foreign Investing | * Contains risks such as unavailability of timely and accurate information, differences in regulations, tax and limits of fund transfer from overseas back to the home country |
| White Paper | * Informational document issued by a company to promote themselves, used as a marketing tool |
| Tick | * The magnitude of the increments the price of a security fluctuates up/down * A point refers to increments in the integer range, not decimals |
| Pip | * A pip refers to a percentage in point and is the smallest price move a security can make |
| Ticker Symbol | * The abbreviation used by listing on an exchange or market |
| Spot Price | * Current price in the market place at which a given security can be bought or sold for immediate delivery * Price that reflects current market supply and demand, often a term used for derivatives |
| Spot Trade | * Purchase or sale of a security for instant delivery |
| Whipsaw | * Term to describe price movements of a volatile market, where trends constantly switches directions |
| Fill | * A term used when fulfilling orders such as market order, limit order or stop order * Market order is a direct buy/sell order through a broker at the current price * Limit orders is to buy/sell a security at a specified price or a better specified price, to cap the price * Stop order is a limit order than becomes a market order once the specified price is reached |
| Buying Power | * The money available to buy securities which is the total cash in a brokerage account plus margins |
| Draw Down | * Peak-to-tough decline during a specific period for an investment, then moving back to the peak * Measures downside volatility and also shows the time it takes to recover from a drawdown * Can be risky as it takes much more % to recover from a drawdown than to decline to the low |
| Pre/Post Market Trading | * Trading that occurs after hours which can better account for the announcements from companies since they usually do not like to release news during trading hours as it may misrepresent the true value of the stock and cause major losses * Has a lack of liquidity due to the smaller number of traders, and has higher volatility and wider spreads |
| Slippage | * The difference between the expected price of a trade and the price at which it is actually executed, and occurs most commonly in volatile markets * May be both damaging and beneficial as the price difference may both be positive or negative |
| Cash Trading | * Trading in accounts which do not offer leverage and you can only trade on available funds |
| Thinly Traded | * Securities that cannot be easily sold without significant change in price, often have low volumes, and are very volatile, illiquid and has high bid-ask spreads |
| Material Amount | * A degree a securities price changes in a certain time period, to the extent that it confirms or refutes the traders original prediction about the securities performance |
| Matching Order | * When opposite request for buying/selling a security are offered by two parties, an order can be created to match their needs, and are usually automated by exchanges to pair sellers with buyers |
| Imbalance of Orders | * When too many orders of a particular type (buy, sell or limit) does not have enough orders to match then, creating an imbalance * May occur due to major news events, and often is sorted out within a few hours, but less liquid securities have longer lasting imbalance of orders * Traders with long positions may sell their position if they see a large number of buy orders and not enough sell orders causing an imbalance which can impact their exits |
| Level II Quotes | * A ranked list of the best bid and ask prices from each participant placing orders through market makers on Nasdaq stocks * These information can give you insights on open interest and the potential future price of a stock * The Ax is the market maker that controls the price action in a stock, and can be found by watching the level II action for a few days and seeing the market maker who dominates the price action. If you trade with the ax, you will have higher probability of success * You can also tell who is buying the stock (institution or retail), irregularities which can suggest who is trying to keep the buying quiet, and if you look for trades taking place between the bid and ask, you can tell when a strong trend is about to end as this is usually when larger traders are exiting their positions * Market makers can also deceive the information by hiding their order sizes through a series of small orders, by using order sizes and timing to attract bids which force shorts to cover, and hide actions by trading through anonymous accounts |
| Blotter | * A record of trades and their details over a period of time, generated by a trading software * Used for verifying trades and detecting illegal activity * Can be used to review how a trader performed compared to the rest of the market for a given stock |
| Paper Trading | * Pros: No risk, no stress, allows for practice, building up confidence, and can build up statistics * Cons: Market correlation with high volatility, slippage and commission, lack of an emotional component, and often lacks the realism of placing actual market orders for entry and exits |
| Stock Screener | * Tool for filtering out stocks based on user-defined metrics * May filter stocks using market cap, average returns, and also technical indicators to identify which stocks may have higher probability for success under specific trading strategies |
| Back Testing | * Back testing is when historical data is applied to verify how a strategy may have performed * Strategies optimized for back testing often fails in the real market due to overfitting * It is preferable to reserve a time period of historical data for testing purposes which are more recent, and historical data should be split to perform correlation studies to predict how well it will work in real time |
| Asteroid Event | * Sudden, unexpected event that has serious consequences for a business |

## Day & Swing Trading

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| Day Trading Basics | * Popular online brokers are E-Trade, TF Ameritrade, Interactive brokers * 10 tips: learn learn learn, set aside funds, set aside time, start small, avoid penny stocks unless you do your research, time trades, cut losses fast, be realistic about profits, don’t be emotional, stick to strategy * Buy high liquidity, high volatility, and high volume * To find entries: track real-time news, level II quotes, and intraday candlesticks * Patterns: candlesticks, technical analysis indicators, and fluctuation volume * Before entering a trade ensure that: pattern is setup correctly for your strategy, enter on an trigger, pre-determine a stop-loss, pre-determined price target, and pre-calculated risk-reward ratio |
| Level II (Level 2) | * A subscription-based service that provides real-time access to NASDAQ order book, and profits price quotes from market makers in NASDAQ and OTC bulletin boards * It shows the supply and demand, price range associated with liquidity, which can be helpful for determining entry or exit points * Retail traders can also use level II to gauge the interest of institutional traders |
| Pattern Day Trader Rule | * Regulatory designation for traders or investors that execute 4 or more day trades within 5 business days * Usually for traders buying and selling on a margin account with a minimum of $25k in equity * Positions held overnight but sold prior to new purchases are exempt from the rule |
| Swing Trader Routine | * Pre-Market: creating a daily watch list, catching up the latest news and developments in the market to identify the overall market sentiment, the sector sentiment where the trader is trading, and the current holdings of companies of interest. * To find potential trades, the trader usually enters with a fundamental indicator such as good news or IPO and exit with a technical indicator such as support or resistance, breakouts, Fibonacci levels to predict reversals * The trader would also review their current positions and adjust stop losses if necessary * Market-Hours: the trader will look at level II quotes which shows who is buying and selling and the amount of volume being exchanged * After-Hours: to review performance and record traders and also pay attention to after-hour announcements which might impact the positions overnight |

## Penny Stocks

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| Penny Stocks | * Also known as micro-caps, are companies that trade for less than $5 per share * Some are traded on large exchanges like NYSE or NASDAQ but most are over the counter (OTC), which are usually under $1 since listing requirements of major exchanges require minimum of $1 per share * Risky due to the greatly lack of information limiting the knowledge provided to investors * Low liquidity nature as these stocks are not traded often, and it may be difficult to sell the stock at the right price due to large bid-ask spreads, and may be illiquid |
| OTC Market Tiers | * OTC-QX   + Top tier market in which stocks meets many minimum requirements and involves many blue-chips   + Does not involve companies which are near bankruptcy * OTC-QB (this replaced OTCBB or OCT bulletin boards)   + The middle tier and also known as the venture market and consists of early-stage companies   + Companies that trade here are often as a result of being delisted due to not meeting the requirements of large exchanges, due to the regulatory difficulties in maintaining a listing on a large exchange, and due to companies not meeting initial listing requirements   + Involves many shell companies used for scams * OTC Pink (pink sheets)   + Most speculative tier of stocks but contains the large number of companies in the OTC market   + Do not need any minimum requirements or have to file with the SEC   + The lack of information about these companies makes it difficult to invest in them   + Since pinks sheets is not an exchange, it is subject to many scams since it is traded through quotation services (the wolf of wall street)   + Further broken down in to more segments depending on the amount of information available: OCT Pink Current Information, OTC Pink Limited Information, and OTC Pink No Information |
| Penny Stock Scams | * Pump-and-Dump involves scammers artificially creating interest in a fairly unknown stock through fake or paid news, making uninformed investors buy the stock to “pump up” the prices. The price will rise to a certain price at which it is extremely inflated, then the people hyping up the stock initially will “dump” or sell the stocks to make a huge profit, while all other investors take huge losses * Short-and-distort scams is the opposite of pump-and-dump in which scammers short sell the stock by spreading fake rumors about a company to drop its price, and later on buys them back with a profit which other investors with long positions take losses * Reverse merger deceptions involve private companies merging with public companies to avoid the procedure of going public with traditional methods in order to inflate the price * Mining scams for commodities involve over-hyping the discovery of natural resources to inflate the price when in reality there was no resources found in the first place * Gurus are fake experts who claim to become rich by flexing fancy cars or houses and offer expert advice to promise high returns if you follow their investment strategies * No net sales fraud occurs when scammers sell shares of the company making it seem like investors cannot sell their shares for a certain amount of time, making other investors think there is a demand of the stock from the shares sold, and by the time the companies go bankrupt, the investors loss everything * Offshore rackets involve scammers buying shares from offshore companies (not required to be registered) and selling them to American investors are an inflated price while the share price drops due to the flood of these shares into the country |

## Order Types

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| Long | * Purchase of an asset with the expectation it will increase in value, for bull markets |
| Short | * When an investor borrows stocks from a broker, sell them, and aims to buy them back later at a lower price, after which the investor returns the stock back to the broker. It is for bear markets |
| Market | * A request by an investor to either buy or sell a security * Contains the lowest commission since it is the simplest to execute by a broker * Good idea to look at the bid-ask spread first, as well as the float to ensure good fulfillment prices |
| Limit | * An order to buy or sell a security at a specific price, or a price more preferable than the specified price * You cannot set a limit order above market value when buying * Guarantees that your order is filled at the price you want, or a better price * Contains timeframes after which they automatically cancel * Visible to the market * Risks not being filled if the price suddenly gaps down past the limit when selling, and gaps up past the price when buying, since the current market price is worse than the limit price, known as order gapping |
| Stop | * An order to buy or sell a security when the price moves to that point, and will turn into a traditional market order when the stop price is met or exceeded * Not visible to the market * Used to mitigate losses by setting a price at which to place a market order to reverse the position, also known as a stop loss * However, this may unnecessarily trigger orders due to short-term fluctuations in price * Since it is a market order, the order may be filled at a worse price than the order * A trailing stop is a stop order which adjusts to the market on a predetermined percentage of the market price, such that the price of the stop order adjusts as time goes. Such that if the stock drops, for example, 10% lower than the initial price in a long position, the stock is sold. However, if the stock moves up, the trailing stop will also move up and adjust, and will never move down in a long position. Similarly, a trailing stop will never move up in a short position. * Has the same commissions as a market order |
| Stop-Limit | * A stop order which executes a limit order when the price hits the stop price instead of turning into a normal market order * It no longer suffers from issue with stop orders in which prices may be worse than the initial order price * It no longer suffers from issue with limit orders in which prices may gap past the limit (order gapping) |
| Day | * An order which tells the broker to execute a trade at a specific price before the end of the day |
| Immediate or Cancel | * Orders which are executed immediately, or a portion of which is executed immediately, and the unfulfilled orders are canceled * Used when executing a large order so that the investor does not trade at an array of different prices |
| Good Till Cancelled | * An order that is executed at a specified price point, regardless of the time it takes to reach that price, and the order remains active under the order is filled or the investor cancels it |
| Take-Profit | * An order that is a limit order that are closed when a specified profit level is reached * Often placed using technical analysis indicators |
| Time In Force | * Instruction when placing a trade to indicate how long an order will remain active before expiring |
| Iceberg | * Large orders that are divided into smaller limit orders to hide the actual quantity of the entire order * If you can identify an iceberg, you can use it as it may have strong support/resistance due to the large size |
| Mark-On-Close | * A market order that is executed at or just before market closing on each day, but without a specified price * Protects the investor from after-hour movements when used to mitigate risk |
| All Or None | * An order which is either filled completely or completely cancelled |
| One Cancels The Other | * Paid of order in which if one order is executed, the order other is cancelled * Combines a stop order with a limit order, and used when the stocks is very volatile |

## Risk & Money Management

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| Risk Management Techniques | * Choosing the right broker is often very important depending on your style, as some brokers charge higher commissions and does not offer enough beneficial services or tools * Trading strategies should always be set in place before entering, with stop losses and estimated profits * A 2% rule may be used, in which you never take a position larger than 2% of your entire account, however, for day trading, you may take larger positions as long as you stick to a rigorous strategy * Setting effective stop-losses or taking losses quickly is vital to ensure consistent profits * You should also set an expected profit or percentage gain and take profits when you can without letting it ride and having the possibility of the price action reversing * Statistical values can be used to assess risk, such as standard deviation (to measure volatility), beta (to measure systematic risk), value at risk (level of risk associated with a portfolio, measures maximum potential loss), conditional value of risk (measures the value at risk beyond its maximum loss threshold |
| Qualifying Risk In Portfolios | * Alpha measures the performance of a portfolio compared to a benchmark index, and the difference between the returns of the portfolio and the benchmark is known as alpha * Positive alpha of 1 means the portfolio has outperformed the index by 1 percent, and negative alpha of 1 means it has underperformed the index by 1 percent * Beta measures the volatility of a portfolio compared to a benchmark index * A beta greater than one indicates higher volatility whereas a beta under one means the security will be more stable * R coefficient represents the correlation between two variables, and R-squared measures the explained movement of a fund or security in relation to a benchmark * A high R-squared shows that a portfolios performance is in line with the index * Standard deviation also measures the volatility, except instead of comparing it with an index, it compares it with the historical values in the security of the stock itself * Sharpe ratio measures the expected excess return of an investment in relation to its return volatility, which is the measure of the how much additional return an investor can receive with the added volatility of holding riskier assets * A sharpe ratio of greater than one is considered to have a better risk-reward trade-off * Efficient frontiers which is a curve below which portfolios are considered sub-optimal, while portfolios above the frontier curve is unattainable as the curve itself is optimal * Capital asset pricing model which basically says the mean return should be linearly related to its beta coefficient, such that riskier investments earn a premium over benchmark rates * Building the portfolio on uncorrelated assets is also more preferable as it diversifies the holdings and reduces risk, however, it does not protect against global financial crisis and recessions |
| Beta To Measure Stock Risk | * A tradeoff between minimizing risk and maximizing returns, such that a beta of 1 indicates that the securities is moving with the market index, while a beta of 2 indicates that the security is twice as volatile as the market index, such that if the market increased by 10%, the security will increase by 20%, and a beta of 0.5 means it will be half as volatile such that if the market increases by 10%, the security will only increase by 5% * Negative beta means that the stock is inversely related to the market index * Beta of 0 means that regardless of how the market index moves, the price remains unchanged * Beta between 0 and 1 means that the security is less volatile than the overall market * Beta greater than 1 means that the security is more volatile, while beta greater than 100 is impossible, with most established companies have the highest observed beta of 4 |
| Downside | * Estimation of a securities potential to suffer a decline, or the amount of loss that is predicted to be sustained, and often describes the worst case scenario for how much an investor can lose * The semi-deviation measures the volatility risk, particularly in bad volatility, such that the proportion of the entire standard deviation that is comprised of the semi-deviation (semi-dev divided by standard-dev) shows how much of the volatility results in negative returns * Value-at-risk is another indicator and estimates how much of a portfolio may lose with a given probability |
| Risk Neutral | * Mindset where an investor focuses on potential gains only and does not consider the risk * Risk-neutral probability is the probability of potential future outcomes adjusted for risk, which can then be used to calculate expected returns |
| Risk adverse | * Mindset where an investor focuses more on the potential losses * Since most retail investors are, the price of an asset often finds a point of equilibrium at a price below what might be accounted for by the expected future returns on the asset |
| Financial Exposure | * Is the amount of money an investor stands to lose in an investment, and financial exposure is often aimed to be limited with helps maximize profits * It is easy to put the investment in principal protected investments, this runs the risk of low return and inflation, and diversification may improve financial exposure through non-correlated assets in a portfolio |
| Risk-Return Tradeoff | * This states that the potential return rises with an increased risk where time is also an important factor, as longer term investments has less risk as there is more time to recover from bear markets |
| Margin Call | * Margin call occurs when the value of an investor’s margin account falls below the brokers required amount, such that the broker demands the investor to deposit additional funds so that the total value is brought back up to the maintenance margin * The broker may force the investor to sell their position despite the market value to meet the minimum |
| Equity Risk Premium | * Long-term prediction of how much the stock market will outperform risk-free debt instruments * Calculated by the subtracting the expected return on stocks and the expected return on risk-free bonds |
| Systemic Risk | * Risk associated with the complete failure of a business, sector, of industry |
| Systematic Risk | * Broad market risks such as recessions or periods of economic weakness * Also known as un-diversifiable risk |
| Unsystematic Risk | * Risk which can be mitigated through diversification, an example being idiosyncratic risk which refers to inherent factors that can negatively impact individual securities, such as management decisions |
| Counterparty Risk | * Risk that one of those involved in a transaction might default on its contractual obligation, often reflected by the credit score |
| Immunization | * Risk-mitigation strategy that matches assets and liability durations so portfolio values are protected against interest rate changes, and are done by cash flow matching, duration matching, convexity matching, trading derivatives |
| Certainty Equivalent | * The amount of guaranteed money an investor would accept now instead of taking a risk of getting more later, and varies depending on risk tolerance * Investments which are more risky must pay higher premiums to compensate investors |
| Transaction Exposure | * Level of uncertainty businesses involved in international trading, such as currency exchange fluctuations |
| Inherent Risk | * Possibility of incorrect or misleading information in accounting statements resulting from something other than failure of controls |
| Audit Risk | * Risk that financial statements are materially incorrect, even though the auditor states that they are |
| Batting Average | * A statistical technique used to measure a managers ability to meet or beat an index, and is calculated by dividing the number of days in which the manager beats or matches the index by the total number of days in the period of assessment and multiplying by 100 to get the percentage * A batting average of 100% means that the manager outperformed the index on every period * 50% batting average is usually used as a minimum threshold for success, meaning they outperformed the market at half the times * Disadvantage is that it doesn’t measure how much (in %) the manager is outperforming the index |

