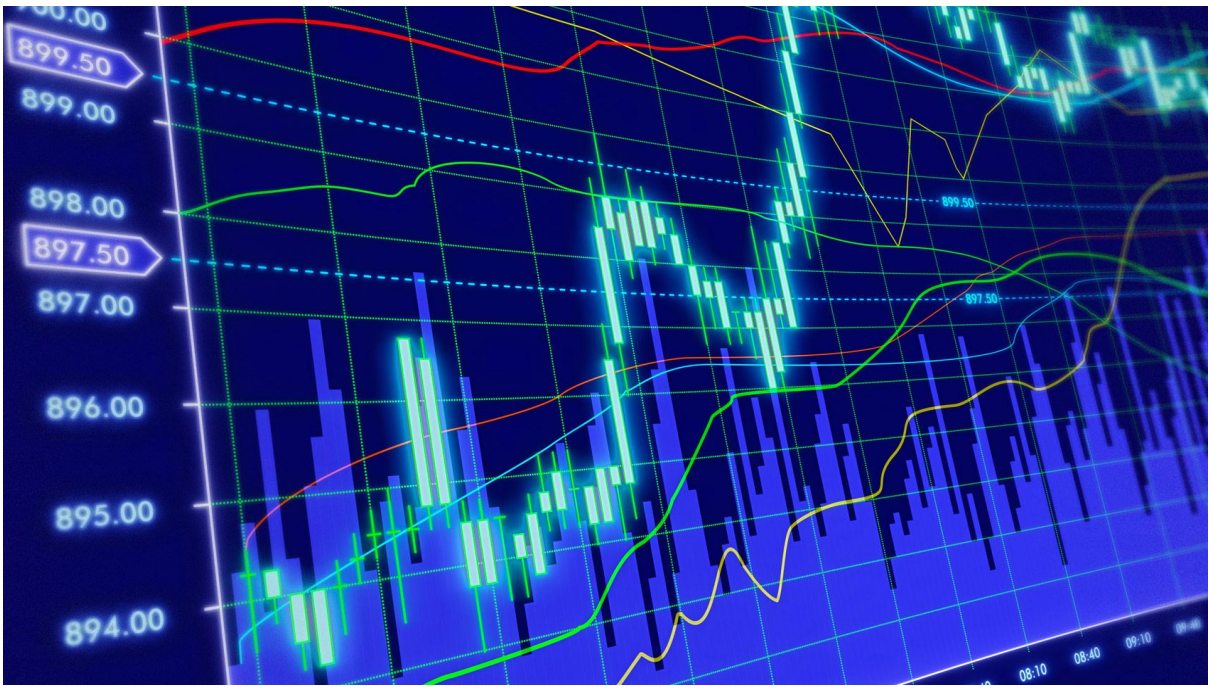


Stock Trading

REVISION HISTORY

Version	Date	Description	Author
1.0	18-03-2021	Initial document creation	Nikhil

CONTENT TABLE

1. What is a Stock?.

- A type of security that signifies ownership in a corporation.
- A claim on part of the corporation’s assets and earnings.
- Synonyms Shares, Equity.

1.1. Private company

- A company owned by a relatively small number of shareholders.
- Does not offer company's shares to the public on the stock market.
- The company's stock is only traded or exchanged privately.

1.2. Public company

- A company whose ownership is dispersed among the general public.
- Shares are freely traded on the stock market.

2. Market

A place where people gather for the purchase and sale of products. It’s a place where commercial dealings are conducted.

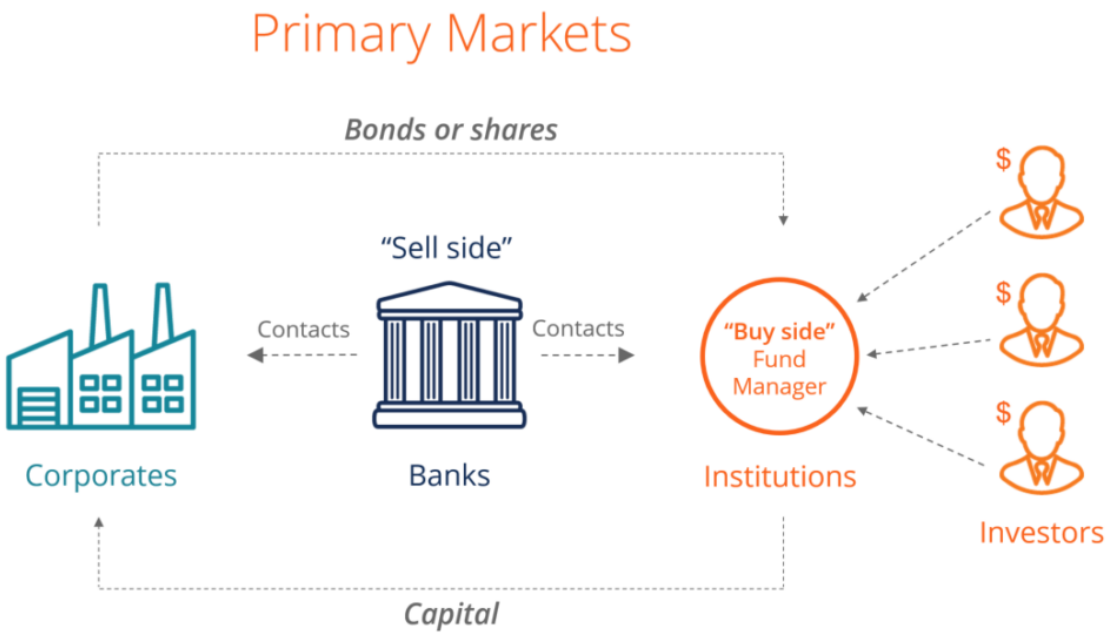
2.1. Auction Market

Is a market in which the buyers compete on buying prices, and sellers compete on selling prices simultaneously.

2.2. Stock Market

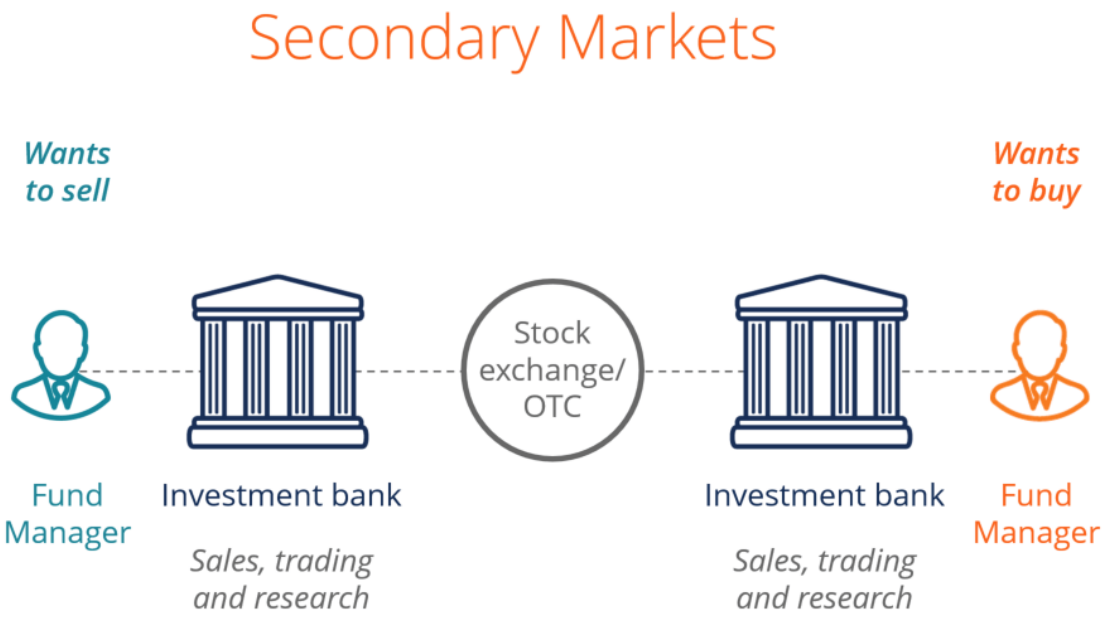
A market in which shares of publicly traded companies are issued and traded. The stock market provides companies with access to capital and provides investors an easy way to have ownership in companies. It’s just a place where buyers and sellers of stocks meet to transact.