## Trading Tools & Platforms

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| Trading Platform | * Software used for opening, closing and managing market positions * Contain commercial (for detail and day traders) and prop (for brokers and professionals) platforms * The fees vary from different platforms, and may contain minimum equity requirements in the account * Popular platforms include Interactive Brokers, TradeStation, TDAmeritrade, and Robinhood |
| Direct Access Trading (DAT) | * Allows traders to trade with the market directly without a middle man such as in an online brokerage * Can be used to save from seconds to minutes for a trader, and allows them access to level II quotes * In DAT systems, traders can also choose the market maker with the best prices * The fees in DAT systems are also often higher than other online brokerages |
| Dark Pools | * Private exchanges or forums for securities trading, often having a lack of transparency, and are not accessible by the public at often times * Often used by institutional traders which have an reduced market impact when using dark pools, and lower transactional costs * Dark pool liquidity is the volume created on dark pool exchanges, and usually consist of block traders * Often used to get away from high frequency traders who may snatch orders on large block traders |
| Quote Driven Market | * Exchange on which prices are determined from bid-ask quotations made by market makers, most commonly seen in bonds, currencies and commodities * Different from order-driven markets as orders are guaranteed in a quote-driven market, since market makes are required to meet the bid and ask prices they quote * Quote-driven markets are also more liquid, but lacks transparency |
| Intermarket Surveillance Information System | * Publicly-accessible electronic database in which securities traders are stored, usually used for detecting illegal trading |
| Deep Market | * Securities exchange where large number of shares can be bought and sold without drastically changing the price, opposite of thin market * Market depth is closely related to liquidity and volume |
| Entity Trading Account | * An account set up like a business such that it acts as a separate entity, mostly for its tax benefits * May also offer the trader more opportunities to gain access to other investment providers |

# Trading Strategies

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| Top Tips For Beginner Traders | * Don’t set targets for profit, rather, focus on executing a specific strategy * Always have a strategy before entering a trade * Learn when you shouldn’t trade if the charts don’t provide opportunities for your strategies * Keep your trading strategy simple, focus on one market, one time-frame, and a few patterns to start |
| Types of Traders | * Scalper: making dozens or hundreds of traders per day to scalp small amounts of profits from each trade, typically by exploiting bid-ask spreads * Momentum trader: riding the momentum in one direction during high volumes * Technical trader: focusing on charts and use indicators to buy and sell * Fundamental trader: analyzing corporate events and the company’s fundamentals * Swing trader: fundamental traders who hold their positions longer than a day |
| Watch List | * Watch lists consist of securities of interest to a trader, often filtered out by certain technical calculations |
| Rule of 72 | * $1 invested at an annual fixed interest rate of 10% would take 7.2 years to double and grow to $2 |
| Contrarian | * Investment style in which investors purposefully go against the prevailing market trend by selling when others are buying and buying when others are selling * These investors believe that people will only say the market will go up when they are fully invested and have no remaining buying power * While normal investors overreact to “hot” trends and underestimate distressed stocks, contrarians often anticipate the drop of hot stocks or rise of distressed stocks |
| Arbitrageur | * Type of investor who attempts to profit from market inefficiencies, often by making simultaneous trades that offsets each other to capture risk-free profits * Example would be to buy undervalued shares on one exchange while shorting the same number of overvalued shares on another exchange * However, involve significant risk and require very fast trading |
| Strategy For Placing Stops | * As human nature, people tend to take profits too quickly and hold onto loss for too long * Multi-Day high and low can be used to place stop orders, such that for long positions you would place a stop at the low, and for short you would place a stop at a high, however, it is more important to guarantee a good entry into a trade * You can pick a point to manually exit the position at a pre-calculated price point when the stock hits it * You can also use indicators to help set stops, such as moving averages (use longer-term moving averages for more volatile stocks) * Support and resistance levels are also good price points to place stops, or support/resistance trend lines or price channels * Do not place stops at round numbers (10, 40, 100, etc) as these are popular price points for other traders |
| Finding Entries | * A setup price is a level predetermined as a point of entry, and once the setup price is broken, the trader will enter into a position * Trade filters identify the setup conditions that happens before a trade entry and therefore before a trade trigger, and are safety mechanisms for identifying all indicators having been met * Trade filters are usually obtained through back testing different patterns, and the filters should not include too many indicators as this would filter out most trades and only leave improbable events to fit the criteria * When you try to over-filter a trading plan and eliminate all possible losing trades based on historical data, you miss all the good trades and should instead pick filters which result in highly profitable traders based on probability of occurrence * Trade triggers defines exactly when a trade will be entered, or a setup price, and should be clearly defined in the trading plan, and there should be no ambiguity or doubt, and trading triggers need to be simple so that they can be easily executed in real time. |
| When Should You Exit | * Days when the volume is three times higher than the average trading volume may cause support or resistances to break in a downtrend or uptrend, and in the case that bad news strikes, the market may panic so it is best to sell before this happens * Exiting after a failed breakout or breakdown * Exit when moving average crosses and trend changes * Before entering a trade, you should also calculate the nest resistance level or support level, such that in an uptrend, the risk is at the support and the profit should be taken at the next resistance, and in a short, the risk is at the resistance and the profit is at the support * You should also setup your trades such that you take a percentage of profits somewhere in the middle up the trend towards your desired target |
| Tape Trading | * In pre-market, looking at overnight index futures and comparing then to Nasdaq 100 or Treasury bonds futures, such that when S&P 500 leads and bonds is strong, it suggests risk aversion, while Nasdaq leadership means the market is more speculative and riskier * Gapping when the market just opens up to an overnight high or down to an overnight low may lead to a quick reversal, while gaps into levels not traded for a period of time suggests that the price will continue with the gap trend * When the market opens, S&P 500 and Nasdaq futures or underlying ETFs price swings may reflect the trend of the day, with sideway patterns possibly leading to breakouts or breakdowns. Relative strength and weakness of ETFs in each major sector may also identify reversals that may trend the rest of the day * Rising VIX reflects fear and could lead to lower prices, while dropping VIX shows more speculation into higher prices, and divergences between the VIX action and index action may cause the index to reverse * Tracking the first house to lunch and watch indices push beyond prior closing prints and then reverses into the other direction, which results in inflection points which point to breakouts or reversals * Paying attention to times when other major markers (Europe etc) close also may affect the price action * In the last 15 minutes, as people either take overnight positions, close positions, the index prices may shift drastically, which is also the time institutional traders begin to prepare for after hour trading |
| Market Timing Tips | * Long term cycles such as political, interest rate fluctuations, economic cycles, and currency trends may indicate the start and end of bull markets * Annual cycles in smaller caped companies may also show trends of bull and bear * Buying near support levels may lead to profits when the stock bounces back up * Buying when stocks plunges to an all-time low, where the price action shows signs of bottoming out, may also lead to a price reversal, although the stock may plunge even further * Exiting when price hits strong resistance over a long period of time may also be profitable |
| Technical And Fundamental Analysis | * Volume trends can reflect market sentiment, and large spikes may push price trends, they are also an indication of how much other investors agree with you, and increasing volume shows gains in momentum, and a sudden decrease in volume may mean investors are losing interest and that a reversal may happen * Short term trends can be identified with 50 or 200 day moving averages to find entries and exit points * Tracking reactions over time due to the release of news may also be beneficial as patterns tend to repeat themselves, which may often lead to predictable outcomes under similar past situations * However, it is impossible to truly predict the stock market as past data is history and often doesn’t relate to the future data, crowd psychology is often wrong such as when bubbles form and pop, and technical analysis and fundamental analysis are often very subject to opinion |
| Triple Screen Trading System | * Combining simple averaging, trend-following indicators and oscillators to counteract the weaknesses of individual indicators by using 3 decision makers instead (3 screeners) * Trend-following indicators may show different trends depending on the time frame used, therefore it is useful to divide your time frame in to smaller sections. A rule of thumb is to divide a month into 5 sections, week into 5 days, day into hourly since there are around 5-6 hours of trading a day, and hours into 5 smaller sections made of 10 minute intervals * By using the concept above, one can analyze two time frames such as monthly and weekly for trading weekly, or weekly and daily for day trading, to confirm the signals * Traders will also use intermediate time frames, such that day traders trading for less than an hour will use 10-minute time frames, and weekly traders will use daily charts as their intermediate time frames * However, it is important to follow the long term trend first to ensure that the trade follows the overall trend correctly * The first screen is the market long-term trend determined by long-term indicators such as moving average convergence divergence (MACD) to first give yourself an idea to short or long * The second screen deals with the traders time-frame (swing traders uses daily trend, day traders use hourly etc), such that you look for counter movements in the shorter term compared to the long-term trend to find an entry point, and is often done by searching for buy signals from an oscillator * The third screen uses a trailing stop to find the ideal entry point, which is often one-tick above the previous period’s high when going long, and one-tick below the previous period’s low for shorting |
| Trading Gaps | * Gaps at the opening hour occurs due either fundamentals or technical factors * Filling a gap means that the price has moved back to the previous level before the gap, due to initial spike being overly optimistic or pessimistic, there being a lack of support or resistance, or due to reversals * When gaps are filled within the same trading day, it is called fading * Buying the gap is good when the trader thinks the trend will continue * Fading the gap is used when a trader finds a high point or low point after a gap (up or down), and wait for the opposite trend to occur * A few things to note is that once a stock has started to fill a gap, it will rarely stop as there is no support or resistance, institutional traders may play along with the short term trend for profits while retail investors may be over-hyped and expect larger trends, and high volume is present in breakaway gaps while low volume is present in exhaustion gaps |
| Trading Pullbacks | * Pullbacks can be profitable when the trend suddenly reverses for a short period of time, then continues along its original path, however, traders may short into pull backs or buy the dip into resistance resulting in a loss * The most favorable technical conditions of pullbacks occur when you have a strong trend, with the price having a breakout or breakdown to reach a new high or new low, with high volume and vertical price action, and the price reversing quickly after topping out or bottoming out without consolidation or a trading range * The odds for a bound after a pullback increases when the price moves in a tight price channel, and can be confirmed with Fibonacci retracement levels and moving averages * Scaling out as the price travels towards a Fibonacci retracement level or a previous support or resistance can be a good way to take profits and minimize risk |
| Trading Volatile Stocks | * Volatile stocks can result in higher profits and can be identified through a simple screening (StockFetcher.com) and high volume is also important for ensuring liquidity * Keltner Channels puts upper, middle, and lower bands around the price action, such that during a strong uptrend, the price will be between the middle and upper bands and during a downtrend the price will be between the middle and lower bands, with the middle bad being a potential entry point * However, Keltner channels only work well in strongly trending markets, and as soon as the trend disappears, the channels don’t provide much information, therefore, it is important to filter out trades based on the strength of the trend (e.g. making a new high) * Stochastic oscillator is useful for volatile stocks since these securities usually settle into a range before moving to another high or low, it is important to wait for a reversal caused by a strong move in the opposite directly * When the price action is moving horizontally, selling near the top of the price channel when the stochastic moves above 80 and then drops back below the 80 line to profit, and taking long positions at the bottom of the price channel when the stochastic drops below 20 and then rises above the 20 line will result in profits * Ignoring contrary buying and selling signals, but enter as soon as the signal is generated by the oscillator is important as prices may move too fast for the trade to be profitable |
| Range-Bound Trading | * When profits are made by taking advantage of price changes when a security moves through a price channel, and is often ideal when the price hits the support and resistance of the price channel several times for confirmation that the price action is steady * Stop losses are placed just below the support when going long and just above the resistance for shorting to avoid losses taken when a breakout or breakdown occurs through the price channel * Traders can also trade breakouts or breakdowns once the price passes the support or resistance * False breakouts can occur when trading range-bound breakouts as breakouts or breakdowns is not entirely common, as large price movements are low probability events * Corrections to the breakout point can also occur when the price action produces a false breakout, then a travels back to the support or resistance, but then breaks out in the original breakout direction |
| Buying Weakness | * Where traders go long in a downtrend to anticipate the reversal and profit from the resulting uptrend * Also known as buying support or buying retracement as the stock’s price is over-declined and is due for an increase to correct its price * It is detected when the price breaks through the current price channel of support and resistance |
| Selling Strength | * Selling a long position or taking a short positions when the price has increase too much and is due for a decline, and is usually used when there is confirmation of a reversal |
| Cover On A Bounce | * Involves a short position in which the stock is going low enough to hit the support, and then bounce briefly to go back down to correct for the bounce, then covering the position on the second low point * The risk is that there is no second bounce and the first bounce is a reversal, but the price action could also break below the support and continue further, resulting in even larger profits |
| Fibonacci Techniques | * Fibonacci at different retracement levels (0.386, 0.5, 0.618) identifies hidden support and resistances that can be used for entry and exits * Parabola pop strategy provides early entry into major breakouts at the 78.6% retracement level |
| Pick Correct Stochastics Settings | * Stochastics tracks buying and selling pressure by identifying cycles between bulls and bears * There are three variables that control the look-back periods and the extend of data-smoothing in stochastics, being fast K% (measures closing price compared to specified lookback periods), full K% (slows down fast-K% with moving averages), and full D% (adds second smoothing average) * The lower these three variables, the shorter-term the lookback period with less smoothing, and often results in frequency signal generation with lots of cycle flipping * The higher these three variables, the longer-term the lookback period and the greater smoothing, and only detects very large movements in the market and not smaller flips in the cycles * Crosses in the stochastic oscillator at the center panel between the two significance lines often shows notable support or resistances * 5,3,3 shows fast flips in buy and sell signals * 21,7,7 keeps smoothing at relatively low levels, generating fewer buy and sell signals * 21,14,14 only shows key market turns but rarely generates trading signals |
| Trade A Short Squeeze | * Since short sellers can theoretically have an unlimited loss, they have a high incentive to cover a short if the price action suddenly panics up due to a buying pressure from all short traders covering * Short interest, the amount shorted shares divided by the shares outstanding, is the most simple predictor for a short squeeze since the higher the short interest, the more change there will be a short squeeze * Short interest ratio, the short interest divided by average daily trading volume, is another predictor as the higher the number, the higher the likelihood the short sellers will drive the price up as if this ratio is greater than 1, that means there is more shares shorted than the shares traded, meaning the position will take longer to cover. A short interest ratio of 5 is a good indicator that short sellers might panic |

# Technical Analysis

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| Anticipation vs Prediction | * Traders don’t try to predict the future, rather create strategies that have high probability of success * A plan is always created before a position is taken * Trends are often anticipated through moving averages, momentum indicators, and trend lines |
| Price Action | * The movement of a security’s price plotted over time and is used to spot trends and patterns |
| Intraday Volume | * 70-75% of trading volume is booked in the first and last hours of a trading day * Comparing average-daily volume (over 50 or 60 days) with the current volume will give a good comparison of the magnitude of the current intraday volume * The greater the volume, the greater the hype in the security, which results in more opportunities |
| Risk-Adjusted Return | * Modified version of the ROI (return on investment) that accounts for risk * (revenue – expenses – expected loss + income)/capital, where expected loss is the average loss expected |
| Volatility | * Statistical measure of dispersion of returns for a given security or index * Calculated with many methods, including the standard deviation of a stock over a certain time period * Higher volatility are riskier than lower volatility assets, due to the predictability of the asset |
| Bid-Ask Spread | * More liquid and widely traded securities have narrower spreads * Spreads widen during steep market declines due to supply-demand imbalances * The discrepancies between the bid price and ask price incur costs in each trade * Limit orders can be used to set the exact price of buy or sell, instead of a market orders which are subject to liquidity risks |
| Average Returns | * Sum of individual returns divided by the number of returns |
| Growth Rate | * The difference between the beginning value and the end value divided by the beginning value |
| Buying Pressure | * Rise in stock price due to there being more buyers than sellers of a stock, creating more demand |
| Selling Pressure | * Drop in stock price due to there being more sellers than buyers of a stock, creating more supply |
| Gap | * A time when a securities price either rises or falls from the previous day’s close with no trading occurring in between and is usually caused by the announcement of news * Gaps are “filled” if the price moves back to the price before the gap |
| Gap Up | * When a stock opens at a higher level than the previous day’s high |
| Gap Down | * When a stock opens at a lower level than the previous day’s low |
| Gap Types | * Common gaps are just normal gaps that occur in typical charts * Breakaway gaps occur when the price gaps above its resistance or below its support * Runaway gap is a gap of more than 5% in the direction of the trend * Exhaustion gaps occurs after a rapid rise in price followed by a gap down signaling the uptrend is ending |
| Fading/Fade | * Shorting stocks after rapid moves upwards on the assumption that the stock is overbought, but more generally refers to a strategy which goes against the current trend |
| Pullback | * Short pause or brief reversal of the price action until it continues its original trend |
| Reversal | * A long term reverse in the trend |
| Retracement | * A short term change of trend followed by the continuation of the previous trend |
| Breakout | * When the price moves above a resistance level or moves below a support level * Breakouts with high volume shows market interest and the trend may likely continue |
| Breakdown | * Price movement through a support followed by heavy volume and sharp declines in price |
| Long Squeeze | * When selling in a falling stock causes further selling, resulting in a very large plunge in price * Often happens in stocks that have a limited float or small market cap * Sometimes it is not due to any fundamental reason, as it is simply a panic in which the stock falls down and goes back up again, with the up and down peaks and troughs following a price channel |
| Short Squeeze | * When a heavily shorted stock moves sharply higher forcing short sellers to close out their short positions which adds to the upwards buying pressure on the stock, causing short sellers to take losses * Short squeezes are caused by positive buying which may indicate a reversal, and although it may only be temporary, very few short sellers can afford to lose that much, therefore they cover at a stop loss * Higher short interests (amount of shares shorted but not covered) may predict short squeezes as there are currently many people betting it to go down * Short squeezes can be traded long but monitoring stocks which are heavily shorted, however, this may just be due to there being a strong negativity towards the future of the company |
| Correction | * A decline of 10% or greater in the price from its most recent peak. * Usually to adjust for over-valued securities, and may last from days to months |
| Panic Buying | * When traders see a stock rise and you size in regardless of real indicators or strategies to justify a trade, and is also known as fear of missing out * Typically seen with a spike in volume in the market |
| Panic Selling | * When traders see a stock fall and therefore start to sell, causing other traders to also sell and driving the prices down, and is the opposite of panic buying |
| Scale In | * Process of purchasing shares as prices decrease, and by making the purchase in increments, it ultimately decreases the overall money spent purchasing the shares * However, this can result in losses if the shares do not bounce back |
| Scale Out | * Process of closing out a position in increments as the price rises, and taking profits along the way without having to risk your entire position along the trend |
| Short Interest | * Number of shares that have been shorted but have not been covered * It expresses the market’s sentiment as high short interest shows investors are pessimistic * Stocks which show extreme short interest are more prone to short squeezes (a shorted stock moves sharply higher), and this is most prevalent in low floats * Traders use sharp increases in short interests to predict short squeezes due to the selling pressure * Traders also use short interests to determine the risk of long positions, as higher short interests may indicate falling prices * It is similar to the put-call ratio as both measure market sentiment |
| Bear Trap | * A pattern when the price incorrectly signals a reversal of a rising price trend * Can prompt traders to expect a decline, when the stock will actually go upwards * As the price rise, short sellers covers their positions and take a loss, while the subsequent increase in buying activity further pushes the price upwards, and the momentum tends to decrease when most of the short sellers covers their positions |
| Bull Trap | * A pattern when the price incorrectly signals a reversal of a declining price trend |
| Capitulation | * When investors give up any profits made by selling in periods of decline * When all investors take a loss on a losing position, then the prices tend to drop more, and may signal an indication that it is a good time to buy and go long |
| Dead Cat Bounce | * A temporary recovery from a period of decline in a bear market seen with the price moving upwards for a small window then continuing the downtrend * Often looks like a reversal but instead continues the downward trend * May be caused by short sellers covering their positions and buyers thinking the stock is at the bottom * Often not predictable and only observed after it has occurred |

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| Beginner Technical Indicators | * Lagging indicators predict the background conditions when the price is already in motion and include the trend, mean reversion (how far price swings will stretch before retracement) an volume * Leading indicators predict which direction the price is headed and includes relative strength (oscillations in buying and selling pressure), momentum and volume * Trend: 50-day and 200-day EMA. More responsive versions of SMA, and crossovers signal bullish or bearish price trends * Mean reversion: Bollinger bands (20, 2). Identifies turning points by measuring how far price can travel from a central tendency pivot * Relative strength: Stochastics (14, 7, 3). Cycles peak at overbought and oversold levels and then shift to the opposite direction, however, does not predict the price change but indicates bearish/bullish markets * Momentum: moving average convergence divergence (12, 26, 9). Buy or sell signals are triggered when the histogram reaches peak and starts to travel in the opposite direction * Volume: on balance volume. Volume histograms display levels of interest in the market and the slop of this reveals price patterns for breakouts or breakdowns. 50-day average for this also shows the level of activity compared to historic activity |
| Leading And Lagging and Coincident Indicators | * Leading indicators are considered to point towards future events * Lagging indicators are seen as confirming a pattern that is in progress * Coincident indicators occur in real-time and clarify the state of the economy |
| Negative Correlation | * Property between two variables in which when one increases, the other decreases * The R² value is usually calculated as the square of the correlation between two securities, such that one security is R% dependent on the other security * Diversification can be achieved in a balance portfolio constructed through negatively correlated securities |
| Buying the Dip | * A short term drop in price may indicator a better time to buy or add to an existing position * Minimum prices should be pre-set to for pre-determining closing prices for risk management * Buying the dip is not good during long down trends and may be good during long up trends |
| Average Daily Trading Volume | * Average number of shares traded within a day in a given stock, calculated with the daily volume by averaging it over a number of days * Higher average daily volumes are preferred as there is more liquidity * During strong price pushes up or down, volume should also rise, and if there isn’t, then there might not be enough interest in the security and the price may pullback      * In the chart above, the red and green bars below show the daily volume while the line shows the average daily volume. When the price breaks out of the resistance line on the left, the volume increases, but drops and consolidates again while the volume falls. Overall, there is an increasing average volume as price rises and as price falls, and is caused by the buying and selling pressures. When the price consolidates, the volume is low as there is not enough volume to push the price up or down * Red volume bars correspond to red candles, and green volume bars correspond to green candles |
| Volume Indicators | * For buyers in the market, there needs to be someone who sells them the shares they bought, and the sellers need buyers to buy the shares, and this interaction between buyers and sellers for the best price create short-term price movements * The most relevant volume data is the most powerful * A rising market will see rising volume as buyers require increasing numbers to push the prices higher, and increasing price and decreasing volume reflect a decreasing interest potentially leading to a reversal * Often times, when a ticker is trading in a tight range of support, a breakout occurs in conjunction with an increased volume, and false breakouts occur when the volume is normal and not higher * **On-Balance Volume (OBV)**: starting with an arbitrary number, volume is added when the market finishes higher, and volume is subtracted when the market finishes lower, providing a running total and shows which stocks are being accumulated |
| Geometric Average | * Time weighted rate of return or money-weighted rate of return |
| Moving Average | * Calculated by taking the average along a time period in pre-set overlapping time intervals to calculate the average of said intervals as they move through time e.g. 5-day moving average calculates the average of every 5 days in price for every period of 5 consecutive days throughout a longer time period * Different moving averages (EMA etc) are basically just weighted sums of the interval-averages * Can also be used to identify support/resistance levels |
| Moving Average For Day Trading | * Combining 5-8-13 time-step moving averages which are Fibonacci numbers * When these lines cross, it could generate trading signals * However, it is important to avoid whipsaws (short-term price fluctuations) which generate fake signals |
| Mean Reversion | * Theory that prices and historical returns eventually revert to their long-term means to capitalize on extreme changes of a security assuming that it will revert to its previous state or mean |
| Price Channel | * Charts the price action of a security between two parallel lines to show the overall trend * Two lines represents support and resistance * Price channel forms when the price action forms a set of highs and lows and follow a discernible pattern * Very useful in identifying breakouts, and traders can sell when prices hit upper trend line and buy when prices hit lower trend line   Price Channel |
| Trading Range | * When the price of a security traders between consistently high and low prices for a certain time, with obvious support and resistances between which the price fluctuates |
| Trend Lines | * When drawing trend lines, the more times the price action touches the line, the more significant the trend signified by the trend line https://www.investopedia.com/thmb/vFR-WS1lJSUFXdTkEZqtInpxIUw=/300x0/filters:no_upscale():max_bytes(150000):strip_icc():format(webp)/AT-Trendline4-5c0584bec9e77c000137989c * Traders should enter into positions near the trend line and keeping the position open until the price moves below the trend line, which acts as a support |
| Volume Weighted Average Price | * The average price a security has traded throughout the day calculated with both the volume and price * Calculated by adding the dollars traded and dividing by the total number of shares      * Acts very much like a moving average, and rises in an uptrend and drops in a downtrend * If the price bought is higher than the volume weighted average price, then it might be overpaid * Is re-calculated at the start of everyday |
| Candle Stick | * Long green candlesticks indicate there is a strong buying pressure and indicates bullishness, and long red candlesticks indicates there is a strong selling pressure and indicates bearishness   Bullish Reversal Patterns:   * Two key principles: bullish reversal patterns should form within a downtrend, and most bullish reversal patterns require bullish confirmation (upside price move or gap up). * Bullish reversal indicate buying opportunity * *Hammer or Inverted Hammer*: signal the stock is nearing the end of a downtrend with the body of the candle short and the tail of the candle long. To validate this pattern, we need to confirm the pattern over the next few days and see an increase in trading volume.   Inverted hammer shows buying pressure after opening followed by selling pressure and usually comes in the form of a gap up with heavy volume     * *Bullish Engulfing:* two candle reversal pattern such that the second candle completely engulfs the body of the first one. This is due to the buying pressure in the second day causing the price to rise even though the second day is a gap down. Should buy when price in second day moves higher than the previous high. More likely to form when there are more black candle sticks before this pattern. * *Piercing Line*: two candle bullish reversal with one red and one green, with the second day opening lower than the previous close by the buying pressure pushing the price up halfway such that it is almost a bullish engulfing * *Morning Star*: three candle pattern with one red, one green or red, and one green, with the two last candle being in an uptrend. There is no overlap between the middle candle and the first red candle, showing that the selling pressure on the previous day is disappearing and the third green candle overlaps with the first red candle showing buying pressure * *Three White (green) Soldiers*: pattern observed after a period of downtrend or consolidation and consists of three green candles that close progressively higher on each day, however if these candles are too long then it may attract short sellers which will push the price down again. * *Head and Shoulders:* Chart pattern that contains 3 peaks, with the middle peak being the tallest often signaling a bullish to bearish reversal pattern and is considered to be one of the most reliable patterns. This pattern occurs when the decline at the first peak signals that the bullish trend may be over, and this is where the bulls push the price back up to the second peak to keep the bullish trend. If the bulls have enough market dominance, the trend may continue, however, once the price declines a second time the bears are taking over slowly while the bulls push the price up one more time before the price drops     Bearish Reversal Patterns:   * *Bearish Engulfing*: Opposite pattern of bullish engulfing where the colors are swapped such that the second red candle full engulfs the first green candle. However, pattern is less effective in choppy markets.      * *Evening Star*: the opposite pattern of morning start such that the first candle is green, second candle can be green or red, and third candle is red. These three candles are formed such that the last candle opens below the second candle and closes near the center of the first candle, indicating prices will fall |
| Support and Resistance | * Price levels on charts that act like barriers and prevent the price from being pushed in a certain direction * Support and resistances can also form on trend lines going up or down * Support is a price level where a downtrend can be expected to pause due to a concentration of demand, since as the price drops, the demand increases, thus forming a support line * Resistance is the opposite for rising prices, since as the price rises, more people are selling, causing an increase in supply, forming a resistance line * Provide valuable insights as the price will either bounce away from the support/resistance or continue its trend, and most trades are based on the belief that support and resistance zones will not be broken * If the price consolidates or breaks through the support/resistance, it offers a potential trade opportunity     When the market is trending to the upside, support levels are formed as the price action slows and starts to pull back towards the trend-line, forming an upwards diagonal support. The same applies for a downwards trend where a trader may look for a series of downward peaks through a downwards diagonal support line   * It is often considered that support/resistance are the actual price of the underlying value, so volume general increase more than usual making it more difficult for the price to move up or down * Psychology of traders also results in support/resistance at round numbers such as $50 or $100 * Support/resistance levels become more significant if the price reaches the levels repeatedly in the past, or if they occur after steep advances or declines, or if there is high volume as traders use these price levels as indicators for triggering trades * Under some scenarios, the 52-week high is used as the resistance and the 52-week low is used as the support within a year * Price by volume charts (horizontal bars showing buying or selling interest) can be used to find levels of support and resistance by drawing horizontal lines |
| More Candlestick Patterns | * While traditional candle stick patterns are very common and may often lead to false signals, more advanced patterns can occur which offers a higher degree of reliability * These patterns are more reliable as traders who were betting on the trend to continue will be forced out which fuels the new trend in the reversal * Island reversals are short-term reversal signals with a gap between the reversal candle sticks, showing a gap down and gap up. Entries should be made after the gap and exit if the price goes back and fills the gap, which is also where a stop loss should be placed for risk management      * Hook reversal patterns are short to medium reversal patterns which are seen by higher low and lower high compared to the previous day, such that the candle is completely engulfed in the previous days candle. Entries should be made at the second up day (or down day) in the pattern after the hook, and stop losses should be placed above the recent high (bear) or below the recent low (bull)      * San-ku pattern signals a reversal but does not indicate an exact point, and is seen through three gap ups and since the momentum cannot last forever, the pattern is due for a reversal. * Kicker pattern is one of the strongest and most reliable patterns and is seen by very sharp reversals in price through two candle sticks with the pattern starting at a gap down and a gap up of the green candle followed by another strong green candle showing that the reversal is taking place. Entries should be made at the end of the first green candle and place a stop loss at the low of the first green candle |
| Double Tops and Double Bottoms | * One of the most often occurring patterns of price action, however, although it appears daily, it is very difficult to anticipate in real time      * Traders who anticipate will set an entry in the 2nd top/bottom assuming there is support. This guarantees a good entry but also risks losses if the trend after the 2nd peak moves in the opposite direction * Traders who react to the pattern will see the confirmation of the pattern before entering, but this means the entry points are not as ideal and may face greater losses * Professional traders exploit amateur traders psychology as amateurs often exit early when the pattern breaks down although it may actually continue in the right direction but the peaks just did not line up in a support or resistance level * Usually traders use stops at the peaks to control risk, however, it may not be the best strategy as the price may actually be in the correct trend, however, just doesn’t look like it in real time * A better stop strategy is to use Bollinger Bands and place the stop at the intersection between the 4 standard deviations (accounts for 99% of scenarios) band and a vertically drawn line from the first peak (or first bottom) such that if the price reaches this level again, the trader will exit the trade |
| Death Cross | * Pattern indicating a potential for a major selloff and often appears when the stocks short-term moving average crosses below its long-term moving average * Very reliable as it has predicted many recessions   (blue: 200-day SMA, red: 50-day SMA) |
| Golden Cross | * Pattern indicating a potential for a bull market when a short-term moving average crosses above its long-term moving average * Most common SMAs are 50-day or 200-day, but for day trading 5-period or 15-period may be used |
| Ascending Triangles | * Bullish chart pattern created by drawing one completely horizontal line along all the highs and a rising trend line along the lows * Used to find breakouts when the price point moves past either line |
| Descending Triangle | * Bearish chart pattern created by drawing one downwards trend line connecting all the highs and a completely horizontal line connecting all the lows * Used to find breakdowns when the price moves below the support for shorting |
| Triple Bottom | * Bullish chart pattern characterized by three equal lows followed by a breakout above the resistance * Typically occurs after a large downtrend, where the first bottom could simply be a normal price movement, the second bottom indicates bulls gaining momentum and preparing for a possible reversal, and the third bottom indicating that there is strong support in place * Volume should also drop throughout the pattern as it signifies bears losing strength, while bullish volume should increase as the price breaks through the final resistance * This pattern is often confirmed with other technical indicators such as an oversold relative strength index |
| Cup and Handle | * Pattern that looks like a cup and handle where the cup is a “U” shape and the handle is a downward trend * Since the second peak in the “U” is a retest of the old high, there will likely be a selling pressure which leads to the price to drop before it rises after the ”handle”, giving bullish signs * Generally, wider cups provides stronger signals, and you should avoid cups which look like “V” * Generally, shallow cups are better, and you should avoid deep handles as handles should only be in the top half of the cup in terms of length as deeper handles requires more significant breakouts * The volume should decrease as prices decline and remain lower than average at the base of the cup, it should then increase when stock rises back to the previous high   https://www.investopedia.com/thmb/QPEfQyV4DWZpxMyP-ySilhwL_ds=/320x0/filters:no_upscale():max_bytes(150000):strip_icc():format(webp)/Cup_and_Handle-5bfd6ebec9e77c00266a9518   * You should buy when the stock is when it is slightly above the price channel of the handle and you should only buy if it breaks out of the handle trend * Place a limit order below the breakout level for risk management if the handle continues it its trend |
| Pivot Points (Lines) for Predictions | * Calculated based on highs, lows, and closing prices of previous trading sessions to predict support and resistance levels in upcoming sessions to determine entry and exit positions * Many different ways to calculate pivot points, and can be daily, or weekly values for day/swing trading * The pivot point itself will expect the largest movement to occur at this price * Points can be used to determine the overall market trend, such that if a the price breaks a pivot point in an upwards trend, the market is bullish, and if the price breaks in a downtrend, it is bearish * An entry can be set at a resistance while a stop loss is set at a support |
| Stochastics | * When a stock is in an uptrend, the closing price tends to be at the high end of the days price action, and if the price is in a downtrend, the closing price tends to be at the lower end of the days price action * Often uses the relative strength index and computes two lines with respect to the price action such that when the two lines cross, it signals buying/selling * Levels are computed (0-100) which determines when to buy/sell when the two lines cross these levels |
| Elliott Waves | * Swings in mass psychology often shows the same recurring fractal wave patterns * Impulse waves travels in the same trend direction and usually shows 5 waves in its pattern   https://www.investopedia.com/thmb/MMbgfjxKc-xeRSvsu0CDPtIjIkc=/218x0/filters:no_upscale():max_bytes(150000):strip_icc():format(webp)/impulse-5bfd6ca746e0fb00263b234a   * Corrective waves travels in the opposite direction to the trend and also usually shows 5 waves   https://www.investopedia.com/thmb/bidv-WBylkObypkgjTIjFDOvc6c=/202x0/filters:no_upscale():max_bytes(150000):strip_icc():format(webp)/elliot4-5bfd88e146e0fb0051d60b30   * Elliot waves are formed when an impulse wave is followed by a corrective wave      * Traders may go long at the impulse wave and sell when the pattern completes 5 waves |
| Bollinger Bands | * Analysis tool containing three lines, a simple 20-day moving average line in the middle, upper and lower bands at 2 standard deviations from the moving average * The closer the price moves to the upper band, the more overbought the market, and the closer the price to the lower band, the more oversold the market is * Bollinger band squeeze occurs when the upper and lower bands come together, and signals low volatility and is a potential sign of future increased volatility. If the bands are wider, then there is a chance of decreased volatility and greater possibility of exiting a trade * Since the bands are computed from simple moving average, all days are weighted the same, so new information may be diluted by old data * Insert multiple bands by drawing lines at 1 and 2 standard deviations, and this creates two bands (one above and one below), in the middle of which is a no trade zone, while the upper zone between the standard deviation line and the upper Bollinger Band is the buy zone, and the lower zone is the sell zone      * A potential exit strategy would be to exit when the candle turns red and more than 75% of its main body is below the “buy zone” such that the trader can ride the uptrend and exit during consolidation      * Counter trend trading can also be based on these bands but require larger margins of error as trends often tends to make several attempts at continuation before reversing. Traders can use the same exit strategy for going long as an entry for going short * During a squeeze period (consolidation), the bands will move closer together signaling lower volatility and will breakout either up or down when the candle goes past the upper or lower bands, particularly when there is an increased volume near the break out |
| Double Bottom | * A pattern showing the drop, the rebound, and another drop to the same level of the original drop, and finally another rebound such that the pattern is shaped like a “W”, showing signs of a reversal * The first drop should be a 10% to 20% drop, which the second bottom should be within 3-4% of the previous low, and volume over the trend should increase. * Best suited for 3 months to yield a greater probability of success * A long position should be taken at the price level of the high of the first rebound, with a stop loss at the second low in the pattern      * The double top is the opposite of a double bottom and means the exact opposite |
| Dragonfly Doji Candlestick | * Pattern that can potentially signal a reversal in price to the downside or upside and is formed when the assets high, open, and close prices are the same, forming a “T” shape * Dragonfly Doji after a price increase signals a potential decline * Dragonfly Doji after a price decrease signals a potential increase * The signal is confirmed if the candle flowing the dragonfly doji rises above the close of the dragonfly in a bull market or falls below the close in a bear market * Entries are usually made after the candle flowing the dragonfly completes, and a stop loss is placed at the low of the dragonfly for a long, and at the high of the dragonfly for a short |
| Three Inside Up/ Down | * Three-candle reversal pattern which shows that the current trend has lost momentum * Three inside up is a bullish pattern indicating prices may move up, and contains a large down candle, a smaller up candle contained within the prior candle, and another up candle that closes above the close of the second candle * Three inside down is a bearish pattern indicating prices may move down, and contains a large up candle, a smaller down candle contained with the prior candle, then another down candle that closes below the close of the second candle * The pattern is short-term in nature, and is very common and therefore not always reliable |
| Williams Alligator Indicator | * Uses a 5-period, 8-period, and 13-period moving average to build trading signals when they interact * When the three lines move apart from each other, it signals entry positions into both long and short * When the lines converge toward each other, the trend is ending and the position should be exited      * Not too useful in choppy markets where the trend is constantly changing |
| Fractals | * Simple five-bar reversal patterns which repeat constantly in charts, and may be followed by a continuation in its trend |
| Wolfe Waves | * Channels provide a simple and reliable way for traders to define their entry and exit points, and Wolfe waves and Gartleys can indicate where breakouts may occur * Wolfe waves is a common pattern and has multiple ups and downs, with waves 1-4 being always within the channel where the breakout occurs at wave 5 and 6 following Fibonacci levels of change, the first price channel below gives the initial trend while the second channel formulated by the 4th and 6th wave shows the continuation of the trend into the future   https://www.investopedia.com/thmb/bAMXj6sbSbYotdmvoTb97xtYPEc=/306x230/filters:no_upscale():max_bytes(150000):strip_icc():format(webp)/ATWChannels2-5c0584a446e0fb0001810e15https://www.investopedia.com/thmb/TOvpXpYbFNaSzzn-VuizMlLvlwA=/500x0/filters:no_upscale():max_bytes(150000):strip_icc():format(webp)/ATWChannels3-5c0584a246e0fb000164dbb8 |
| Gartley | * Gartley is a pattern consisting of a single large impulse wave followed by smaller pullback impulse waves, where point D below is the best entry to go long https://www.investopedia.com/thmb/oJDRrezmOkNhp9f2AeDZMPGgphM=/500x0/filters:no_upscale():max_bytes(150000):strip_icc():format(webp)/ATWChannels6-5c05849c46e0fb00012efdc9 |
| Butterfly | * Different than the gartley in which the last point “D” extends beyond the point “X” |
| Bat | * Similar to the gartley but different in measurements in the retracement levels |
| Crab | * Is one of the most precise patterns for reversal and is extremely close to the Fibonacci numbers, such that the pattern is similar to the butterfly but the measurements in the retracement levels are different |
| On the Neck | * Pattern where a long bearish candle is followed by a short bullish candle that fails to close above the prior red candles close, representing a bearish continuation of the trend. The slight reverse in price is an attempt of bulls to drive the back price up with limited success, while bears continue the pattern |
| Trends and Countertrends | * Involves firstly finding a method that identifies the long term trend and then another method that finds pullbacks within the long-term trend * Long term moving averages may be a good toll for identifying long term trends, especially when multiple SMAs are used in conjunction with each other * Oscillators may be good at identifying short-term counter trends such as the difference between a 3-day moving average and a 10-day moving average, where if the price drops, then oscillator is negative, and when the price rises the oscillator is positive * Combining all these into one will create a new trading criteria where trades should be made |
| Divergence | * When price of an asset is moving in the opposite direction to a technical indicator (such as oscillator), and warns that current price trends may be weakening * Positive divergence signals price will move higher and occurs when the price is moving lower but a technical indicator is moving higher showing bullish signals * Negative divergence signals lower prices and occurs when the price is moving higher but a technical indicator is moving lower showing bullish signals |
| Bearish Diamond Formation | * A forex trading pattern which occurs mostly at the top of uptrends, and is more easier to identify in the currency market due to the increased liquidity than the equity market, where gaps in price action frequently occurs * It looks like an off-centered head-and-shoulders formation, and a diamond is formed when you connect the peaks and toughs of the diamond, below, A and B are resistance lines, while C and D are support lines * The basic principal is that the price action consolidates before the impending shortfall, and if there are any penetrations above the resistance, then the pattern would be broken * The rightmost part of the diamond is apex and sticks out, suggesting a future breakout, and it can be seen in the pattern above that the right most candle inside the diamond closes outside the support line * For risk management, a stop loss would be placed right above the broken support level * The height of the diamond can suggest the profit in the trade, as the projected lines from line C and B predict the future price channel after the diamond formation * By using an oscillator, the confirmation of the broken support can be seen at the “X” where the line crosses and heads downwards |
| Expansion Bar Signal | * A candle stick with a greater than average range (range from high to low) that may confirm price movements |
| Building a Trading Indicator | * Traders basically try to predict two things: support and resistance levels, and time for when price movements will occur * Indicators can be formed form patterns in the charts, mathematical functions such as the Bollinger Bands, hybrid functions which combine many analysis tools together such as the moving average crossover * When creating an indicator, test the strategy with back testing and paper trading to find its winning % |