2.3. Primary market



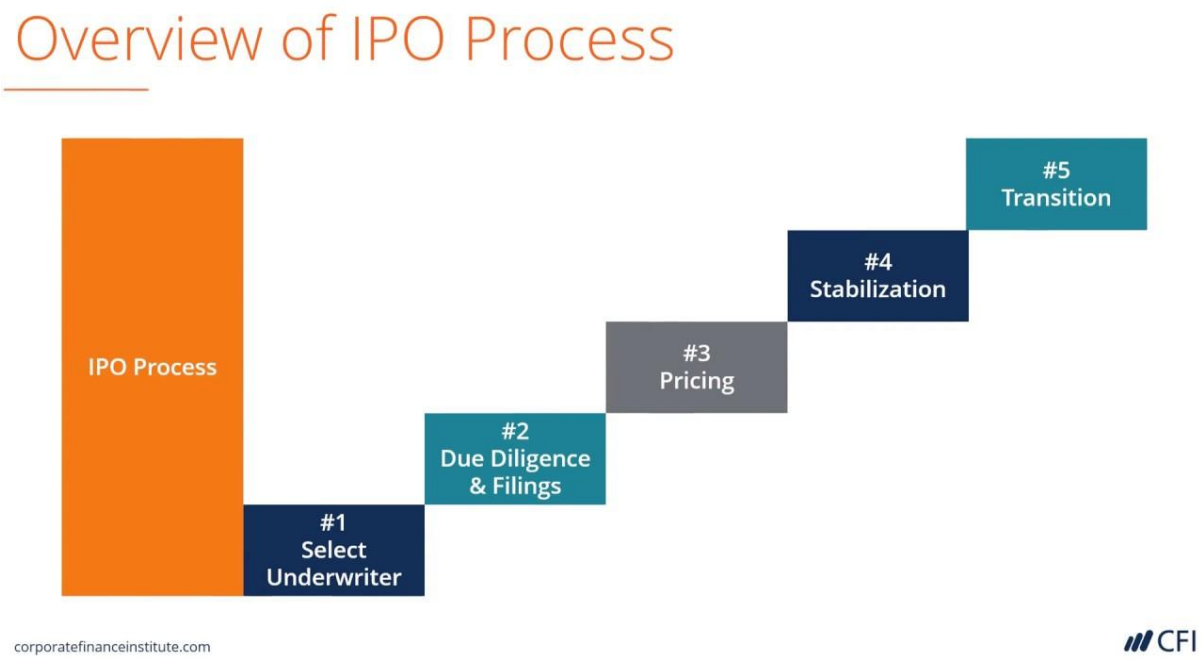
This is where the issuance of new securities happens. In this market, companies raise funds by issuing new stocks through an initial public offering (IPO). The underwriter (a company that helps other companies introduce new securities to the market) will take care of selling those stocks to funds and banks.

2.4. Secondary market



also called the aftermarket, is the financial market in which previously issued financial instruments such as stock, bonds, options, and futures are bought and sold. . After the initial issuance, investors can purchase from other investors in the secondary market.

2.5. IPO (Initial public offering)



This is the first time that a stock of a private company is offered to the public. It is very hard for regular investors to get shares at the IPO.

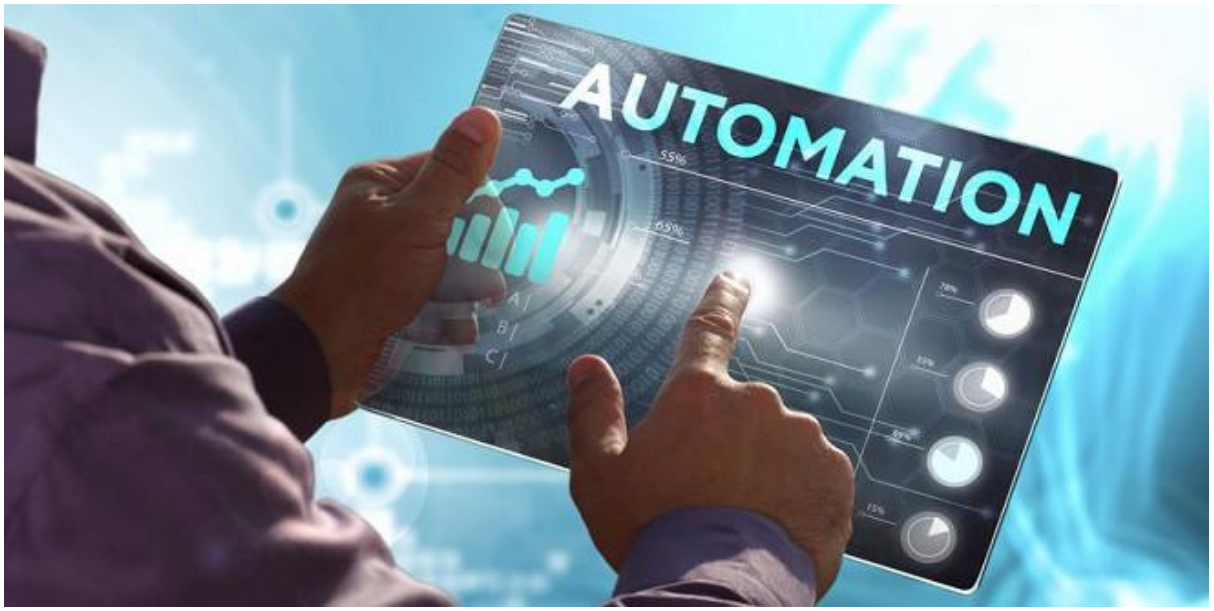
3. Stock Exchange

The stock market is a general term that is related to a place where stocks are traded. A stock exchange is more specific to the place where the trading is executed, such as ARCA, NSE, NYSE, NASDAQ, and so on.

3.1. Floor broker

An independent member of an exchange that can do transactions on behalf of other members of the exchange. Brokers have Floor brokers do their bidding on the floor of an exchange.