## More Technical Indicator Terms

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| Price Rate of Change Indicator | * Momentum-based indicator that measures the percentage change in a price between the current price and the price a number of periods ago, basically the rate of change |
| Diffusion Index | * Measures the number of stocks that are showing positive momentum, and is often used in determining the underlying strength of the market |
| Relative Strength | * Momentum investing technique that compares the performance of an asset to that of the overall market or a benchmark such as a market index * Signals when stocks are overbought and oversold * One way to calculate is to rank all investments within the same type of asset and pick the top * Another way to calculate is to divide the rate of change of a stock by the rate of change in a relevant index. If the value is greater than one then the investment is strong * Does not take into account the risk associated with a particular investment |
| Pivot Point | * The average of the high, low and closing prices from the previous trading day to determine the overall trend of the market * If the price is trading above the pivot point, it is bullish and when the price is below it is bearish |
| Average Directional Index | * Indicator used to determine strength of trend * Usually accompanied by two other indicators, hence showing 3 lines overall, the other two being the negative directional indicator (-DI) and the positive directional indicator (+DI) * Price is rising when +DI is above –DI and price is dropping when –DI is above +DI * Crosses between +DI and –DI may indicate bearish or bullish signals telling traders to go long or short * However, crossovers often occur very frequently, resulting in many fake signals |
| Fibonacci Sequence | * Retracements: use horizontal lines to indicate areas of support and resistance, and are calculated by locating the high and low of the chart, the first being at 100% of the high, the second at 64.8%, third at 50%, fourth at 38.2% and last at 0%, and the new support/resistance should be near those lines * Arcs: finding the highs and lows then with a compass-like movement draw 38.2%, 50% and 61.8% from the point, and are often used to anticipate support/resistance * Fans: locating the high and lows of a chart, with diagonal lines draw at 38.2%, 50% and 61.8% of a vertical line at the rightmost of the chart so far. |
| Average True Range (ATR) | * Measures market volatility by decomposing an entire range of an asset price for a period * Derived from 14-day moving averages, and may be used as an exiting strategy * Higher ATR means higher volatility and lower ATR means lower volatility |
| Moving Average Convergence Divergence (MACD) | * Trend-following momentum indicator that shows the relationship between two EMAs by subtracting the 26 period EMA and the 12 period EMA to produce the MACD line * MACD line is then plotted on a 9-day EMA of the MACD (signal line) superimposed such that buy and sell signals are triggered when the MACD crosses the signal line (MACD cross above signal line for buying, cross below signal line for selling) * Differs from the relative strength index as that index calculates whether the market is overbought or oversold, while the MACD measures the relationship between two EMAs * MACD may produce false signals for reversal when the price of the asset continuously moves sideways |
| Ichimoku Cloud | * 5 calculations containing a 9-period average, 26-period average, the average of these two averages, 52-period average, and a lagging closing price line * When the price is below the cloud, the trend is down and when the price is above the cloud the trend is up, if the cloud is moving in the same direction as the price, the trend signals are strengthened |
| Stochastic Oscillator | * Momentum indicator comparing closing prices of a security to a range of its prices over a period of time to generate overbought and oversold trading signals and is sensitive to momentum rather than price |
| On-Balance Volume (OBV) | * Momentum indicator that uses volume flow to predict changes in stock price using crowd sentiment |
| Arms Index | * Indicator that compares the number of advancing and declining stocks (AD ratio) to the advancing and declining volume (AD volume) to gauge the overall market sentiment * If AD volume is higher than the AD ratio, arms index will be below 1 * If AD volume is lower than AD ratio, arms index will be above 1 * Arms index less than one typically accompanies a strong price advance * Arms index above one accompanies a strong price decline |
| Ulcer Index | * Measures downside risk in terms of depth and duration of price declines * Usually calculated over a 14 day period * The greater the value, the longer takes for a stock to get back to the former high * A 14-day Ulcer Index measures declines off the highest point in the past 14 days * Calculated as the square root of the sum of the average percentage drawdowns of the 14 days which is the close minus the 14-day high close divided by the 14-day high close * Spikes in Ulcer Index that are abnormal are used to indicate excessive risk signaling exiting long positions |
| Value Added Monthly Index | * Tracks the monthly performance of an investment * Calculated by multiplying the previous VAMI by (1 + current rate of return) * Used for comparing different benchmarks |
| Dual Commodity Channel Index (DCCI) | * Indicates whether an asset or market is overbought or oversold and is a tool known as an oscillator * Constructed and calculated by graphing a smoothed commodity channel index along with an unsmoothed commodity challenge index line measuring the same security such that crossovers of the two lines indicate buy and sell signals while breaks in the price trend line indicate entry and exits * The index oscillates between two extreme values and when it reaches maximum value, the asset is overbought while when it reaches the minimum value, the asset is oversold |
| McGinley Dynamic Indicator | * SMA or EMA fail to account for speedups and slowdowns in the market and this indicator solves this by adjusting for time through minimizing price separations and volatile whipsaws |
| 50-Day EMA Strategy | * The 50-day moving average can mark a point where traders no longer hold positions through inevitable drawdowns and often indicates an inflection point in the price to decline * Most commonly used is the average of the 50 day prices yielding the 50-day SMA, while the EMA is more preferred as it reacts to price movements more quickly * 50-day EMA is most often used when positioned in a trend that turns against you in a counter swing * Placing stop just across the EMA as it represents intermediate support or resistance * Usually good to stay out of an investments until a reversal (where the trend reverses, not a pullback which is small changes in the direction of the price temporarily) or a breakout happens (price breaks out of support or resistance) * It is noted that the 5-day strategy also works well for any period of 50 time intervals * 50-week EMAs are often used as they define mean reversion over an entire year while the 50-month EMA tracks 4 years of market activity approaching the typical business cycle. These can be used for long term positions * A 50-200 day pinball strategy involves using both the 50-day EMA and the 200-day EMA in which if a countertrend breaks one of these averages, it often carries into the other average * Bearish crossover is when the 50-EMA crosses the 200-day EMA through a downward crossover which marks the end of an uptrend * Bullish crossover is when the 50-EMA crosses the 200-day EMA through an upward crossover which marks the start of an uptrend * However 50-week and 200-week crossover may signal more accurate trends in the market by looking at historical data |
| Arron Indicator | * Indicator composed of two lines, an up line which measures number of periods since a High, and a down line which measures the number of periods since a Low * When the up line is above the down line, the market is bullish * When the down line is above the up line, the market is bearish * Crossovers signals trend changes |
| Money Flow Index | * Technical oscillator that uses price and volume to identify overbought or oversold conditions in an asset * Also used to spot divergence which signals trend changes |
| Stochastic RSI | * Uses stochastic oscillator with a set of relative strength index values to give an idea of whether the stock is overbought or oversold |
| Parabolic SAR | * An indicator that highlights the direction an asset is moving, and provides entry and exit points * As the price rises, the dots will rise slowly first then picking up speed as it follows the trend, and entries into longs can be identified by following the dots of the parabolic SAR * Also can be used for setting stop-losses, since as the price falls, so will the indicator |
| Random Walk Index | * Indicator that compares the price movements to some random movements in an effort to determine if the trend is statistically significant |
| Time Segmented Volume | * Analysis indicator that segments a stock’s price and volume according to specific time intervals, and is then compared to find periods of accumulation (buying) and distribution (selling) * It is an leading indicator as its movement is based on both the stock’s price movement and volume * When the time segmented volume crosses up through the zero line, it signals a buying pressure which means bullishness, and the opposite when it crosses through below the zero line |
| Net Order Imbalance Indicator | * Order imbalance information about the opening and closing crosses on Nasdaq, and shows the true supply and demand for a stock based on actual buy and sell orders 10 minutes before the market closes and 5 minutes before the market opens |
| Forecast Market Direction with Put/Call Ratio | * The overall market sentiment can determined by tracking the daily and weekly volume of puts and calls * Too many puts means the market is at a bottom and too many puts means the market is at the top * The contrarian sentiment put/call ratio says that it is good to go against the options-trading crowd since 90% of option traders lose money * When there is high speculation in calls, the put/call ratio is low, and the opposite applies to result in the put/call ratio being high * Equity only put/call ratio may be better as it does not include professionally managed funds * The put/call ratio is often skewed toward puts as they are used to hedge longs |
| Trade Volume Index | * Measures the amount of money flowing in and out of a security of a market * Can indicate buying or selling pressure, for example if the changes in prices are greater than the minimum tick value and have been rising over a long period of time, this signals bullishness |

# Illegal Activities

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| Black Money | * Basically dirty money from illegal sources but can also be income that is not declared for tax evasion |
| Offshore Portfolio Investment | * Using investment swaps and shell companies in the Cayman islands to create fake accounting losses that are used to offset taxable income, resulting in tax evasion |
| Pyramid Scheme | * Multi-level marketing is legal and involves the sale of goods and services, but much like a pyramid scheme, it generates the majority of its income from getting members to recruit other members * Chain emails are such that if a person donates money to all the people in the email chain, their name gets added at the end of the chain while the first in the chain gets removed, and the person continues to receive money until they are pushed off the chain * Ponzi schemes (high-yield investment programs), e.g. Bernard Madoff (largest Ponzi of all time), involving promising high returns and differs from a pyramid scheme as there is no recruitment but instead just a promise of high returns which come from later investors who pay to join |
| Insider Trading | * Trading of publicly available stock by someone with non-public information about the stock * Can be for someone within the company or outside the company |
| Pump and Dump | * Boost of the stock price through false or misleading information advertisement when the scammers already have a long position. The scammers then sell their positions after the stock has hyped to a high price, and the stock then falls leaving all other investors with huge losses * When the stock eventually falls, many investors think they are buying the dip and continue to invest, incurring further losses |
| Short and Distort / Bear Raid / Poop and Scoop | * Stock prices are manipulated by taking short positions in a Bear market then using campaigns to drive down the price, it is the inverse of pump and dump * Profits are made when the scheme works and the share prices drops substantially, allowing investors to buy them back at a lower price to pocket the difference |
| Naked Shorting | * Short selling of shares that do not exist, causing a short pressure on the market * Impacts the liquidity of a particular security, increasing the liquidity as demand increases |
| Greenmail | * An investor blackmails a company by threatening a hostile takeover after buying a substantial block of a company’s shares * The company being blackmailed resists by buying back all the shares at a premium |
| Racketeering/ Extortion | * A form of blackmailing, in which money or property is extorted from another person through intimidation, threats, or by force, typically used in organized crime |
| Money Laundering | * Mixing money made from illegal sources to seem like they came from legitimate business * Involves placement (move dirty money into financial system), layering (conceal money through a series of transactions and book keeping tricks), and integration (money is withdrawn to use) * Online transactions and cryptocurrencies have been popular for money laundering activities * People performing money laundering are called smurfs |
| Cook the Books | * Companies manipulating their financial statements to deceive the public and investors, and these include many common frauds such as accounting fraud and cash flow manipulation   + Accelerating revenues by booking large payments over a period time as a single lump sum, or falsely selling products for book keeping when the products can actually be returned (channel stuffing) such that it creates the illusion of having massive sales on the financial statements   + Delaying expenses by transferring money from one account to another   + Accelerating pre-merger expenses involves companies paying off lots of expenses before a merger, so that after the merger the growth would appear really high   + Non-recurring expenses/other income or expenses are which companies hide expenses or income through netting them against each other   + Pension plans involves companies with benefit plans to improve earnings by reducing these   + Off-balance-sheet items are where companies create subsidiaries that carry all the liabilities of the parent company, such that only the earnings are kept in the parent company   + Synthetic lease is where the company rents assets to itself (such as buildings) by leasing the company from a subsidiary to the parent company such that losses are shown for tax deduction   + Stock buybacks is where a company disguises a decline in earnings per share by reducing the number of shares overall through stock buybacks |
| Wire Fraud | * Where a person scams someone other the phone or internet on false promises |
| Paint the Tape | * A form of market manipulation in which the price of a security is influenced by selling and buying stocks amongst the scammers to create a false illusion of substantial trading activity * This increases the volume, pushing the stock to a higher price, at which time the initial scammers sell their positions while other investors are unaware of the manipulation |
| Unlawful Loan | * A loan that has excessively high interest rates or exceed legal size limits and violates other laws |
| Redlining | * Practice in which services are put out of reach based on ethnicity, such as the denial of loans, insurance, mortgages, and other financial services not based on an individual’s credit worthiness |
| Kitting | * Use of financial instruments to obtain additional credit that is not authorized * Often done by altering bank drafts with insufficient funds or misrepresenting the financial statements |
| Whistleblower | * A person which reports on insider knowledge of illegal activities occurring in an organization |
| Embezzlement | * In which a person with the rights some assets uses them for unintended purposes, mostly involving people who are entrusted with funds from an employer and converts it to personal use * This can also occur in a way that a partner can be listed as a contractor and receive payments for services that was never provided as a way to transfer funds |
| Backdating | * Practice of marking a document with a date prior than what it should be to avoid late payments |
| Bait and Switch | * A sales tactic that lures customers in on low prices and then upsells them on pricier items * Tied selling is also related in which the customer promise to buy another product or invest in another financial service when they buy an initial cheaper product |
| Market Manipulation/ Corner | * An act which an entity obtains controlling power over a company to manipulate its stock price |
| Double Dipping | * When a broker places commissioned products into fee-based accounts and makes money from both the commission of the trade (or from selling the product) and the fee to hold the investments |
| Undue Influence | * Individual persuades another’s decisions due to a relationship between the two parties, particularly when one party is in a position of power, to force the other into making bad decisions |
| Inter-positioning | * The act of employing a second broker to generate additional commission, often done through brokers sending each other deals and referrals |
| Bid Rigging | * Parties choose the winner of a bidding process prior to the auction and parties submit uncompetitive bids during the auction to secure the sale to the pre-determined winner * Can occur in bid rotation in which bidders take turns winning, bid suppression in which bidders are suppressed so others can win, complementary bidding in which bids are made so that a certain bidder is selected * This is mostly to drive down the price of the asset or item being auctioned * When a group of people participate, it is known as a bidding ring |
| Cross Trade | * Practice of buying and selling orders of the same asset which offsets each other and is not recorded on an exchange |

# Fund Trading

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| Mutual Fund | * A financial instrument composed of various securities such as stocks, bonds, and other assets in an attempt to diversify the investment portfolio * Operated by professional fund managers to attempt to obtain capital gains * Annual fees are charged, called expense ratios, and commissions which affect overall returns * Investors profit from dividends, capital gains, and selling shares of the mutual fund * Involve many different types for investors with different strategies   + Index fund: fund composes of stocks making up the majority of the market such as the S&P 500. Usually contains steady growth and less management fees as it is fairly passive   + Equity/Stock funds: invest primarily in stocks and involve companies of different caps. *Value fund* is a style in which funds are based on companies with low growth but steady growth and high dividends. *Growth fund* is a style in which funds are based on companies with strong capital growth but do not pay dividends.   + Fixed income funds/bond funds: have a fixed income stream and is composed of bonds.   + Balanced funds: invest in both stocks and bonds to reduce the overall risk.   + Money market funds: composes of short-term debts and treasury bills. Contains low returns but is fairly risk free as it is basically like a savings account at a bank.   + Global/International funds: comprised of securities from all over the world to diversify   + Specialty funds: securities from a specific sectors, or specific geographical locations. * Mutual funds orders are executed once per day after the market closes, with orders placed through a brokerage and the shares being very liquid and can be sold when the market is open. The order is executed at the next available net asset value determined after the market is closed * Advantages contain: liquidity, diversification, minimal investment requirements, professional management, and a wide variety of choice of funds * Disadvantages contain: high management fees, high commission, large cash presence in portfolios not invested to provide liquidity, lack of transparency, capital gain taxes * The amount of actual activity can be measured through Active Shares to identify the percentage of the stock holdings in a managers portfolio that differs from a benchmark index, basically to identify portfolio managers that do not actively manage their funds * Fees includes buying/selling commissions, back-end load for selling shares within a certain period of time to discourage short term trades, level-load is an annual fee for distribution and marketing costs, expense ratio which are ongoing fees for the fund |
| Index Fund | * Type of mutual fund which track market index to provide broad market exposure * Has on average lower expenses than actively managed funds since it is a passive strategy * Does not attempt to beat the market, but has seen better returns than actively managed funds * Due to the efficient market hypothesis, believers of this think that the best investment strategy is to invest in index funds which have historically outperformed the majority of actively managed funds * Unlike most index funds, active index funds involves the portfolio manager consistently rebalancing investments based on a market index (such as the SP500) with additional securities unrelated to the index in an attempt to beat the market |
| Exchange Traded Fund (ETF) | * Collection of securities that trade on stock exchanges and differs from mutual funds in general as it can be constantly bought and sold like a stock, basically a mutual fund traded on the open market * Since it can be bought and sold like a stock unlike most mutual funds, stop-losses can be placed * Contains lower expense ratios and fewer broker commissions than buying stocks individually, and also contains less fees than other mutual funds which are actively managed * Includes bonds ETFs, industry ETFs, commodity ETFs, currency ETFs and inverse ETFs (short), these offer ETFs to track more and different market segments, while index funds track the entire market * Are diversified, low entry cost, high liquidity and transparent * Best suited for investors who buy-and-hold since most ETFs are index funds |
| Short Term Investment funds | * Conservative funds which invests in short-term investments with high quality and low risk * Includes cash, bank notes, government bills and conservative bonds * Contains very low management fees and commissions |
| Hybrid Fund | * Diversifies by investing in two or more asset classes, typically stock and bonds * Commonly known as asset allocation funds in which investors assess multiple assets classes |
| Proprietary Shop | * Trading firm than uses its own capital to profit * Anyone joining must contribute their own capital such that it is high risk high reward |
| Interval Fund | * A close-end fund with shares that do not trade on a secondary market * Has high returns as funds are highly illiquid allowing managers to fully utilize cash, but can only be sold at certain times and contains much higher fees than open-end mutual funds |
| Market Information for Professionals | * Information obtained by professional fund managers are no different than publicly available info * However, they are highly experienced and trained such that they can make better investments |
| Morningstar Risk Rating | * Ranking given to mutual funds or ETFs by the investment research firm Morningstar * Ranking is based on the monthly returns with emphasis on downside |

## Index Funds

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| Index | * Is an indicate and measure of a change in a securities market or market segments * You cannot invest in index itself, but you can invest in funds that track a market index * There are several indexes for different sectors such as oil, tech, finance etc. such that sometimes the individual sectors may outperform the overall market indexes such as the S&P500 |
| Broad Based Index | * Basically a term for an index that attempts to measure the movement of an entire market such as the S&P 500, Wilshire 5000, Russell 3000 and Dow Jones 30 |
| Total Return Index | * Type of equity index that tracks both capital gains and cash distributions (dividends) * It is usually deemed the most accurate and an example is the SP500 * Indices which only accounts for capital gains are known as price return index funds |
| Capitalization-Weighted Index | * An index with individual components that are weighted according to their cap * Components with a higher cap carry a higher weighting in the index * Critics believe that weighing the index more on higher caps skew the view of the market |
| Fundamentally Weighted Index | * Indices composed based on fundamentals such as book value, cash flow, revenue, sales etc * Best for investors who see opportunities in growth, value of the company, and income |
| Small-Cap Index | * Since small-cap companies are highly leveraged, they are extremely exposed to the economic cycle and during recessions, many go bankrupt * Hence, many investors consider small-cap indices to be the leading indicator of the economy |
| Enhanced Index Fund | * Fund that enhances the returns of an index through active management to modify the weights of the holdings, and often uses leverage in long and shorts, to beat the market |
| Composite | * Group of equities, indexes, or other factors combined in a standardized way as a statistical measure of the overall market performance |
| Market Basket | * Principal idea behind index funds, however, can also measure inflation through the consumer price index (CPI) with tracks the price of various consumer goods |
| Index Divisor | * A initial value when an index is first created for investors to track the index * The index with first composed of a group of securities, and is then divided by the index divisor such that the initial index value is a round number (e.g. 100 or 1000) to make it easier to track |
| Capped Index | * Equity index that has a limit on the weight of any single security, thus it sets a max limit when basing indexes on their market cap, and represents the market movement better |

## Exchange Traded Funds

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| Pricing ETFs | * Market price is the price at which shares in the ETF can be bought or sold during trading hours * Net asset value (NAV) represents the value of each share’s proportion of the funds’ assets, calculated by summing all assets in the fund including cash and subtracting the liabilities, then dividing by the number of outstanding shares in the ETF |
| Choosing ETFs | * ETFs should have minimum level of assets, being at least 10 million for good liquidity and spreads * Have sufficient volume which indicates good trading activity * ETFs should be based on a diversified, and widely followed index * Contain minimal tracking error |
| Tracking Error | * Divergence between the price behavior of a position of portfolio and the price of a benchmark * Applies to many funds in which did not work as intended, creating unexpected profits or losses * Commonly used metric to measure how well an investment is performing, calculated as the standard deviation of the difference between the returns of an investment and its benchmark, and can be calculated through the difference in annual returns * Often used to evaluate portfolio managers * Major factor affecting the tracking error can be the fees in ETFs which requires the portfolio managers to outperform its index benchmark to obtain the same returns |
| ETFs for Index Funds | * ETFs allow you to maintain a strategy of passive index replication * Differ from mutual funds which are often actively managed and have higher fees |
| Leveraged ETFs | * High-risk high-cost funds which use debt to achieve high returns on often 2-3x leverage * Generally used as short-term strategy with periods exposure often limited to a few days |
| Inverse ETF | * An ETF constructed with derivatives to profit from shorts * Does not require the investor to hold a margin account such as in short selling, however, contains higher fees due to the higher complexity and active nature of the fund |
| ETF Dividends | * ETFs which offer income through dividend paying stocks distributed to the ETF holders * The dividends can be reinvested or paid out in cash * Qualified dividends qualify for long-term capital gains, where the underlying stock must be held for longer than 60 days * Non-qualified dividends are taxed at the investors ordinary income tax rate |
| Exchange Traded Notes (ETN) | * Is like a bond in which it is a debt issued by an institution, and may face the risk of default from the underwriter of the ETN, hence investigating into the issuers credit rating is important |
| Spider ETFs | * Standard and Poor depositary receipt (SPDR or spider) are based on the SP500 |
| Short Term ETF Trading | * Good when ETFs have high liquidity and small percentage of off-exchange trades which could result in decreased liquidity * Good when ETFs have high transparency as seen from a high-frequency of indicative net asset value publishing, when the lower the value between the net asset value and the ETF, the better |
| Volatile ETF Day Trading | * Volatility ETFs typically move inversely to major market indexes, such that if the S&P500 for example moves up, the volatility ETF moves down * Volatility ETFs, such as VXX, have greater changes in price when market indexes moves * Often leads market indexes to forecast moves in the index to aid trading of the stocks in the index, however, other times the index may lead the volatility ETF, resulting in the opposite strategy * If volatility ETFs break their support, indexes will often break their resistance * Biggest intraday opportunities occur when index drops such that the volatility ETF profit |
| Preferred Stock ETFs | * Preferred stocks often pay higher dividends, such that the ETF gives out higher dividends, and the capital gains are taxed as long-term capital gains with lower tax * However, they are risky as they are sensitive to interest rates and may be recalled by the issuer |
| Bond ETFs | * ETFs are exclusively invests in bonds and are passively managed * The major risk is that since bond ETFs are not individual bonds, bond EFTs never mature and are subject to interest rate risk which is difficult to mitigate when there is not maturity date |
| ETFs for Sector Rotation | * Strategy where you hold over weighted positions on one sector and underweighted in another * Allows investors to focus on specific sectors and industries * May include strategies for economic cycles to time sectors that perform well at different economic cycle stages, calendar strategies which involve investing in sectors that do well at different times of the year, geographical strategies which focuses on specific countries or regions |
| ETF Taxes | * Sale of ETFs triggers a capital gain tax (long-term of short-term), dividends are also taxed * To lower tax, you may close losing positions before 1 year and hold winning positions for longer than one year to qualify for long-term capital gains tax * Take a loss on an ETF and buy another one based off a similar index to have a loss for tax deduction * Overall, ETFs are useful for year-end tax planning purposes * Tax loss harvesting may also be used to offset capital gains with losses |

## Hedge Funds

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| Hedge Fund | * Using pooled funds and various strategies to earn highest and quickest returns possible, achieving the highest short-term return for its clients, and usually involves leverage to increase returns * Invest primarily in highly liquid assets to make profits on one security and then move to another * Aimed towards high net-worth individuals and accredited investors which require less SEC regulations and are less regulated than most other investment vehicles * Only open to individuals with net worth in the millions and sophisticated understanding of finance |
| Private Equity | * Invest directly in companies, similar to venture capital, and focus on long term profits * Invests in illiquid assets for long term capital growth |
| Short Hedge | * Investment strategy which involves a short with a derivative that hedges against potential losses in a short |
| Institutional Investor | * Investors that invests on behalf of its members and also invests large sums of money (block trades) * Include endowment, mutual hedge, and pension funds, and commercial banks and insurance companies * Retail investors (common people) tend to invest in securities institutional investors invest in as institutional investors are often major market drivers * Institutional investors also have less commission as they can negotiate their fees independently while retail investors have to go through brokerage firms |
| High-Water Mark | * Highest peak in value that an investment fund has reached * Manager must get funds above the high-water mark to get performance based fees |
| Attribution Analysis | * Method for evaluating the performance of a portfolio fund or manager based on their investment style, stock picks, and market timing |
| Window Dressing | * Strategy used by portfolio managers to improve the appearance of a fund’s performance before presenting them to clients but gives investors the incentive to track their funds closely for performance |
| Quant Fund | * Investment fund that selects securities using advanced quantitative analysis |
| Side Pocket | * Type of account in a hedge fund used to differentiate illiquid assets from more liquid assets, and separate from other funds as they are usually long term and highly risky so not all investors are entitled to their P&L * Often subject to federal investigations due to the dodgy and secretive nature |
| Net Exposure | * The difference between a hedge fund’s long and short positions, and measures the extent to which a fund’s trading book is exposed to the market fluctuations * The fund has a net long when there are more longs and shorts and a net short in the opposite situation |
| Dedicated Short Bias | * Hedge fund strategy that maintains a net short with more short positions than longs to capture declines in the market while also using longs to mitigate risk |
| Global Macro Hedge | * Actively managed funds that attempt to profit from broad market swings caused by political events by trading various assets which may profit if the predicted event outcome occurs |
| Absolute Return Index | * An index to compare the performance of an individual hedge fund against the entire hedge fund market |
| Run on the Fund | * Where poor performance of the hedge fund causes investors to request the return of their money * Hedge funds defend against this by suspending the ability for redemption for a period of time |

# Fixed Income Trading

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| Debt Instruments | * Debt instruments are used to raise capital and include loans, bonds (asset backed) and debentures (no asset backed), which promise interest or a guaranteed repayment at a future date |
| Liquidity Preference Theory | * When investors demand higher interest rates on bonds with long-term maturities that carry greater risk * This is due to the preference of liquid assets, such as cash, to be held instead of illiquid investments |
| Pricing Bonds | * Bonds are issued with a face value when the current price is equal to the face value (par), if the price is greater than the fixed value, then it is trading at a premium, and if less, it is at a discount * Bonds with lower prices are more attractive as they have higher rates of return * Bond prices move as they get closer to their maturity dates, their prices increase * Bonds issued by lenders with lower credit rating are also cheaper than those with higher credit rating * Current coupon is when the bond is trading close to its par value without going over par |
| Interest Rate Vs Bond Price | * Interest rates are a cost of money, and the treasury note rate is the fundamental cost of money to an investor, and bond are more risky than stocks because bond holders are paid first in bankruptcy * Since bonds pay fixed interest rates, if interest rates fall, then the bonds interest rates will be more attractive, and the bonds will rise in price * If the interest rates rise, then bond interest rates will be less preferable, and hence will drop in price |
| Prepayment Risk | * Risk involved with the premature return of the principal to the borrower such that future interest payments will no longer be paid, and thus would not generate a fixed income |
| Normal Yield Curve | * Yield curve in which short-term debt have lower yield that long-term debt with the same credit * Also known as the positive yield curve for its upwards slope * It is normal because the market expects more compensation for greater risk (long term are more risky) * Direction of the curve is a solid indicator of the current direction of an economy as it represents changes in interest rates in the market place as a whole * Flat yield curves shows that long term and short term debt have the same returns, indicating a recession as investors are more fearful in the long time risks and move their money into short-term investments * Inverted yield curves are where short term debt have higher return than long term debts, at which a recession is generally seen as about to happen if not already happening |
| Riding the Yield Curve | * Strategy involving buying long-term bonds and selling it before it matures so that it profits from a declining yield, achieving capital gains in the process |
| Interpolated Yield Curve | * Yield curve derived by using on-the-run Treasuries which are limited to specific maturities, and are interpolated due to the missing on-the-run maturity dates which have no existent in the statistic |
| Humped Yield Curve | * Yield curve when the interest rate on medium-term fixed income securities are higher than the rates of both long and short-term securities |
| Running Yield | * Annual income on an investment divided by its current market value |
| Matrix Trading | * Fixed income strategy that looks for discrepancies in the yield curve which can be capitalized upon by issuing a bond swap * Arbitrageur strategy which waits for the market to correct for a yield spread discrepancy which results in profit, however the risk is that the price does not correct to the predicted and may worsen |
| Average Life | * Average length a principal of debt issue is expected to be outstanding |
| Certificates of Deposit | * Savings certificate with a fixed maturity date and fixed interest rate considering the minimum amount of money invested and usually pay higher than savings accounts and have early withdrawal penalties * Differ from bonds as they are shorter-term, lower-risk since they are not marked-based such as bonds * Contains inflation risks as if the interest rate does not keep up with inflation, then the money loses buying power in the long term |
| Inflation Protected Security | * Fixed income investment that guarantees a real rate of return, which is the promised return on top of the inflation rate, to offer a clear picture of the investment and is advantageous especially during periods of high inflation rates |
| Barbell | * Strategy in which half the holdings are in short-term instruments and the other half in long-term * Takes advantage from the current short-term rates and higher long-term rates of bonds * Risks exist if the market rises and the long-term interest rates end up being lower |
| Debt Tender Offer | * Firm retires its debt securities by marking an offer to its debtholders to repurchase the pre-determined number of bonds at a price and time, mostly used for refinancing or capital reconstruction |
| Non-Competitive Tender | * Bid made by a small investor to purchase a debt issue which has its price based on the average price of all competitive tenders submitted, and differs from competitive tenders which are for large investors |
| Reinvestment Rate | * Amount of interest that can be earned when money is taken out of one fixed-income investment and put into another, potentially gaining a better interest rate after the transfer * Risk involve interest rate risks associated with floating interest rates |
| Accretion of Discount | * Increase in value of a discounted instrument as time passes and the maturity date becomes closer * This happens when the bond is purchased at a discount and it gets closer to the face value (par), however, this also means a bond purchased at a premium will decrease in price closer to maturity |
| Master Notes | * Short-term debt issued by the Federal Farm Credit Banks Funding Corp to provide loans to rural communities and the US agricultural sector |
| Capital Notes | * Short-term unsecured debt issued by a company to pay short-term liabilities and are more risky as they have the lowest priority in the event of bankruptcy and liquidation |
| Equity Linked Note | * Product that combines fixed income investment with additional capital gains * The downside is capped with options |
| Credit Linked Note | * A security with an embedded credit default swap permitting the issuer to swap a credit to hedge against credit risk and gives investors are higher field on the note for accepting the credit risk involved |
| Inverse Floating Rate Note | * Bond or other type of debt whose coupon rate has an inverse relationship to the benchmark * Used when the benchmark rate is expected to decrease |
| Convertible Subordinate Note | * Short-term debt that can be exchanged for a common stock and usually takes priority in the event of bankruptcy after bonds and before stocks * Senior convertible note is one that contains an option to convert the note into a pre-determined number of the issuer’s shares and takes priority over all other debt securities |
| Collateralized Mortgage Obligation (CMO) | * Type of mortgage-backed security with separate pools of security mortgages with varies maturities and classes of holders, and when the mortgage underlying a CMO are of poor credit quality, such as subprime loans, over-collateralization will occur so that the issuer improves the credit rating by providing more collateral that necessary |
| Collateralized Bond Obligation (CBO) | * A bond backed by a pool of low-grade debt securities such as junk bonds with have high default risk, and are separated in their pool by the levels of credit risk instead of the maturity dates * Credit rating is improved through diversification of various bond qualities rather than over-collateralization |
| Modified Pass-Through Certificate | * Offers investors income from a pool of underlying securities, typically mortgages, and the agencies that hold the loans guarantee interest payments to investors such that they take the risk of defaults instead of the investor, however investors are still subject to prepayment risk |
| Bump-Up Credit Of Deposit | * A certificate of deposit which permits a one-time increase in the interest rate, however, the resulting interest rate is typically lower than other newly issued certificates of deposit |
| Non-Marketable Security | * Debt security that is difficult to buy since they are not offered on the secondary market exchanges * Include mostly government-issued debts such as savings bonds, federal government bonds etc. * Purposely non-marketable to ensure stable ownership and are not subject to supply/demand factors which fluctuates price, and therefore only contains its intrinsic value |
| Repudiation | * Disputing the validity of a contract and refusing to honor its terms, and is a serious breach in law |
| Treasury Lock | * Hedging tool used to manager interest-rate risk by securing the current day’s interest rates on the federal government securities to cover future expenses that will be financed by borrowing |
| Convertible Hedge | * A market neutral strategy involving taking a long position in a company’s convertible bond and simultaneously short positions of the same size (same number of shares) in the underlying shares * If the market is flat, the investor receives interest payment, and when the shares are shorted, the investor receives proceeds of the sale and lowers the purchase cost of the convertible security |
| Death Put | * A option added to a bond that guarantees that the heirs of the deceased can sell it back to the issuer |
| Indexed Certificate of Deposit | * Savings account with a rate of return that fluctuates with the movements of a specific stock market index, and is usually a fixed term for a few years * Avoids the risk associated with the drop of a stock market as there is no capital risk |
| Ex Coupon | * Bond or preferred stock that does not include the interest payment or dividend when purchased or sold such that the investor who buys it will not receive the next interest or dividend * The seller however need to make up the difference interest received prior to the sale and before the next dividend or interest payment to cover potential loss in profits of the buyer |
| Non-callable Security | * Security that cannot be redeemed early by the issuer without a penalty payment as the investment usually locks in a high interest rate for a fixed time period, exposing the issuer to interest rate risks * Opposite to callable securities which can be redeemed without penalty giving a fixed-term prior notice |
| Bearer Instrument | * Bearer bond is a security where there is no ownership information recorded on the security issued and are used by people who want to remain anonymous |
| Coupon Stripping | * The separation of a bond’s periodic interest payment from its principal repayment obligation to create a series of individual securities, such that the underlying bond becomes a zero-coupon bond (bond which does not pay interest) and each interest payment becomes a separate zero-coupon bond * Used to divide larger bonds into smaller bonds with different interest rates |