3.2. Automation of the stock market



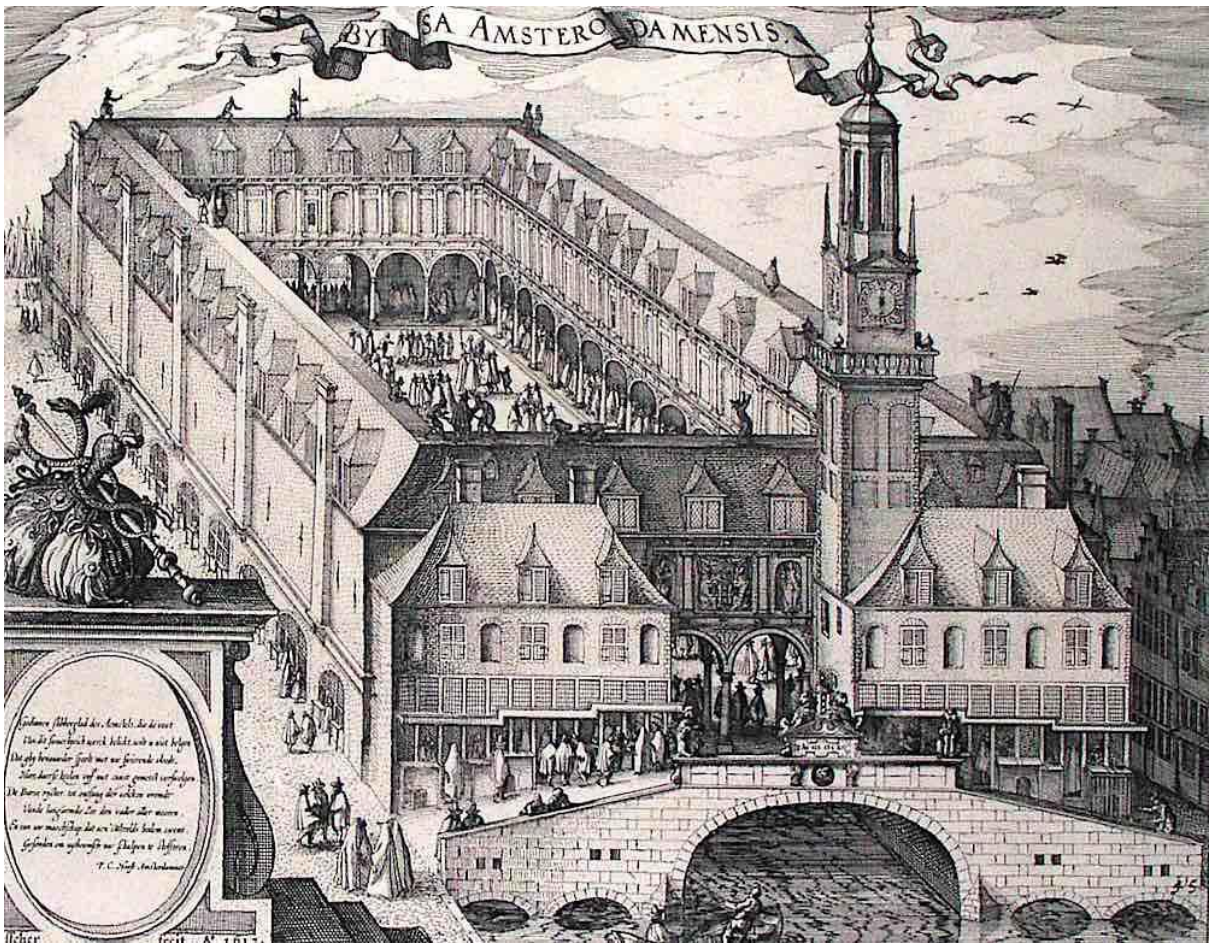
The automation of the stock market has evolved throughout the years and even though it still has the same structure, it is now fully automated. The human intermediaries that took your orders and found counterparts for your order to get you executed have been replaced by computers that automatically match orders

4. History

4.1. Stock

1531: Antwerp, or modern-day Belgium, becomes the center of international trade. Merchants buy goods anticipating that prices will rise to many order types and net them a profit. Some bond trading also occurs.

4.2. Stock Exchange



1611: The first modern stock trading is created in Amsterdam. The Dutch East India Company is the first publicly traded company, and for many years, it is the only company with trading activity on the exchange.

4.3. New York Stock Exchange

1792: A small group of merchants made the Buttonwood Tree Agreement. The men meet daily to buy and sell stocks and bonds, a practice that eventually comes to form the New York Stock Exchange.

4.4. History of Stock in India

Security trading in India goes back to the 18th century when the East India Company began trading in loan securities. Corporate shares started being traded in the 1830s in Bombay (now Mumbai) with the stock of Bank and Cotton presses. The simple and informal beginnings of stock exchanges in India take one back to the 1850s when 22 stockbrokers began trading opposite the Town Hall of Bombay under a banyan tree. The tree still stands in the area which is now known as Horniman Circle.

5. How do you buy a stock?

Stocks are purchased and sold by sending out an order to the stock market.

5.1. Order

An instruction to buy or sell a security on a specific stock exchange. Many order types vary in complexity. Orders can be sent through a broker or directly to the exchange if you have direct market access.

5.2. Fill

A fill happens when you get executed on your order. Getting filled means the order you sent out has been satisfied and that you have successfully transacted.

5.3. Ticker

Combination of letters that represent a particular company that is listed on an exchange.

5.4.Bid

(or bid price) Is the highest price that a buyer/bidder is willing to pay for a product.

5.5.Ask

(or ask price or offer) Is the lowest price that a seller is willing to receive for a product.

5.6.Spread

Difference between the asking price to the bid price.

5.7.Level1

Displays the bid and asks prices as well as quantities. This also displays the last trade executed.

5.8.NBBO (National Best Bid and Offer)

This represents the highest bid and lowest ask available on the market.

5.9. Time and Sales

Displays every single execution that happens on the market. The executions are displayed in real-time and include information like: time, direction, quantity traded, and exchange-traded on

5.10. Level 2 / Order book

Electronic list of buy and sell orders for a stock. This list is ordered by price and then by time. The order book lists the number of shares on the bid and asks at every price point.

5.11. Market Efficiency

Market efficiency: Market efficiency is the degree to which stock prices reflect all available, relevant information.

The **efficient market hypothesis (EMH)**: is an investment theory that states it is impossible to “beat the market” because stock market efficiency causes existing share prices to always incorporate and reflect all relevant information.

Weak efficiency: This type of EMH claims that all past prices of a stock are reflected in today’s stock price. Therefore, technical analysis cannot be used to predict and beat a market.

Semi-strong efficiency: This form of EMH implies that all public information is calculated into a stock’s current share price. Neither fundamental nor technical analysis can be used to achieve superior gains.

Strong efficiency: This is the strongest version, which states that all information in a market, whether public or private, is accounted for in a stock price. Not even insider information could give an investor an advantage.

5.12. Liquidity

Liquidity describes the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price

5.13. Stock market index

In finance, a stock index, or stock market index, is an index that measures a stock market, or a subset of the stock market, that helps investors compare current price levels with past prices to calculate market performance. It is computed from the prices of selected stocks

- BSE Sensex
- Nifty 50
- Nifty Midcap 150
- India VIX
- Nifty 100

5.14. Market Maker

A market maker accepts the risk of holding a certain number of shares of a particular security to facilitate trading in that security. Each market maker competes for customer order flow by displaying buy and sell quotations for a guaranteed number of shares. Once an order is received, the market maker immediately sells from its inventory or seeks an offsetting order

5.15. Passive vs Aggressive

Passive: sending a limit order and waiting to get a fill on it.
Aggressive: sending a limit or market order that will instantly get filled.

5.16. ECN (Electronic Communication Network)

This is an electronic system that accepts/disseminates orders entered into it and permits the orders to be executed against.

5.17. Smart Order Router (SOR)

Smart order routing (SOR) is a process used in trading applications to execute incoming liquidity into liquidity providers following routing rules. The routing rules usually follow business needs like best execution or internalization.

5.18. Latency

The delay between a trading decision and its implementation

- NYSE pre-1980: 2 minutes
- NYSE 1980: 20 seconds
- NYSE 2007: 100s of milliseconds
- NYSE Arca 2009: 1 millisecond
- Now: in the nanoseconds

Why is latency important?

- You want the most recent information to make your trading decision
- Competitive advantage/disadvantage (the first guy makes the profits)
- Time priority rules in microstructure
- Minimizing Transaction cost
- Typical high-frequency trading profits: $0.001 - $0.002

5.19. Dark Pools

Dark pools are private exchanges or forums for trading securities; unlike stock exchanges, dark pools are not accessible by the investing public. Also known as “dark pools of liquidity,” they are so named for their complete lack of transparency. Dark pools came about primarily to facilitate block trading by institutional investors, who did not wish to impact the markets with their large orders and consequently obtain adverse prices for their trades.