# Derivatives

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| Derivatives | * Financial security with a value that is reliant upon or derived from an underlying asset * Contracts between parties and the derivatives derives its price from fluctuations in the underlying asset * Derivatives are heavily regulated in exchange-trades but are unregulated in OTC * Involve futures, forwards, options and swaps * Are often difficult to value as they are based on the price of another asset and has no intrinsic value * OTC derivatives often use ISDA master agreement to mitigate risks for both parties on a transaction * Derivative product companies are often created to be an intermediary between two parties, originate the derivative product to sell or guarantee the derivative product to buy, and are strategized to achieve triple A credit rating with minimal capital through trading credit default swaps, interest rates, and currencies. Basically they cater to businesses wanting to hedge risk such as currency fluctuation, interest rate changes, contract defaults and lending risks * Derivative Transaction Execution Facilities provides a venue for the trading of excluded commodities such as interest or exchange rates and other derivatives, and is limited to only a group of entities |
| Hedging Risk | * Derivatives are commonly used for hedging foreign-exchange risks especially during exporting/importing of goods or overseas manufacturing, often in the form of futures which will guarantee a fixed price * Derivatives are also commonly used for hedging interest rate risks, often in the form of interest rate swaps such that you swap the variable interest for fixed interest rates which can potentially be used to pay the difference on pre-existing interest rates * Derivatives are also commonly used for hedging commodity prices, often in the form of futures |
| Forwards | * Similar to futures but are traded OTC and not on exchanges resulting in a higher default risk * Can be customized and confidential to only the seller and the buyer * Don’t require large up-front payments * An outright forward (currency forward) is a contract that locks in an exchange rate and delivery date * A forward rate is an interest rate applicable to a financial transaction that will take place in the future * Forward contracts are initially valued at zero since there is no need for a down-payment |
| Weather Derivatives | * Since a large proportion of the economy is weather sensitive, derivatives were made to mitigate risks associated with variations in the weather * Since insurance only protects catastrophic damage and does nothing to protect against reduced profits in businesses, weather can now be traded as a commodity with associated derivatives to hedge risk * Weather derivatives are aimed at low risk high probability events which is the opposite of insurance which are aimed at high risk low probability events |
| Futures | * Contract to buy or sell a particular commodity or asset at a pre-determined price at a specified time in the future and the buyer is obligated to buy the underlying asset when the contract expires while the seller is obligated to provide the underlying asset when the contract expires * Can be settled with a cash settlement instead of the actual delivery of the underlying asset |
| Options | * Contracts that give the bearer the right but not the obligation to buy (call option) or sell (put option) assets at a pre-determined price before the contract expires * Are derivatives as they derive their value from underlying assets * The price at which an underlying stock can be purchased or sold is called the “strike price”, * The total cost of an option contract is called the premium which is often a deposit to lock in the contract * Buying call options allow you to buy the stock at a pre-determined price from the party that sold you the option * Selling call options allow you to sell the stock at a pre-determined price to the party you sold the contract to if they decide to exercise the option, as they have the option to buy the stock from you * Buying put options allow you to sell the stock at a pre-determined price to the party that sold you the option * Selling a put option allow you to buy the stock at a pre-determined price from the party that you sold the contract to, as they have the option to sell their stock to you * Buying a call option gives a potential long, similar to buying a stock * Selling a call option gives a potential short, similar to short-selling a stock * Buying a put option gives a potential short * Selling a put option gives a potential long * Buyers of options are called call/put holders who are not obligated to buy or sell * Sellers of options are called call/put writers are obligated to buy or sell if the option expires which implies potentially unlimited risk * Long puts has potential advantages over shorting as shorts have an unlimited risk while long put risks are limited to the premium paid * Speculation with a call option is attractive as it provides leverage in the sense that it might cost minimal amounts of money to set up the contract compared to the full price of a underlying asset * Hedging with a put option is attractive as it provides an insurance policy to protect you from downside risk particularly during short squeezes * The more likely the chance of something happening, the more expensive an option would be such as a call value going up as an underlying asset is going up * The sooner the expiry date of the option, the less value it will have since the smaller the time, the less chance of the underlying asset moving in your favor which is an exampling of options being an “wasted asset”. This is an example of time decay causing the value of the option to drop in an accelerated manner as it gets closer to the expiration date. * Volatility increases the price of an option as uncertainty increase the odds of a higher outcome * The premium is a combination of its intrinsic value and its time-value * Straddle is where you buy a call and put option with the same strike and expiration to expect large rise/fall in the price * Strangle is similar to straddle but you buy call and put options with different strikes but same expiration |
| Stock Warrant | * The same as a call option except the warrant is issued by the company instead of an option writer |
| Swaps | * Exchange of one kind of cash flow with another such as replacing a variable interest rate with a fixed one as in mortgages * Master swap agreements are standardized contracts created by the International Swaps and Derivatives Associated for two parties entering into a swap * Plain vanilla swap is an example of an interest rate swap * Arrears swap is similar to a vanilla swap but the floating rate is set at the end of the period, instead of the beginning, and this rate is then brought back to the current time * Companies benefit from interest rate swaps due to comparative advantages for each individual company, in which a fixed interest/floating interest may benefit each company in a different way due to their credit rating or other factors * Currency swaps involve exchanging cash flows generated from two different currencies to hedge against exchange rate fluctuations |
| European Option | * Option contract that limits execution to its expiration date such that a call or put action only takes place on the date of the option maturity * Gives the owner the option to acquire the underlying security at expiry. A call option buyer is bullish as they expect the market price to trader higher than the options strike price at the expiration date. A put option buyer on the other hand is bearish and expects the stock to trader lower than the options strike price at the contract’s expiration * Some investors sell the European option back to the market before it expires such that if the market benefits the option type, the investor will sell the contract when the current premium (signified by the stock value) is higher than the premium initially paid for the contract |
| American Option | * Option contract that may be exercised up to an including the date of expiration, unlike European options which is limited to the date of expiration * Gives owners the chance to time the purchase to receive potential dividend payments from a company which is not an option for European options * Disadvantage is that the premium is usually higher such that if it is held till maturity, the European option version would have saved more money on the premium |
| Settlement Price | * Average price at which a contract trades, used for determining profit or loss for the day as well as margin requirements, and used as a reference price for making the value of open derivative contracts * Settlement prices are based on the weighted price averages within a specific time period, and can varying off-hours if the security is being traded in multiple markets * No standard of how settlement prices are calculated |
| Securitization | * Procedure where issuers designs a marketable financial instrument by merging various assets into one group and selling the repackaged assets to investors * Usually involve loans and assets that generate receivable/debt * By buying the securitized security, the original lender can be removed from balance sheets while new investors can earn principal interest payments from the borrowers. This is often done by banks who do not want to service existing mortgages or personal loans by pooling together a group of assets and build portfolio from different sectors, called tranches. |
| Tranches | * Collection of debt instruments that are split up by risk depending on different yields and maturities to be more appealing to different investors * Common financial structure for securitized debt products such as collateralized debt obligations (CDO) which is a collection of cash flow generating assets such as mortgages/bonds/loans, also known as a mortgage backed security (MBS) |
| Quality Spread Differential | * QSD is used to calculate the difference between market interest rates that that two parties potentially entering into an interest rate swap are able to achieve * Used in interest rate swap analysis by companies of different credit worthiness to gauge default risks. When QSD is positive, then it is beneficial for both parties * QSD = fixed rate debt premium differential minus floating rate debt premium differential |
| Calendar/  Horizontal Spread | * An options or futures spread established by simultaneously entering a long and short position on the same underlying asset at the same strike price but with different delivery dates * Typically contains the sale of an option (call or put) with a near expiration and a purchase of an option (call or put) with a later expiration with both options of the same type and strike price * Aims to profit from volatility, therefore the strike price should be close to the underlying assets price, and the maximum loss is the premium paid for the strategy * Ideal if there is a steady to slightly declining underlying asset during the life of the near-term option followed by a strong move higher during the life of the far-term option |
| Cash and Carry Trade | * Arbitrage strategy that exploits the mispricing between the underlying asset and its corresponding derivative and profitability is achieved through the eventual correction in the mispricing * Done by taking a long position in a security or commodity while simultaneously selling the associated derivative by shorting a futures or options contract * The security is held until the contract delivery date and is used to cover the short position’s obligation * Profit is made when the futures contract sold to another party is more than the asset price plus the cost associated with the asset (storage/insurance etc), such that the investor with a futures contract will buy the asset at a lower price than that of the future and sell the future contract, and at the contracts maturity, use the asset to fulfill the future to the original contract seller |
| Leads and Lags | * An alteration of normal payments in a foreign exchange transaction based on an expected change in exchange rates, such that an entity which has control over payments may choose to pay earlier (lead) than scheduled or delay the payment later (lag) than the scheduled in anticipation of benefiting from the change in exchange rates |
| Spread Betting | * Spread bettors speculate whether the prices will rise or fall based on prices offered by a broker and do not actually buy the underlying asset they bet on * The spread is the difference between the price you buy (bid price) at and the price you sell (sell price) at, and spread betting brokers profits from this spread, allowing bets to be made without commissions * Investors places bets on the bid price when they believe the market will rise and place bets on the ask price when they believe the market with fall, and there is an associated cost per bet such that the profit/loss depends on how many points is captured by the bet and the cost per point * To manage risk, stop loss orders are often placed to close out a losing trade once a market passes a set price level. Standard stop loss orders may not close at the exact price desired due to market volatility, however guaranteed stop loss orders which guarantee the exact price to close often incur additional fees * Strategies include technical analysis, corporate actions such as announcements on dividends, structuring trades and trading an effective strategy over the long run, new-based strategies, and arbitrage opportunities |
| Dual Currency Deposit | * Helps depositor take advantage of relative differences in two currencies such that customers making a deposit in one currency can withdraw the money in a different currency if it is advantageous to do so * Combines a fixed money deposit and a currency option * Higher interests rates can potentially be gained in foreign countries, however, to hedge against the risk of the exchange rate, a dual currency deposit is used such that at maturity, the counterparty will repay the investor in their home currency, but the downside being that the exchange rate actually moves in a favorable direction which means the original investor lost the potential to gain more money * Risk for the investor is the investment may be converted to a difference currency if the counterparty chooses to exercise their option, such that the investor may face a less favorable exchange rate if they want the currency to be converted back |
| Cashless Conversion | * Direct conversion of ownership of an underlying asset without any initial cash to outlay by the holder * Examples include convertible bonds, employee stock options * Cashless exercise is a transaction in which certain securities are exercised without any cash payments |
| Mismatch Risk | * Swap contracts in which it is difficult to find a suitable counterparty for a swap * For investors, this may mean that the investments are not suitable for their needs * For companies, this is when assets generating cash to cover debts do not have the same interest rates, maturity dates, or currencies, creating a mismatch in the situation |