6. Different order types

- Market order
- Limit order
- Stop order
- Stop limit order

6.1. Market Order

This is a buy/sell order that needs to be executed immediately at any price available. This type of order will always get filled when the stock market is open and the stock in question is trading. Market orders are used when your priority is getting the fill over getting a particular price. This is the simplest order type.

A market order is considered the most basic of all orders. It is meant to be executed as quickly as possible at the current asking price for security. That is why certain brokerages include trading applications with a buy/sell button. Hitting this button generally executes a market order. In most cases, market orders incur the lowest commissions of any order type, as they require very little work from either a broker.

- A market order is a request by an investor to buy or sell a security.
- It is well-suited for high-volume securities such as large-cap stocks, futures, or ETFs.
- A trader will execute a market order when he or she is willing to buy at the asking price or sell at the bid price.

6.2. Limit Order

A limit order is an order to buy or sell a stock at a specific price or better. A buy limit order can only be executed at the limit price or lower. A sell limit order can only be executed at the limit price or higher. A limit order is not guaranteed to be executed.

By using a buy limit order, the investor is guaranteed to pay that price or less. While the price is guaranteed, the filling of the order is not, and limit orders will not be executed unless the security price meets the order qualifications. If the asset does not reach the specified price, the order is not filled and the investor may miss out on the trading opportunity.

- A limit order guarantees that an order is filled at or better than a specific price level.
- A limit order is not guaranteed to be filled, however.
- Limit orders control execution price but can result in missed opportunities in fast-moving market conditions.
- Limit orders can be used in conjunction with stop orders to prevent large downside losses.

6.3. Stop order

A stop order is an order to buy or sell a security when its price moves past a particular point, ensuring a higher probability of achieving a predetermined entry or exit price, limiting the investor's loss, or locking in a profit. Once the price crosses the predefined entry/exit point, the stop order becomes a market order.

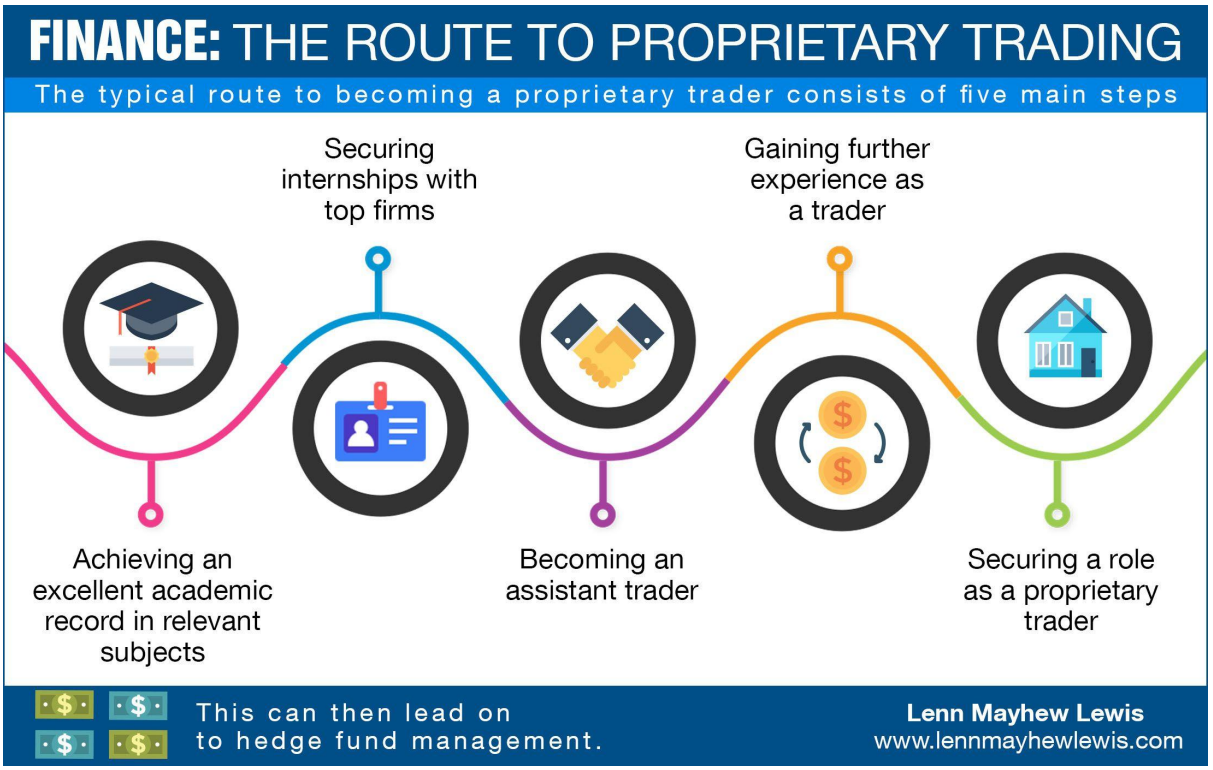
- Stop orders are orders that are triggered when a stock moves past a specific price point. Beyond that price point, stop orders are converted into market orders that are executed at the best available price.
- Stop orders are of various types: buy stop orders and sell stop orders; stop market and stop-limit.
- Stop orders are used to limit losses with a stop-loss or lock in profits using a bullish stop.

6.4. Stop limit order

A stop-limit order is a conditional trade over a set timeframe that combines the features of the stop with those of a limit order and is used to mitigate risk. It is related to other order types, including limit orders (an order to either buy or sell a specified number of shares at a given price or better) and stop-on-quote orders (an order to either buy or sell a security after its price has surpassed a specified point).

- Stop-limit orders are conditional trades that combine the features of a stop loss with those of a limit order to mitigate risk.
- Stop-limit orders enable traders to have precise control over when the order should be filled, but it's not guaranteed to be executed.
- Traders often use stop-limit orders to lock in profits or to limit downside losses.

7. Different Players



- proprietary trading firms.
- Investors.
- Retail Traders.
- Portfolio managers (mutual funds)
- Hedge Funds.

8. Ways of making money in the Stock Market

8.1. Going Long

Buying a stock and selling it back at a higher price.

8.2. Going Short

Borrowing a stock that you do not own. Selling it. And if the price drops, buying it back at the lower price, giving back the stock to its original owner, and keeping the difference of price (which is your profit).

8.3 Being Flat

Having no position in a particular stock.

9. Trading Skills & Essentials

9.1. Volume weighted average price (VWAP)

The VWAP is one of the most popular indicators used by institutions to benchmark their execution price throughout a period. It is calculated by multiplying every price traded times the quantity traded, adding them all up, and then dividing that by the total number of shares traded during the period.

9.2. Trading Desk

- A trading desk is where transactions for buying and selling securities occur, which is crucial to providing market liquidity.
- Trading desks are manned by licensed traders who specialize in a given investment type and generate income by charging a commission on trades they transact.
- Trading desks can commonly be found in firms that provide market-making in equities, fixed income, foreign exchange, and commodities.

Types of Trading Desks

The most common trading desks include

Equity trading desks handle everything from equity trading to exotic options trading.

Fixed-income trading desks handle government bonds, corporate bonds, and other bonds and bond-like instruments that pay a yield.