## Options

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| Option Pricing | * Priced on intrinsic value and time value * For call options, the intrinsic value equals the underlying stocks current price minus the call strike price * For put options, the intrinsic value equals the put strike price minus the underlying stocks current price * The time value is the option price minus the intrinsic value price, and time value decay describes how the option decrease in price the closer it gets to its expiration date * Implied volatility, or the markets forecast of a likely movement in a security’s price, is often considered which higher implied volatilities result in options with higher premiums * Black Scholes model/Binominal Option Pricing model often used to price options * Put-call parity is also used for pricing, and explains why the price of the option cannot move too far without the price of the underlying asset changing |
| In The Money / At The Money / Out of The Money (ITM / ATM / OTM) | * A term used when the value of an option has a favorable strike price compared to the market value * An ITM call option means the option holder can buy the security below its current market price * An ITM put option means the option holder can sell the security above its current market price * ITM options have higher premiums than non-ITM options * When the strike price and the price of the underlying security is equal, then the option is at the money (ATM) and can also be out of the money (OTM) if the strike price is not favorable * ITM doesn’t mean the investor will make money, as premiums need to be factored in * OTM is usually cheaper than ITM options, and have higher volatility due to its lower price * Options which have strike prices that are significantly lower than the market price for call options and strikes prices that are significantly higher than the market price for put options are deep in the money |
| Trading Volume | * Number of shares or contracts traded in a given period, and is relative to the average daily volume * Significant change in price and a higher volume may indicate the market is changing direction * Significant change in price and a low volume however may mean there’s not going to be much change |
| Open Interest | * Number of active contracts and indicates the number of contracts not yet liquidated * Open interest can often be analyzed in conjunction with the trading volume * If the volume exceeds the existing open interest on a given day, it suggests that trading in that option was very high on that day * Low open interest also reflects lower liquidity, and more difficulty entering and existing at good prices * High open interest may indicate a larger spread in the bid and ask prices |
| Put vs Short | * Put is less risky than shorting which has unlimited loss potential while for put, it is only the premium |
| Exercising Put Options | * Using a put option to hedge against a price drop if the investor currently owns the underlying asset. If the price of a stock rises, then the investor could simply sell the stock. However, if it is likely to fall, then the investor can use a put option to hedge against the drop. If the stock then drops, then the investor saves the difference between the strike price and the current market price. * When the investor does not own the underlying asset, a short position can be created by first buying a put option, then exercising it if the market drops by buying the stock at the current market price to cover the position and simultaneously selling the put at a higher strike price, profiting the difference. * The option contract can also be sold itself, making profits when the option is more favorable in the current market compared to when it was purchased. |
| Short Call (Sell Option) | * Used when the underlying asset price is expected to drop, and the writer does not own the underlying position of the option hence requires less upfront capital but more risk * The investor first start by selling a call option to another party at a determined strike price and profits the premium immediately. If the price of the underlying asset drops and the call option is exercised by the other party, the investor profits the difference between the money paid by the other party and the cost to buy the stock to provide the other party with * If the contract is not exercised, the investor profits the premium * If the underlying asset however rises in price, then the other party will exercise the option and the investor will lose the difference between the price at which they buy the stock to cover the position and the strike price of the call option. * Differs from a long put in the sense that in a long put, you have to put all the money upfront to purchase the stock, and the investor would be on the other side of the contract option such that they have the option to sell the security at a higher strike price than the current market price. |
| Covered Call (Sell Option) | * Generates income in the form of premiums and is done when the investor has a long position in an asset and then writes, or sells, call options on the asset * A neutral strategy as the investor only expects a minor increase or decrease in the stock price * For a call option whose strike price is above the current market price, if the price ends up being below the strike price, then the option is not exercised and the investor selling the call option will make the premium, however, if the price ends up being above the strike price, then the investor would have to sell the stock and would have been better off not writing a call option and selling the underlying asset itself |
| Short Put (Sell Option) | * When a put option is sold by an investor on an underlying asset, such that the profit is limited to the premium earned, and the investor expects the price to be above the strike * If the price of the underlying asset turns out to be above the strike price, then then other party will not exercise the put since they would lose money as they have to buy the asset at the market price and sell it to the original investor (writer) at the lower strike price * If the price of the underlying asset however falls below the strike price, then the investor will have to buy the asset from the other party at a higher price than the current market price, losing the difference. |
| Protective Put/ Synthetic Call | * Use stock shares and put options to simulate a call, therefore synthetic * Investor holds shares and buys an ATM put to protect downside, so they have a floor on the price even if it drops significantly lower |
| Protective Call/ Synthetic Put | * Use a short stock with a long call to simulate a put, therefore synthetic * Investor shorts shares and buys an ATM call to protect downside, so they cap the buyback price even if it rises significantly higher |
| Vertical Spread | * Strategy involving buying and selling options of the same underlying asset, with the same expiration date but with different strike prices |
| Horizontal Spread | * Strategy involving buying and selling options of the same underlying asset, with the same strike prices but at different expiration dates |
| Put Calendar | * Set up by selling a put contract and buying another put contract with the same strike price but a longer-dated expiration * Used when the short-term outlook is neutral or bullish, but the long term is bearish * Takes advantage of time decay, such that profit is made when the price of the underlying asset is either unchanged or higher until the expiration of the second put * If the price of the underlying asset ends up being above the strike price, then both contracts would expire without being exercised since they are below market value * If the price of the underlying asset is the same as the strike price, the near-term put option sold would expire and the position would turn into a long put for the investor, in which profit will be made if the asset falls more and the maturity of the far-term put contract * If the price of the underlying asset falls below the strike price, then the other party exercises the put option in the near term, and the investor would make the money if the price continues to fall at the far-term maturity day |
| Legs | * Derivatives strategy which combines multiple options and futures contracts * Singled legs include long call, short put, short call, and long put * Two-legs include long straddle, which combines a long put and a long call such that the investor profits from movements in either direction which results in more profit than the two premiums paid. Only one option is exercised. * Three-legs include a collar which combines a long position, long put, and a short put. This bets that the underlying asset price will increase, however, is hedged by the long put which limits the potential loss. This is used for investors which believe there will be an increase in the price but not by too much. * Four-legs include iron condor which bets on the underlying price not moving much through buying a put, selling a put, buying a call, and then selling a call. The options should all have identical expiration dates. Profit is made with the premiums received |
| Straddle | * Strategy involving buying a put and call option with the same strike price and same expiration date, taking advantage of large volatility in the stock * Profit when price of underlying security rises or falls from the strike price by an amount more than the premium paid for both options, then only one of the options is exercised depending on the direction of the price change * Long straddle involves buying a long put and long call with the strikes to be ATM * Short straddle involves selling a call and selling a put, profiting from the premiums received but contains unlimited downside |
| Strangle | * Buying both a call and put option with different strike prices but at the same expiration date, and is used when a large price movement is expected, while the risk is limited to the premiums paid * It is less expensive than a straddle since the options are usually OTM, as opposed in a straddle where they are ATM, however, profit can only be made with larger changes in the price of the underlying asset in comparison to a straddle strategy |
| Strip Options | * Short-term strategy for high volatility in either direction that involves buying 1 ATM call and 2 ATM puts * Differs from a straddle as it is bearish since it doubles the downside potential |
| Strap Options | * Short-term strategy for high volatility in either direction that involves buying 2 ATM calls and 1 ATM put * Differs from a straddle as it is bullish since it doubles the upside potential |
| Collar | * Buy OTM put and sell OTM call to protect against large losses for a long position containing substantial unrealized gains * The put option is priced below market value and is used to limit the maximum loss if the stock drops below the put strike * The call option is priced above the market value and generates income while capping the maximum gain as if the stock rises above the call price, the other party would exercise the call and sell the stock |
| Risk Reversal / Protective Collars | * Strategy that protects a long or short position with the use of protective put and covered call options * Holder of long positions short a risk reversal by writing a call and buying a put, the put option would be priced below market for protection, while the call would offset the premium paid for the put and also caps the profit at the strike of the call * Holder of short positions long a risk reversal by buying a call and writing a put, the call option would be priced above the market for protection, while the put would offset the premium paid for the call and also cap the profit at the strike of the put |
| Zero Cost Collar | * Investor buys an out of the money put option and simultaneously sells an out of the money call option * The price of the sale offsets the price of the purchase * This strategy is used to protect long positions |
| Bull Call Spread | * Benefits from a stocks limited increase in price by using two options consisting of a lower strike price and a upper strike price * Constructed through buying a long call having a strike price above the market value (lower strike) while simultaneously selling a short call at a higher strike price (upper strike) with the same expiration date as the long call * The investor makes money as the premium received from selling the short call will cover the premium for buying the long call * The investor either executes both options or neither depending on the market price * If the underlying asset falls below the strike price of the long call, then the contracts expire worthlessly * If underlying asset rises above the strike price of the short call, then the investor can choose to execute the lower strike to buy the stock lower than the current market value, however, since the upper strike is still active, the investor will have to sell their shares according to the upper strike price, causing profits to be capped at the spread no matter how higher above the upper strike price the underlying asset rises * Profits are limited to the spread of the two contracts |
| Bull Put Spread | * Used when the investor expects a moderate rise in the price of the underlying asset * Constructed by buying a put options with a lower strike price and selling a put option with a higher strike price, both with the same expiration date * Profit is first made from the buy/sell of the puts as the sale of the higher strike put option is more than the purchase of the lower strike put * If the price of the underlying asset rises to the upper strike price or above, then both options are not exercised since the put will be below the market value * If the price of the underlying asset ends up being between the two strikes, then the other party will exercise their put option with the higher strike while the investor’s put expires, ending in a potential loss depending on the profit from the premium * If the price of the underlying asset ends up being below the two strikes, then both options are exercised but the investor losses much more as a result of the higher strike price of the put option exercised by the other party, resulting in the maximum loss |
| Bull Vertical Spread | * Used when the market is rising and limits the downside, such that it involves the simultaneous buy (lower strike) and sell (upper strike) options with different strikes but the same expiration date * Call vertical spread involves buying ITM call and selling OTM calls, and a put vertical spread involves buying OTM put and selling OTM put further from the price * If the stock price is less than the lower strike, then both options expire worthlessly and the investors loses from the net premiums, if the stock price is between the lower and upper strike, then the investor profits from selling the lower strike and the upper strike expires, if the stock price is above the upper strike, then both options are exercised and the investor profits the difference |
| Bear Call Spread/Short Call Spread | * Used when the investor expects a decline in the price of the underlying asset * Constructed by buying a call option and also selling a call option with the same expiration date but with a lower strike price and a higher premium than the first * Reduces risk of shorting as the maximum loss is the difference between the two strike * If the price of the underlying asset rises above the strike price for the call option, then the loss is the difference between the two options as they would make money on the option bought but lose more money on the option sold * If the price of the underlying asset drops below the strike price of the second option, then neither option can be exercised and the investor makes the money from the difference in premiums of the two |
| Bear Put Spread | * Used when the investor expects a moderate downside and constructed by buying a put option and selling a put option with a lower strike price at the same expiration date * Less risk than shorting as the risk is limited to the net cost of the bear put spread, and the sale of the option offsets the cost of the first option * If the underlying asset’s price ends up being above the strike of the first put, then you would not exercise the first option but the other party would not exercise their option as both would result in losses since both strike prices are lower than the market price * If the underlying asset’s price ends up being between the strike of the first put and the strike of the second put, you would exercise the first option as the strike would be above the market price, but the other party would not exercise their option since they would be selling below market price * If the underlying asset’s price ends up being below the strike of both options, then both options are exercised and you would make more profit than you would spend for the second option as your strike price is higher |
| Seagull | * Three-legged strategy for high volatility and involves either two calls and a put, or two puts and a call * Bullish seagull contains a bull call spread with the sale of a OTM put * Bearish seagull involves a bear put spread and a sale of a OTM call * Are an option spread that involves buying options at different strikes and expirations |
| Butterfly Spread | * Combines a bull spread and bear spread to have 4 options with the same expiration date but three different strike prices of a higher ITM price, medium ATM price, and lower price the same distance from the ATM price as the ITM price. Usually costs more on commissions due to the trade of multiple options * Long call butterfly spread constructed with buying one ITM call at a low strike, selling two ATM calls, and buying one OTM call with a higher strike. The trade has a negative credit, the max profit is achieved if the stock price is equal to the ATM strikes, and the max loss is the net cost of the premiums * Short call butterfly spread constructed with selling one ITM call at a low strike, buying two ATM calls, and selling an OTM call with a higher strike. The trade has a positive credit, the max profit is the cost of premiums, and the max loss occurs when the stock price is between the higher and lower strikes. * Long put butterfly spread constructed with buying one OTM put with a lower strike, selling two ATM puts, and buying a put with a higher strike. The trade has a negative credit, the max profit is achieved if the stock price is equal to the ATM strikes, and the max loss is the premiums paid. * Short put butterfly spread constructed with selling one OTM put with a lower strike, buying two ATM puts, and selling a put with a higher strike. The trade has positive credit, the max profit is the cost of the premiums, and the max loss occurs when the stock price is between the higher and lower strikes. |
| Modified Butterfly Spread | * Differ from butterfly spreads in several ways, such that the options are traded in a 1:3:2 ratio and not a 1:2:1 ratio, creating a wider range for profit potential and has two break even prices instead of only one in the butterfly spread * Has a higher loss potential but usually the underlying asset would have to move a great distance giving investors room to react before the worst-case scenario |
| Iron Butterfly | * Constructed through a bear call spread and a bull put spread both at an identical expiration date * Buying 1 OTM put to protect downside, selling 1 ATM put to cover the premium cost, selling 1 ATM call to cover the premium cost, and buying 1 OTM call to protect against upside * Differs from regular butterfly spread as it profits from the premium * Highest profit obtained when the price is close to the middle strike price * Iron condor has the same strategy but has a much wider profit zone than the butterfly, however, has lower potential for profits |
| Iron Butterfly Spread | * Constructed with buying an OTM put with a lower strike, selling an ATM put, selling an ATM call, and buying an OTM call with a higher strike price. More suited for lower volatility scenarios. The trade has a positive credit, the max profit is the premiums, and the max loss occurs when the stock price is between the higher and lower strikes. * Reversed iron butterfly spread constructed by selling an OTM put with a lower strike, buying an ATM put, buying an ATM call, and selling an OTM call at a higher strike. More suited for higher volatility scenarios. The trade has negative credit, the max profit is achieved when the stock price is above the higher strike or below the lower strike, and the max loss is the premiums paid. |
| Greeks | * Delta, gamma, vega, theta are called Greeks, and measure the sensitivity of an options price * Delta measures the sensitivity of an options theoretical value to a change in the price of the underlying asset. Delta for call options ranges from 0 to 1 and for put options ranges from -1 to 0 * Gamma measures the rate of change in the delta for each one-point increase in the underlying asset, it is the highest for ATM and lowest for the furthest OTM * Theta measures the time decay of an option, the amount of dollars the option loses each day * Vega measures the sensitivity of the price of an option to changes in volatility, such that long options have positive Vega while short options have negative Vega |
| Delta Hedging | * Strategy to reduce the risk associated with volatility by offsetting long and short positions * Neutralizes or reduces the extent of the move in an options price relative to the asset’s price * Require consistent rebalancing of the hedge and is usually done by investment banks * Position delta neutral trade profits from declines of high volatility (implied volatility) without movements in the underlying asset * Gamma hedge aims to reduce risk created in an options delta |

## Additional Option Types

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| ETF Options | * ETF is basically a mutual fund that trades like an individual stock * Investors are responsible for the underlying shares when trading ETF options * Are American style options |
| Index Options | * A market index that is settled in cash as the underlying assets are not actually traded * Are European style options |
| Put-Call Ratio | * Measures the overall market performance, where the market is bearish when there is more put than calls and it is bullish hen there is more calls than puts |
| Call Ratio Backspread | * Used when it is believed that the underlying asset will increase in price by a large amount * Constructed by selling a ITM/OTM call and using the collected premium to buy more calls with the same expiration but with a higher strike * Put ratio backspread is a similar strategy involving short puts and long puts, where profit is made when the underlying asset price drops by a significant amount |
| AC-DC Option | * Derivative which on a future date, can become a call or put and the buyers choice * Often ideal for high volatility stocks as you can choose a call or put to be more profitable * Not traded on major exchanges so carry higher counterparty default risk and are more expensive than call or put options due to its flexibility |
| Bermuda Option | * Exotic option that can only be exercised on predetermined dates, allowing investors to buy/sell underlying assets at a preset prices, and the premiums are cheaper than American options * Bermuda swaption gives the holder the option to enter an interest rate swap at a predetermined date |
| Knock-In Option | * Barrier option which is only triggered after the underlying asset’s price reaches a certain point * Down-and-in options is triggered when the option price falls below a certain level * Up-and-in options is triggered when the option price rises to a certain level |
| Balloon Option | * Contract whose price significantly increases after the underlying asset’s price passes a certain threshold * This increases an investors leverage on an underlying asset and is advantageous for volatile assets |
| Fiduciary Call | * Similar to a call, but the capital for the strike of the contract is invested in a risk-free interest bearing account, and are mostly European options * Similar to a covered call such that they both guarantee that there is enough assets to exercise the contract, however, differs from a covered call in that the investor does have to own the underlying asset * Similar to a protective put such that the call is risk free, but differs in that the investor does not have to own the underlying asset |

## Swaps

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| Stock Swap | * The trade of shares from one company for shares of another * Usually happens when companies merge or during acquisition * May also refer to employee stock options which are exercised |
| Basis Rate Swap | * Swap agreement in which two parties swap variable interest rates (floating rates) |
| Bond Swap | * Selling a debt instrument and using the processes to purchase another debt instrument, and usually improves the investors financial position by giving a higher return, diversify, or decrease tax liability |
| Cross-Currency Swap | * OTC derivative which forms an agreement for the exchange of interest payments and principal in denominated in two different currencies * Interest payments and principal in one currency are swapped for principal and interest payments in a different currency * Not required to be shown on a balance sheet since it is only the swap of money * For exchange in principal, the exchanged money at the start of the agreement are usually exchanged back at the end to hedge risk * For exchange in interest, both parties may pay fixed rates, both pay floating rates, or one party paying floating rate and one paying fixed rates. This is such that both parties receive the loan they want which is better than if they tried to get a loan themselves in a foreign country * Currency swaps can be used to purchase less expensive debt overseas, hedge against foreign exchange rate fluctuations, and defend against a financial crisis |
| Credit Default Swap | * OTC derivatives used to hedge against credit exposure (credit risk) of the buyer defaulting on the loan, such that the lender offsets their credit risk with that of another investor * Credit exposure measures how exposed to the potential loss the lender has when lending a certain amount of money, mitigated with the use of credit limits or assessing credit worthiness * These swaps transfer credit exposure on fixed income products * It is in essence an insurance against non-payments and can be done by shifting some or all the risk onto an insurance company (or another lender) in exchange for a fee * The higher the risk of default, the more the credit default will cost |
| Loan Credit Default Swap | * Similar to credit default swaps however is different in the recovery rate such that loan credit default swaps are recovered faster in the event of liquidation, therefore, they trade at tighter spreads |
| Asset-Backed Credit Default Swap | * A credit default swap in which the reference is the asset-backed security rather than a credit instrument * Buyer receives protection for defaults on asset-backed securities rather than protection against the default of a particular issuer * These securities are backed by a pool of loans or receivables |

# Forex

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| Fiat Money | * Government issued currency that is not backed by a physical commodity * Allows governments greater control over the economy as they control how much is printed, but one danger of over-printing is hyperinflation |
| Foreign Exchange Market | * OTC marketplace where various national currencies are traded, and is the largest, and most liquid market in the world, and is managed through a network of banks, brokers, institutions and traders * Most transactions are simply cash settled as there is no transactions between physical currencies * Since forex markets are unregulated, there are fewer regulations as in the stock market, such as unlimited short-selling, varying commission amounts depending on the broker, and provides leverage up to 50:1 in US and even higher in other countries |
| Spot Exchange Rate | * The market rate for changing one currency for another, and is set by the forex market * WM/Reuters benchmark rates are spot and forward exchange rates used as standard rates for portfolio valuation and performance measurement |
| Foreign Exchange Risk | * Transaction risk: when buying products from a foreign market and the currency appreciates versus the currency used for buying, resulting in a larger payment decreasing profits * Translation risk: when a parent company owning subsidiary in another country could face losses when their subsidiary’s financial statements are converted back to the parent company’s currency * Economic risk: then a company’s market value is impacted by exposure to currency fluctuations |
| Transfer Risk | * Threat that a local currency can’t be converted into another nation’s currency due to changes in nominal value of specific restrictions such as capital controls |
| Forex Hedge | * A forex hedge is a transaction implemented to protest an existing position from an unwanted move in exchange rates, protecting profits and uses currency options |
| Inflation Hedge | * Investment that protects the decreased purchasing power of currency as a result of inflation, by investing in assets that are expected to maintain or increase its value |
| Currency Forward | * A contract that locks in the exchange rate between two markets, and used for hedging risk, are OTC, and don’t require upfront payments such as with currency futures or currency options |
| Currency Swap | * Involves the exchange of interest, and sometimes of principal, in one currency for another, such that companies get more favorable loan rates overseas |
| Natural Hedge | * Mitigate risks by investing in assets whose performance is negatively correlated, such that a company generating revenue in another country can use a natural hedge against currency risk |
| Exposure Netting | * A method of hedging currency risk by offsetting exposure in one currency with exposure in the same or another currency, reducing a portfolios vulnerability to exchange rate risks |
| Countertrade | * A form of trade in which goods or services are exchanged for other goods or services rather that hard currency, and is more common in developing countries with limited liquid funds * Barter: the direct exchange of goods and services and no cash settlement * Counter purchase: the exporter sells goods or services to an importer and agrees to also purchase other goods from the importer within a specified period * Offset: When a product is manufactured in the buying country and allows part of the assembly to be carried out by manufacturers in another country * However, these often involve complex negotiations, higher costs and logistical issues |
| Interest Rate Differential | * Weights the difference in interest rates between two similar interest-bearing assets, and is most often used for fixed income and forex markets. Basically it measures the different in interest rates between two different financial instruments, and is a key component in calculating carry trades |
| Interest Rate Parity | * Covered interest rate parity: forward exchange rates should incorporate the different in interest rates between two countries such that an arbitrage opportunity would exist. There is no interest rate advantage if investors borrow in a low-interest rate currency to invest in a high-interest rate currency. Overall, the cost of hedging exchange risk negates the higher returns that would be gained by investing in a currency offering a higher yield * Uncovered interest rate parity: the different in interest rates between two countries equals the expected change in exchange rates between those two countries, such that if the interest rate differential is 3%, the currency with the higher yield would be expected to depreciate 3% against the lower yield currency. However, since currencies with higher yield have tended to appreciate, this is mostly explained by the use of carry trades (below) |
| Net Interest Rate Differential | * The difference in interest rates of two distinct economic regions, where the trader attempts to profit from the difference between interest rates on different currencies |
| Depositary Receipt | * A negotiable certificate issued by a banker representing shares in a foreign company trade on a local stock exchange, giving investors the opportunity to hold shares in a foreign country and is an alternative to trading on an international market |
| Nominal Effective Exchange Rate | * An unadjusted weighted average rate at which one country’s currency exchanges for a basket of multiple foreign currencies, and indicates a country’s international competitiveness in the forex market compared to other foreign currencies |
| Foreign Currency Fixed Deposit | * A fixed investment instrument in which specific sum of money is deposited into a foreign bank to earn interest, and has virtually no risk. * However, the investor does have to exchange the currency back once the term is over |
| Principal Exchange Rate Linked Security | * Type of debt security that pays interest and has a yield that is linked to foreign exchange rates * Many companies will purchase these instruments as means of hedging against foreign exchange risk |
| Currency Peg | * A country’s exchange rate policy whereby it attaches the central banks rate of exchange to another country, which is also referred as a fixed exchange rate * A pegged currency remains low artificially and creates anti-competitive trading environment compared to a floating exchange rate, advantaging large importers |
| Adjustable Peg | * A currency peg which can be readjusted to account for changing market conditions |
| Crawling Peg | * A peg where the exchange rates are fixed but is allowed to fluctuate within a band of rates |
| Digital Currency Exchanger | * A market maker who exchanges legal tender for electronic currency, or exchanges electronic currency for another, and include cryptocurrencies such as Bitcoin, Litecoin and Ethereum. |
| Uncovered Interest Rate Parity | * Theory that states the difference in interest rates between two countries will equal the relative change in currency foreign exchange rates in the same period. * When this relationship does not hold, there is an opportunity to make risk-free profit using currency arbitrage or forex arbitrage |
| Uncovered Interest Arbitrage | * Form of arbitrage that involves switching from domestic currency that carries a lower interest rate to a foreign currency that offers a higher rate of interest on deposits, with an implicit foreign exchange risk * The term uncovered means that the foreign exchange risk is not covered through a futures contract |
| Covered Arbitrage | * Form of arbitrage that involves taking advantage of the interest rate differentials between the spot and forward contract markets in order to hedge interest rate risk, but may offer low returns |
| Competitive Devaluation | * A specific scenario in which one nation matches an abrupt national currency devaluation/depreciation with another currency devaluation * Used to improve a nations export competitiveness by lowering cost of goods |
| Circus Swap | * Transaction that’s a combination of an interest rate swap and currency swap, in which a fixed-rate loan in one currency is swapped for a floating-rate loan in another currency * It is used to hedge both currency risk and interest rate risk |
| Non- Deliverable Swap | * A currency swap between major and minor currencies that is restricted or not convertible * There is no actual delivery of the two currencies involved in the swap |
| Hard and Soft Currency | * Hard currency is money issued by a country that is economically and politically stable, resulting the money being widely accepted around the world such as USD, EUR, JPY, GBP, CHF, CAD and AUD * Soft currency is money issued by a country that is not politically or economically stable, resulting in the currency being avoided by dealers resulting in a lack of liquidity, also known as weak currency |
| Rollover Rate | * Net interest return on a currency position help overnight by a trader, where positive rollover rates is a gain and negative rate is a loss * A rollover interest fee is calculated based on the difference between the two interest rates of the traded currencies |
| U.S.D Index (USDX) | * Index used to measure the value of the US dollar against a basket of six world currencies, including euro, Swiss franc, Japanese yen, Canadian dollar, British pound and Swedish krona |
| Triangular Arbitrage | * Form of arbitrage where profit is made through taking advantage of exchange rate discrepancies through algorithmic trades by executing very fast and large trades |
| Sterilized Intervention | * Purchase or sale of foreign currency by a central bank to influence the exchange value of the domestic currency without changing the monetary base |
| Currency Basket | * Comprised of several currencies with different weightings, such that it is used to set market value of another currency and is often used to smooth risk |
| Funding Currency | * Used in currency carry trades to exchange against the asset currency, and often has low interest rate to fund the purchase of a high-yielding asset currency |
| Currency Risk Sharing | * A form of hedging against currency risk in which two parties agree to share the risk from exchange-rate fluctuations and often involves price-adjustment clause where the base price of the transaction is adjusted in the exchange rate fluctuates beyond a pre-specified zone. |
| Inconvertible Currency | * Money in which exchanges into another country’s currency is not allowed, also called blocked currency * Non-deliverable forwards are contracts used to work around this issue * Reasons for making this inconvertible involves foreign exchange regulations, government restrictions, physical barriers, political issues or extreme volatility * These currencies are mainly used for domestic transactions and does not trade on the forex market |
| Currency Band | * Range of acceptable trading prices with a upper and lower limit, such that the price can float and the exchange rate is determined by normal supply and demand forces |
| Private Currency | * Currencies which are issued by private organizations to act as an alternative to a fiat money, and are often back by physical commodities, apart from cryptocurrencies * Many of these currencies don’t survive for very long due to liquidity issues |
| Basket of Shorts | * Strategy involves selling a currency against a group of currencies instead of a single currency, and reduces risk through diversification |
| Redenomination | * When the value of a currency is revaluated due to substantial change in the buying power of currency, such as in the case of hyperinflation, where old notes are replaced by new notes as older notes become too little use as products are becoming increasingly expensive |