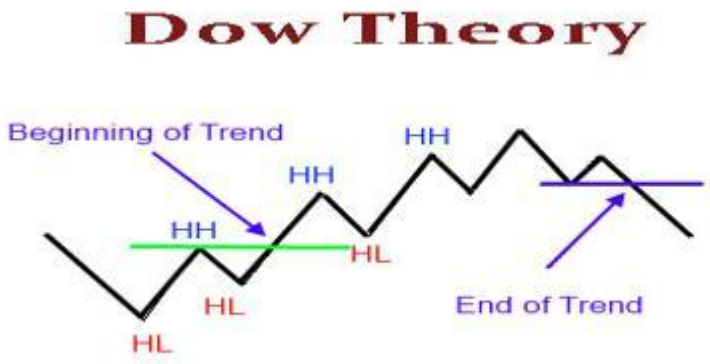
Foreign exchange trading desks facilitate trading in currency pairs by acting as market makers. They can also engage in proprietary trading activities.

Commodity trading desks are focused on agricultural products, metals, and other commodities, such as crude oil, gold, and coffee.

9.3. Dow Theory

The Dow theory is a financial theory that says the market is in an upward trend if one of its averages (i.e. industrials or transportation) advances above a previous important high and is accompanied or followed by a similar advance in the other average. For example, if the Dow Jones Industrial Average (DJIA) climbs to an intermediate high, the Dow Jones Transportation Average (DJTA) is expected to follow suit within a reasonable period.

- The Dow Theory is a technical framework that predicts the market is in an upward trend if one of its averages advances above a previous important high, accompanied or followed by a similar advance in the other average.
- The theory is predicated on the notion that the market discounts everything in a way consistent with the efficient markets hypothesis.
- In such a paradigm, different market indices must confirm each other in terms of price action and volume patterns until trends reverse.



How the Dow Theory Works

There are six main components to the Dow theory.

1. The Market Discounts Everything
2. There Are Three Primary Kinds of Market Trends
3. Primary Trends Have Three Phases

4. Indices Must Confirm Each Other
5. Volume Must Confirm the Trend
6. Trends Persist Until a Clear Reversal Occurs

The Market Discounts Everything

The Dow theory operates on the efficient markets hypothesis (EMH), which states that asset prices incorporate all available information. In other words, this approach is the antithesis of behavioral economics.

Earnings potential, competitive advantage, management competence all of these factors, and more are priced into the market, even if not every individual knows all or any of these details. In more strict readings of this theory, even future events are discounted in the form of risk.

There Are Three Primary Kinds of Market Trends

Markets experience primary trends which last a year or more, such as a bull or bear market. Within these broader trends, they experience secondary trends, often working against the primary trend, such as a pullback within a bull market or a rally within a bear market; these secondary trends last from three weeks to three months. Finally, minor trends are lasting less than three weeks, which are largely noise.

Primary Trends Have Three Phases

A primary trend will pass through three phases, according to the Dow theory. In a bull market, these are the accumulation phase, the public participation (or big move) phase, and the excess phase. In a bear market, they are called the distribution phase, the public participation phase, and the panic (or despair) phase.

Indices Must Confirm Each Other

For a trend to be established, Dow postulated indices or market averages must confirm each other. This means that the signals that occur on one index must match or correspond with the signals on the other. If one index, such as the Dow Jones Industrial Average, is confirming a new primary uptrend, but another index remains in a primary downward trend, traders should not assume that a new trend has begun.

Dow used the two indices that he and his partners invented, the Dow Jones Industrial Average (DJIA) and the Dow Jones Transportation Average (DJTA), on the assumption that if business conditions were, in fact, healthy, as a rise in the DJIA might suggest, the railroads would be profiting from moving the freight this business activity required. If asset prices were rising but the railroads were suffering, the trend would likely not be sustainable. The converse also applies: if railroads are profiting but the market is in a downturn, there is no clear trend

Volume Must Confirm the Trend

Volume should increase if the price is moving in the direction of the primary trend and decrease if it is moving against it. Low volume signals a weakness in the trend. For example, in a bull market, the volume should increase as the price is rising, and fall during secondary pullbacks. If in this example the volume picks up during a pullback, it could be a sign that the trend is reversing as more market participants turn bearish.

Trends Persist Until a Clear Reversal Occurs

Reversals in primary trends can be confused with secondary trends. It is difficult to determine whether an upswing in a bear market is a reversal or a short-lived rally to be followed by still lower lows, and the Dow theory advocates caution, insisting that a possible reversal be confirmed.

9.4. Pullback

A pullback is a pause or moderate drop in a stock or commodities pricing chart from recent peaks that occur within a continuing uptrend. A pullback is very similar to retracement or consolidation, and the terms are sometimes used interchangeably. The term pullback is usually applied to relatively short pricing drops - for example, a few consecutive sessions - before the uptrend resumes.

- A pullback is a temporary reversal in the price action of an asset or security.
- The duration of a pullback is usually only a few consecutive sessions. A longer pause before the uptrend resumes is generally referred to as consolidation.
- Pullbacks can provide an entry point for traders looking to enter a position when other technical indicators remain bullish.

9.5. Breakout

A breakout refers to when the price of an asset moves above a resistance area, or moves below a support area. Breakouts indicate the potential for the price to start trending in the breakout direction. For example, a breakout to the upside from a chart pattern could indicate the price will start trending higher. Breakouts that occur on high volume (relative to normal volume) show greater conviction which means the price is more likely to trend in that direction.

- A breakout is when the price moves above a resistance level or moves below a support level.
- Breakouts can be subjective since not all traders will recognize or use the same support and resistance levels.
- Breakouts provide possible trading opportunities. A breakout to the upside signals traders to possibly get long or cover short positions. A breakout to the downside signals traders to possibly get short or to sell long positions.
- Breakouts with relatively high volume show conviction and interest, and therefore the price is more likely to continue moving in the breakout direction.
- Breakouts on low relative volume are more prone to failure, so the price is less likely to trend in the breakout direction.

9.6. Reversal

A reversal is a change in the price direction of an asset. A reversal can occur to the upside or downside. Following an uptrend, a reversal would be to the downside. Following a downtrend, a reversal would be to the upside. Reversals are based on overall price direction and are not typically based on one or two periods/bars on a chart.

- A reversal is when the direction of a price trend has changed, from going up to going down, or vice-versa.
- Traders try to get out of positions that are aligned with the trend before a reversal, or they will get out once they see the reversal underway.
- Reversals typically refer to large price changes, where the trend changes direction. Small counter-moves against the trend are called pullbacks or consolidations.
- When it starts to occur, a reversal isn't distinguishable from a pullback. A reversal keeps going and forms a new trend, while a pullback ends and then the price starts moving back in the trending direction.

9.7. Overbought

Overbought is a term used when security is believed to be trading at a level above its intrinsic or fair value. Overbought generally describes recent or short-term movements in the price of the security, and reflects an expectation that the market will correct the price soon. This belief is often the result of technical analysis of the security's price history, but fundamentals may also be employed. An overbought stock may be a good candidate for sale.

- Overbought refers to a security with a price that's higher than its intrinsic value.
- Many investors use price-earnings (P/E) ratios to determine if a stock is overbought, while traders use technical indicators, like the relative strength index (RSI).
- Fundamental analysis can also be used to compare an asset's market price to its predicted value based on financial statements or other underlying factors.
- Ultimately, overbought is a subjective term. Since traders and analysts all use different tools, some may see an overbought asset while others see an asset that has further to rise.

9.8. Oversold

The term overselling refers to a condition where an asset has traded lower at price and has the potential for a price bounce. An oversold condition can last for a long time, and therefore being oversold doesn't mean a price rally will come soon, or at all. Many technical indicators identify oversold and overbought levels. These indicators base their assessment on where the price is currently trading relative to prior prices. Fundamentals can also be used to assess whether an asset is potentially oversold and has deviated from its typical value metrics.

- Oversold is a subjective term. Since traders and analysts all use different tools, some may see an oversold asset while others see an asset that has further to fall.
- Oversold conditions can last for a long time, so prudent traders wait for the price to base out and start to move higher before buying.
- Oversold conditions are identified by technical indicators such as the relative strength index (RSI) and the stochastic oscillator, as well as others.
- Fundamentals can also highlight an oversold asset by comparing current values to prior values in terms of price/earnings (P/E) and forward P/E, for example.

9.9. Relative Strength

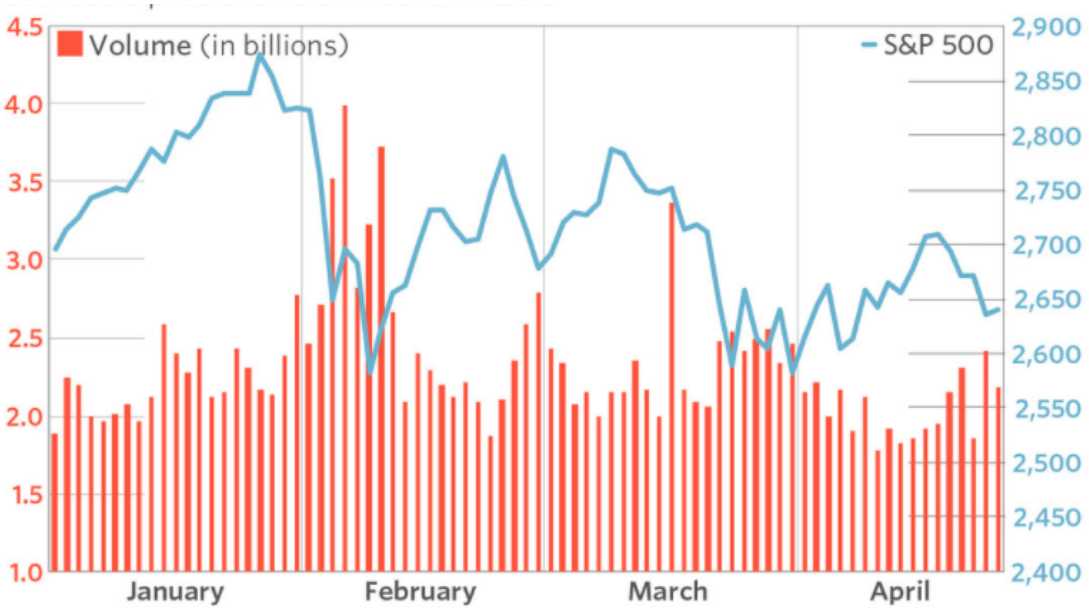
Relative strength is a strategy used in momentum investing and in identifying value stocks. It focuses on investing in stocks or other investments that have performed well relative to the market as a whole or a relevant benchmark. For example, a relative strength investor might select technology companies that have outperformed the Nasdaq Composite Index, or stocks that are outperforming the S&P 500 index.

- Relative strength is a type of momentum investing used by technical analysts and value investors.
- It consists of selecting investments that have been outperforming their market or benchmark.
- Relative strength investors assume that the trend of outperformance will continue. If the trend reverses, their investment will likely perform poorly.

9.10 Volume

Volume is the amount of an asset or security that changes hands over a while, often over a day. For instance, the stock trading volume would refer to the number of shares of security traded between its daily open and close. Trading volume, and changes to volume over time, are important inputs for technical traders.

- Volume is the number of shares of security traded during a given period.
- Generally, securities with more daily volume are more liquid than those without, since they are more "active".
- Volume is an important indicator in technical analysis because it is used to measure the relative significance of a market move.
- The higher the volume during a price move, the more significant the move, and the lower the volume during a price move, the less significant the move.



9.11. Gap

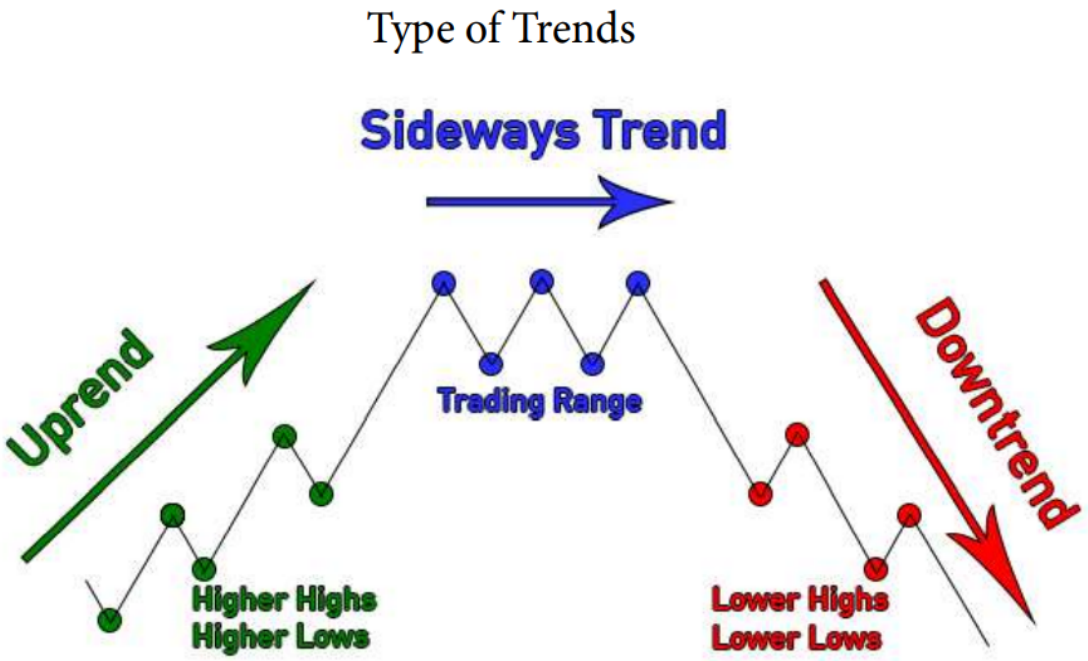
A gap is an area discontinuity in a security's chart where its price either rises or falls from the previous day's close with no trading occurring in between. Gaps are common when news causes market fundamentals to change during hours when markets are typically closed, for instance, an earnings call after-hours.

- A gap is a discontinuous space in the price chart of an asset or security, often occurring between trading hours.
- There four different types of gaps – Common Gaps, Breakaway Gaps, Runaway Gaps, and Exhaustion Gaps - each with its signal to traders.
- Gaps are easy to spot, but determining the type of gap is much harder to figure out.

10. Trends

A trend is the overall direction of a market or an asset's price. In technical analysis, trends are identified by trend lines or price action that highlight when the price is making higher swing highs and higher swing lows for an uptrend, or lower swing lows and lower swing highs for a downtrend.

- A trend is the general direction of the price of a market, asset, or metric.
- Uptrends are marked by rising data points, such as higher swing highs and higher swing lows.
- Downtrends are marked by falling data points, such as lower swing lows and lower swing highs.
- Many traders opt to trade in the same direction as the trend, attempting to profit from a continuation of that trend.
- Price action, trendlines, and technical indicators are all tools that can help identify the trend and warn when it is reversing.