## Forex Practical Considerations

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| Pip | * A standardized unit and is the smallest amount by which a currency quote can change * It is usually a very small unit decimal and depends on the asset being measured |
| Lots | * Standard lot represents 100,000 units of a currency * Mini-lot represents 10,000 units of a currency * Micro-lot represents 1,000 units of a currency * Due to the competitiveness of online brokers, lots are no longer really used as retail traders may purchase currencies much smaller than micro-lots |
| Effect of Leverage On Pip Value | * One-pip change has an effect on the dollar amount, and the amount of leverage affect the pip * For example, with a lot of $100k and a pip value of $10, if your account contains 10k and you have a leverage of 15:1. Then you will have $1.5mil, causing each pip to be $150 with respect to your total margin since the pip value is amplified by 15 times, meaning that a movement of 67 pips (~10k) will blow up the entire account |
| Interest Rates For Forex | * The higher the interest rate, the greater the rate of return as more interest is accrued on the currency invested, and the interest rate depends on the central banks and can be researched through analyzing news and actions of central banks |
| Best Times To Trade Forex | * Although forex markets are open 24/7, the best times to trade is when the market is most active, such as well more than one of the four most active markets are open simultaneously (New York, Tokyo, Sydney, London) as there will be greater fluctuations in the currency pair prices * Some investors would not recommend trading when a currency’s market is closed, as at market close, a number of trading positions are being closed, which can cause the prices to move erratically * Closing positions on Friday will eliminate the risk of a gap due to afterhours trading over the weekends |
| Carry Trade | * Involves buying high yielding currency (high interest rate) and funding it with a low yielding currency (low interest), such that you profit from the higher interest rate currency, and often uses leverage * Also perform well in low volatility as traders are more willing to take on risk * Risks could include exchange rate risks where the high yielding currency decreases in value, thus, resulting in less of your original currency when you exchange it back at the end * A basket of currencies are usually used to diversify risk and market exposure * A carry grid is a forex strategy that profits from a grid of carry trade positions, and this attempts to capture the interest differential, and involve multiple carry trades |
| Using Currency Correlations | * To manage a portfolio’s exposure to market volatility, correlation must be used since currencies are priced in pairs and no single currency is completely independent from another * If you enter into positions in two currencies involving negatively correlated currencies, your portfolio will have essentially no return since increases in one will mean decreases in another * To lower exposure risk, one might buy two currency pairs with an imperfect positive correlation such that holding positions in both pairs reduces the overall exposure as there are smaller price movements |

# Blockchain

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| Basics | * Blockchain are basically composed of chains of blocks, with each block storing information, allowing digital information to be recorded and distributed, but not edited * Information include transaction info (date, time, dollar amount), information about participants (digital signatures), and info that distinguishes each block from another (use hashing to create unique codes) * To add blocks to a Blockchain, four things must happen: transaction, verification, storage, and hash * Firstly, a transaction must occur, such as a purchase. Then the transaction must be verified with other public records in a network of computers for confirmation. The transaction is then stored in a block such as the information about the dollar amount and digital signature as mentioned above. Lastly, the block is given a hash which is a unique identifying code along with the hash of the most recent block added to the blockchain to add the new block to the chain. * Anyone can view the contents of the blockchain, and users can connect their computers to the blockchain network such that it is updated automatically when a new block is added, such that there are many copies of the same blockchain network on computers around the world which makes this information very difficult to manipulate since you would have to change the information on every copy * However, you do not have access to identifying information about the users making transactions * Blocks are stored linearly and chronologically, and after a block is added, it is very difficult to go back and alter the prior blocks since each block contains its own hash, along with the hash of the block before it, such that if you change the hash of one block, you would need to change the hash of the block after, and the block after that, and the block after that, and so on * To address issues with trust, blockchain networks have implemented tests or “consensus mechanisms” to validate the blocks being added, one of which is a proof of work which computers must prove they have solved a complex mathematical problem to be eligible to add blocks to chain (mining) |
| Bitcoin | * Bitcoin uses the blockchain technology such that when a bitcoin is transferred in, for example, a purchase, the network of computers race to verify the transaction by computing the hash, and once that is done, the block is added onto the blockchain * To conduct transactions on the bitcoin network, participants must use a wallet with two unique cryptographic keys which are private and public. The public key is the location where transactions are deposited to and withdrawn from and the key that appears on the blockchain ledge as the users signature, and the private key (an encrypted version of the public key which is almost impossible to derive from the public key itself) is used to withdraw the actual cryptocurrency for use |
| Prevent Double Spending | * When you try to send the same bitcoin to two different addresses, the first transaction will be approached via a confirmation mechanism while the second transaction will be recognized as invalid and would not be verified. If both transactions go through at the same time, the transaction with the highest number of confirmations will be included in the blockchain, while the other one is discarded * Vulnerabilities to the system are that if a hacker is able to control at least 51% of the network, they can commit double spending since he will have control of the majority in the network for verification |
| Distributed/  Public Ledger | * A ledger is a data storage container used as a record-keeping system * It allows simultaneous access validation and record updating across a network spread across multiple entities or locations, such as in a decentralized system * It is basically a fancier term for blockchain * Since hundreds and thousands of participants are connected to the cryptocurrency network, everyone knows the true state of the network, preventing any misuses even though it is public * Disadvantage is that public ledges record every transaction, risking the anonymity and privacy of its users as well being subject to hacking and stealing |
| Consensus Mechanism | * Fault-tolerant mechanism that is used in blockchain networks to agree on a single data value or state in the network for correct record keeping in cryptocurrencies * Proof of work is a common consensus algorithm and requires the participant node to prove that the work done and submitted qualitied them to receive the right to add new blocks to the blockchain * Proof of stake is another algorithm which involves allocation of responsibility in maintaining the public ledger to a participant node in proportion to the number of virtual currencies held by it * Proof of activity combines the above two methods and is used to ensure that all transactions occurring on the blockchain are genuine and all users arrive at consensus on the previse status of the public ledger |
| Public, Private, Permissioned Blockchain | * Public blockchain is decentralized and completely open to anyone and is free to join and participate, however, may have weaker security which makes it subject to hacking and stealing * Private blockchain only allows selected entry of verified participants, however is not decentralized * Permissioned blockchain allows participants with permission to join the network |
| Hard/Soft Fork | * Hard fork is a radical change to the blockchain protocol that makes previously invalid blocks valid * It requires all nodes or users to upgrade to the latest version of the protocol * It essentially creates a fork in the blockchain such that one path contains the new protocol and another path contains the old protocol, often which people in the old protocol decide to move to the new one * Soft forks is the same as a hard fork except there will only be one chain at the end instead of two |
| Segregated Witness (SegWit) | * Process by which block size limit on a blockchain is increased by removing signature data from Bitcoin transactions, such that when certain parts of a transaction are removed, it frees up space to add more blocks to the chain |
| Nonce | * An abbreviation for “number only used once” refers to the first number a blockchain miner needs to discover before solving for a block in the blockchain * It is very difficult to find and is a way to filter out less talented cryptocurrency miners |
| Block Header | * Used to identify a particular block on an entire blockchain and is hashed repeatedly by altering the nonce value to create a proof-of-work for mining rewards |
| Block Height | * Defined as the number of blocks preceding a block in the blockchain * The total height of the blockchain is taken to be the height of the most recent and highest block in the chain, and the first block known as the genesis block has a height of zero |
| Smart Contracts | * Self-executing contracts with the terms between the buyer and seller written into lines of code and distributed across a blockchain network, and make transactions traceable, transparent, and irreversible |
| Stellar Blockchain | * A decentralized payment technology that distinguishes itself between bitcoin with the consensus protocol which is a faster algorithm that processes transactions very quickly |
| Tron | * Blockchain-based decentralized platform that aims to build free global digital content entertainment system with distributed storage technology * Tron eliminates the middleman between the creates and content consumers of the blockchain * Tronix (TRX) is the cryptocurrency used on the Tron network to pay for the contents |
| 0x Protocol | * Decentralized digital asset exchange that runs on the Ethereum blockchain, and is essentially a standard messaging format and a suite of smart contracts * Similar to the SWIFT messaging system for banking, 0x operates for decentralized exchanges |

## Cryptocurrency

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| Basics | * Cryptocurrency is a digital or virtual currency that uses cryptography for security, is difficult counterfeit, and trading on decentralized systems based on block-chain technology * It is organic in nature, and is not issued by any central authority such as a government * The first cryptocurrency is bitcoin founded in 2009 as still accounts for over 50% of the market value of the entire cryptocurrency market, and several other popular coins have since been created such as Litecoin, Namecoin, Peercoin, Ethereum, EOS, and Cardano * Cryptocurrencies makes it easier to transfer funds directly between two parties in a transaction, using public and private keys, through a virtual wallet. The wallet has the public key and the private key is used to sign transactions, with the entire transfer process having minimal processing and fees * Bitcoin involves using **blockchain** to store online ledges of all transactions that have even been conducted using bitcoins, and this data structure for the ledger is difficult to hack and each new block generated must be verified by the ledgers of each user, making transactions impossible to forge * Since these currencies do not have a central repository and is not controlled by a central authority, a digital balance can be wiped out if there is backup copy or if someone simple loses their private keys, the wallets are also subject to hacking and there is no real way to retrieve lost funds due to their nature * Since there is a high level of anonymity, it is subject to criminal activity or simply high personal security |
| Cryptographic Hash | * A hash function is used in computing systems to check integrity of messages and authenticating information, and a cryptographic hash has added security features on top of traditional hash functions to make it difficult to detect the contents of a message or information about senders and receivers * The primary use of hash is to map data of arbitrary size onto data of a fixed size * Cryptographic hash is mostly used to pass transaction information anonymously |
| Target Hash | * Cryptocurrencies rely on blockchains containing transaction histories which are “hashed” or encoded into numbers and letters, and in a blockchain, each block contains the hash of the previous block header * Decoding and encoding the blockchain is also known as mining, which involves running hashing algorithms to process the most recent block * Since the cryptocurrency network sets a target value for the hash on the end of its blocks header, it is known as the target hash and this is what miners try to determine * If the miner does not find the target hash for the current block, they need to wait for the next block |
| Centralized Cryptocurrency Exchanges | * Online platforms used to buy and sell cryptocurrencies and are the most common method for trading * The reason why it is centralized is that it uses a third party to conduct transactions, a safe guard to protect investors who forget there keys, and also adds an additional level of security for transactions * Centralized exchanges can also be used to conduct trades between fiat (currency not backed by a physical commodity, such as cash), as well as trades between different cryptocurrencies * Examples include *Coinbase*, *Binance*, *Kraken*, *Gemini* |
| Choosing A Cryptocurrency Exchange | * Only use an exchange if there is a physical address associated with the exchange * Always research into the exchanges that you are considering, and dig for negative stories * Trade through exchanges which require a long setup process, as it often indicates high security * Look for exchanges with lower commissions for trading or exchanging money with cryptocurrency * Fees can include the maker who adds to the order book liquidity through limit orders, and taker who subtract liquid from an order book through market orders. However, exchanges mainly calculate fees based on either a flat fee per trade or as a percentage of a 30-day trading volume for an account. There can also be deposit fees and withdrawal fees when you are moving real money in or out of the exchange * It also has to be noted that most well-known cryptocurrency exchanges do not offer access to all the different coins, rather, only a select few that are the most popular, and trading less popular altcoins may have to be done on smaller exchanges which are subject to more risk |
| Altcoin | * Alternative cryptocurrencies launched after Bitcoin, and are built upon the basic framework provided by bitcoin, with Litecoin being currently the closest competitor to bitcoin with Ethereum having the second largest market cap second to bitcoin * There are currently thousands of altcoins available over the internet |
| Bitcoin Mining | * In addition to providing valuable currency to miners, mining is also the only way to release new cryptocurrency into circulation, with bitcoin being capped at 21 million coins * Currently, mining each block earns 12.5 BTC, and will halve in 2020 * Bitcoin mining is simply the process of verifying transactions, and once you verify roughly 1 MB of transactions, as well as being the first one to arrive at the right answer to a numerical problem, you will have earned the bitcoins. Solving the numerical problem is known as proof of work * To solve the numerical problem, miners simply try to guess a 64-digit hexadecimal number that is less than or equal to the target hash, and GPUs are often used to compute these guesses * All target hashes begin with 0s, from at least eight 0s to 63 0s * Mining pools are groups of miners who pool together resources to guess the target hashes, and split the profit once a block is mined |
| Purchasing Cryptocurrency | * Firstly, set up a digital wallet containing the public key and the private keys. The public key is the location where transactions are deposited and withdrawn from and is also appears on the blockchain ledge as a user’s digital signature. The private key is the password required to buy/sell bitcoin in the wallet * Software wallets are mobile applications that connect with your bank account, but you are putting your bitcoins in the hands of a third-party company. Coinbase is the most popular software wallet available as it stores 98% of its currencies offline. Blockchain.info is another popular wallet. * Hardware wallets are kept offline and stores all the information on a physical device such as a USB * The bitcoin exchange wallet and your personal bitcoin wallet need not be the same, as the exchange wallet simply allows you to trade your cryptocurrencies on an exchange. It is recommended that you store your cryptocurrencies in a more secure wallet and only transfer them to exchanges when trading * Since wallets are only accessible with a private key, losing private key is the equivalent of losing funds * It is a good idea to store your coins in different wallets entirely, to avoid forgetting private keys or to minimize losses in the event of a wallet hack. Smaller wallets also mean smaller transactions which draw less attention when trading * You will need a secure internet connection and trading on public Wi-Fi is not recommended * Bitcoin wallets are connected directly to your credit card or bank account for buying using fiat money * To actually obtain bitcoins, you would go to an exchange which trades cryptocurrencies * Bitcoin and other cryptocurrencies can be divided in to smaller pieces up to eight decimal points |
| Cold Storage/Cold Wallet | * With the increase in usage of cryptocurrencies, hacking and fraud has increased significantly * Since regulatory frameworks are lagging to protect holders of cryptocurrency, owners have little recourse if their wallets get robbed * Cryptocurrencies can be stolen if the digital wallet is not secured as hackers can steal the key and gain access to the currency * Cold storage is the best way to secure a digital wallet, and involves storing bitcoins offline away from internet access and stores it away from the system for daily spending * There are many methods of cold storage including paper wallet (QR code), USB drive, sound wallets, or a hardware wallet (micro-storage device backup and a QR code scan camera) |
| Bitcoin Scams | * Hardware wallet theft: pre-settings of the a hard wallet are subject to easy access to scammers, therefore it is preferable to buy hard wallets from trusted sources * Exchange scams: where the exchanges themselves are scams by offering investors very low prices to buy cryptocurrencies, and can be avoided through research and making sure the website is secure * Fake ICOs: fake initial coin offerings through compromised wallets to steal investors’ money * Cloud mining schemes: where companies offer scam mining services to mine coins for a set rate, but the investments will return smaller amounts each time as the mining becomes more difficult * Multi-level marketing: offering investors massive returns through pyramid schemes |
| Bitcoin Misery Index | * Measures the momentum of bitcoin based on its price and volatility * It is a contrarian index, where the closer the index is to zero, the greater the misery and buying signal |
| 24-Hour Bitcoin Trading | * Historical data shows the currency has the largest price swings during weekends * However, due to the lower volume of trading in weekends, it means there are often large trades being done by bitcoin whales which drastically impacts the price moves of a cryptocurrency * Since many cryptocurrency exchanges charge a large fee for credit card payments, bank transfers are more preferred as many active traders send their cash through on Fridays, leading to limited liquidity over the weekends resulting in larger spreads |
| Cryptocurrency Spoofing | * When criminals artificially influences the price of a cryptocurrency through the creation of fake orders * This is done by creating fraudulent buy and sell orders such that they are not intended to be filled, but tricks over investors into either buying or selling the cryptocurrency |
| Security Token | * A portable device that authenticates a person’s identity electronically by storing personal information * The owner plugs the token into a system for access and can be used to store cryptographic keys |