10.1. Uptrends

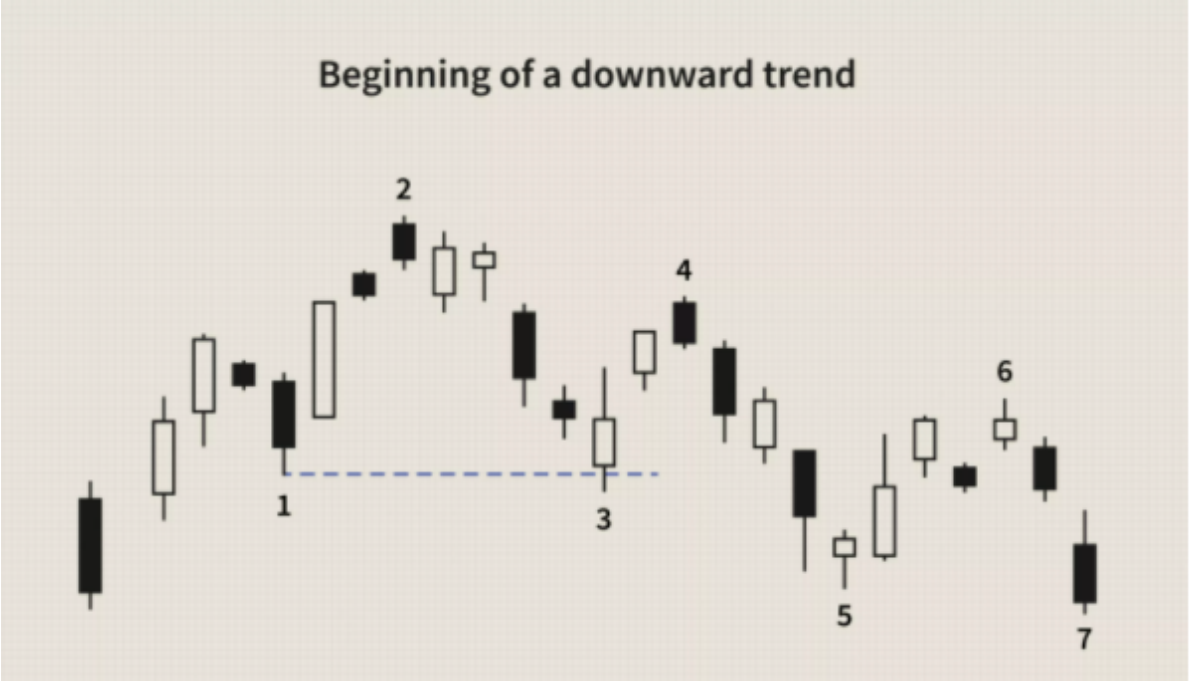
An uptrend describes the price movement of a financial asset when the overall direction is upward. In an uptrend, each successive peak and trough is higher than the ones found earlier in the trend. The uptrend is therefore composed of higher swing lows and higher swing highs. As long as the price is making these higher swing lows and higher swing highs, the uptrend is considered intact. Once the price starts making lower swing highs or lower swing lows, the uptrend is in question or has reversed into a downtrend. Roku commonly sees discussions about trends, for instance.

- An uptrend is an overall move higher in price, created by higher swing lows and higher swing highs.
- Technical indicators and tools may aid in identifying and analyzing uptrends.
- Trend traders utilize uptrends by buying during pullbacks or as the price rises again, attempting to capture profits based on the concept that uptrends make higher lows and higher highs.
- When the price is no longer making higher lows and higher highs, the uptrend is in question or may have reversed into a downtrend.

10.2. Downtrends

A downtrend refers to the price action of security that moves lower in price as it fluctuates over time. While the price may move intermittently higher or lower, downtrends are characterized by lower peaks and lower troughs over time. Technical analysts pay attention to downtrends because they represent something more than a random losing streak. Securities in a downtrend seem to be more likely to continue trending lower until some market condition changes, implying that a downtrend marks a fundamentally deteriorating condition.

- Downtrends are characterized by lower peaks and troughs and imply fundamental changes in the beliefs of investors.
- A change in trend is fueled by a change in the supply of stocks investors want to sell compared with the demand for the stock by investors who want to buy.
- Downtrends are coincidental with changes in the factors that surround the security, whether macroeconomic or specifically associated with a company's business model.



10.3. Sidetrends

A sideways trend is the horizontal price movement that occurs when the forces of supply and demand are nearly equal. This typically occurs during a period of consolidation before the price continues a prior trend or reverses into a new trend.

- A sideways trend is the horizontal price movement of a stock between resistance and support levels that occurs when the forces of supply and demand are balanced.
- Traders can profit from sideways trends in several ways, from looking for confirmations of a breakout or breakdown to using stock options to placing stop-loss orders when the price nears resistance levels.

11. Trendlines

Trendlines are easily recognizable lines that traders draw on charts to connect a series of prices or show some data's best fit. The resulting line is then used to give the trader a good idea of the direction in which an investment's value might move.

A trendline is a line drawn over pivot highs or under pivot lows to show the prevailing direction of price. Trendlines are a visual representation of support and resistance in any time frame. They show direction and speed of price, and also describe patterns during periods of price contraction.

- Trendlines indicate the best fit of some data using a single line or curve.
- A single trendline can be applied to a chart to give a clearer picture of the trend.
- Trendlines can be applied to the highs and the lows to create a channel.
- The period being analyzed and the exact points used to create a trendline vary from trader to trader.

12. Channels

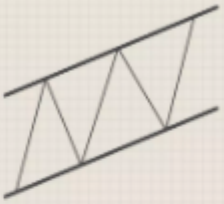
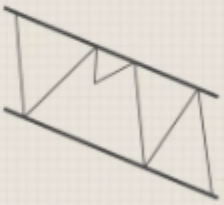
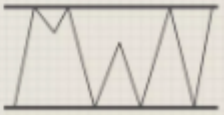
A channel may refer to a distribution system for businesses or a trading range between support and resistance on a price chart.

- A channel may refer to a distribution system for businesses or a trading range between support and resistance on a price chart.
- Distribution channels describe the method by which a product moves from producer to consumer.
- A price channel is a chart pattern that graphically depicts the peaks and troughs of a security's price over some time.

Types of Channels

A channel consists of at least four contact points because we need at least two lows to connect and two highs to connect. Generally speaking, there are three types

- Channels that are angled up are called ascending channels.
- Channels that are angled down are descending channels. Ascending and descending channels are also called trend channels because the price is moving more dominantly in one direction.
- Channels in which the trendlines are horizontal are called horizontal channels, trading ranges, or rectangles.

Type	Characteristics	Visual
Ascending	Higher High Higher Low	
Descending	Lower High Lower Low	
Horizontal	Equal High Equal Low	

12.1. Ascending Channels

An ascending channel is the price action contained between upward sloping parallel lines. Higher highs and higher lows characterize this price pattern. Technical analysts construct an ascending channel by drawing a lower trend line that connects the swing lows, and an upper channel line that joins the swing highs.

- An ascending channel is used in technical analysis to show an uptrend in a security's price.
- It is formed from two positive sloping trend lines drawn above and below a price series depicting resistance and support levels, respectively.
- Channels are used commonly in technical analysis to confirm trends and identify breakouts and reversals.

12.2. Descending Channels

A descending channel is drawn by connecting the lower highs and lower lows of a security's price with parallel trendlines to show a downward trend. Officially, the space between the trendlines is the descending channel, which falls under the broad category of trend channels.

- A descending channel is drawn by connecting the lower highs and lower lows of a security's price with parallel trendlines to show a downward trend.
- Traders who believe security is likely to remain within its descending channel can initiate trades when the price fluctuates within its channel trendline boundaries.
- A more potent signal occurs with a breakout, which is when a security's price breaches an established channel's boundaries, either on the upper or lower side.

Down Channel

12.3. Horizontal Channels

Horizontal channels are trend lines that connect variable pivot highs and lows to show the price contained between the upper line of resistance and lower line of support. A horizontal channel is also known as a price range or sideways trend.

- Horizontal channels are trend lines that connect variable pivot highs and lows.
- In a horizontal channel, buying and selling pressure is equal and the prevailing direction of the price is sideways.
- A horizontal channel provides traders with precise points for entering and exiting trades.


CBT Cabot Corp. NYSE
17-Jul-2019
©StockCharts.com
Open 46.31 High 46.31 Low 44.92 Close 44.97 Volume 224.4K Chg -1.35 (-2.91%)
CBT (Daily) 44.97
Resistance
Support
52
51
50
49
48
47
46
45
44
43
42
41
40
39
Nov
Dec
2019
Feb
Mar
Apr
May
Jun
Jul

13. Trend Lengths

There are 3 different trend lengths

- Long-term trend
- Medium-term trend
- Short-term trend

13.1. Long-Term Trend

Any price movement that occurs over a significant time, often over one year or several years. Long-term trends are difficult to predict and they are often interrupted by brief movements against the trend.

13.2. Medium-term Trend

In this strategy, the trader identifies the trend within a time frame that usually can last from a few weeks to a few months. For example, the long-term trend can be higher, while the medium-term trend might be sideways, indicating to the trader to trade within a range.

13.3. Short-term Trend Trading

This strategy identifies short-term trends whereby the trader looks to profit from moves occurring within a holding period that can be from less than one day to more than a week.

14. Support And Resistance

The concepts of trading level support and resistance are undoubtedly two of the most highly discussed attributes of technical analysis. As part of analyzing chart patterns, these terms are used by traders to refer to price levels on charts that tend to act as barriers, preventing the price of an asset from getting pushed in a certain direction.

- Technical analysts use support and resistance levels to identify price points on a chart where the probabilities favor a pause or reversal of a prevailing trend.
- Support occurs where a downtrend is expected to pause due to a concentration of demand.
- Resistance occurs where an uptrend is expected to pause temporarily, due to a concentration of supply.
- Market psychology plays a major role as traders and investors remember the past and react to changing conditions to anticipate future market movement.
- Support and resistance areas can be identified on charts using trendlines and moving averages.

14.1. Support (Support Level)

Support, or a support level, refers to the price level that an asset does not fall below for a while. An asset's support level is created by buyers entering the market whenever the asset dips to a lower price. In technical analysis, the simple support level can be charted by drawing a line along with the lowest lows for the time being considered. The support line can

be flat or slanted up or down with the overall price trend. Other technical indicators and charting techniques can be used to identify more advanced versions of support.

- The support level represents a price point that an asset struggles to fall below over a given time.
- Support levels can be visualized using different technical indicators or simply by drawing a line connecting the lowest lows for the period.
- Applying trendlines or incorporating moving averages provides a more dynamic view of support.

14.2. Resistance (Resistance Level)

Resistance, or a resistance level, is the price at which the price of an asset meets pressure on its way up by the emergence of a growing number of sellers who wish to sell at that price. Resistance levels can be short-lived if new information comes to light that changes the overall market's attitude toward the asset, or they can be long-lasting. In terms of technical analysis, the simple resistance level can be charted by drawing a line along with the highest highs for the time being considered. Resistance can be contrasted with support.

- A resistance level represents a price point that an asset has had trouble exceeding in the time being considered.
- Resistance can be visualized using different technical indicators rather than simply drawing a line connecting highs.
- Applying trendlines to a chart can provide a more dynamic view of resistance.

15. Chart Patterns

- Patterns are the distinctive formations created by the movements of security prices on a chart and are the foundation of technical analysis.
- A pattern is identified by a line that connects common price points, such as closing prices or highs or lows, during a specific time.
- Technical analysts and chartists seek to identify patterns as a way to anticipate the future direction of a security's price.
- These patterns can be as simple as trendlines and as complex as double head-and-shoulders formations.

The below are patterns

- Head and Shoulders
- Double Tops
- Multiple Tops
- Double Bottoms
- Multiple Bottoms
- Ascending Triangle
- Descending Triangle
- Wedge
- Wedge Up
- Wedge down
- Cup and Handle
- Rounding Bottom
- Flag
- Pennant
- Fibonacci Retracements
- Triangle
- Rectangle

15.1. Head and Shoulders

The head and shoulders pattern is believed to be one of the most reliable trend reversal patterns. It is one of several top patterns that signal, with varying degrees of accuracy, that an upward trend is nearing its end.

- Ahead and shoulders pattern is a technical indicator with a chart pattern described by three peaks, the outside two are close in height and the middle is the highest.
- Ahead and shoulders pattern describes a specific chart formation that predicts a bullish-to-bearish trend reversal.

- The head and shoulders pattern is believed to be one of the most reliable trend reversal patterns.

15.2. Double Tops

A double top is an extremely bearish technical reversal pattern that forms after an asset reaches a high price two consecutive times with a moderate decline between the two highs. It is confirmed once the asset's price falls below a support level equal to the low between the two prior highs.

- A double top is a bearish technical reversal pattern.
- It is not as easy to spot as one would think because there needs to be a confirmation with a break below support.

15.3. Multiple Tops

Multiple tops refer to a reversal chart pattern looked at by technical traders. Multiple tops occur when security fails to break through to new highs on two or more occasions. This trend is interpreted as a signal to sell the particular security.

- Multiple tops refer to a reversal pattern used by professional traders who are looking for signals to sell or short the security they are tracking.
- In this pattern, a top occurs when the security hits a high or an end of an uptrend that then loses momentum and moves back down until it hits a lower support level where it stabilizes before making a move higher again.
- Multiple tops occur when the security hits this high in roughly the same area several times a day or weeks apart.
- The pattern is said to be established when the security hits the high point and fails to sustain it two or three times.
- Eventually, the security will be pushed through the lower support level established, confirming the presence of the multiple tops pattern.

15.4. Double Bottoms

A double bottom pattern is a technical analysis charting pattern that describes a change in trend and a momentum reversal from prior leading price action. It describes the drop of a stock or index, a rebound, another drop to the same or similar level as the original drop, and finally another rebound. The double bottom looks like the letter "W". The twice-touched low is considered a support level.

- The double bottom looks like the letter "W". The twice-touched low is considered a support level.
- The advance of the first bottom should be a drop of 10% to 20%, then the second bottom should form within 3% to 4% of the previous low, and volume on the ensuing advance should increase.
- The double bottom pattern always follows a major or minor downtrend in particular security and signals the reversal and the beginning of a potential uptrend.

15.5. Multiple Bottoms

When the stock's buying pressure is more than the selling pressure, the triple bottom pattern breakout happens and the uptrend begins. When there are more than three peaks, it's called multiple bottoms in the downtrend. It's called multiple tops in the uptrend. They're similar to double and triple top and bottom patterns.

- A triple bottom is a visual pattern that shows the buyers (bulls) taking control of the price action from the sellers (bears).
- A triple bottom is generally seen as three roughly equal lows bouncing off support followed by the price action breaching resistance.
- The formation of the triple bottom is seen as an opportunity to enter a bullish position.

15.6. Ascending Triangle

An ascending triangle is a chart pattern used in technical analysis. It is created by price moves that allow for a horizontal line to be drawn along the swing highs, and a rising trendline to be drawn along the swing lows. The two lines form a triangle. Traders often watch for breakouts from triangle patterns. The breakout can occur to the upside or downside. Ascending triangles are often called continuation patterns since the price will typically breakout in the same direction as the trend that was in place just before the triangle forming.

An ascending triangle is tradable in that it provides a clear entry point, profit target, and stop-loss level.

- The trendlines of a triangle need to run along at least two swing highs and two swing lows.
- Ascending triangles are considered a continuation pattern, as the price will typically breakout of the triangle in the price direction prevailing before the triangle. Although, this won't always occur. A breakout in any direction is noteworthy.
- A long trade is taken if the price breaks above the top of the pattern.
- A short trade is taken if the price breaks below the lower trendline.
- A stop-loss is typically placed just outside the pattern on the opposite side of the breakout.
- A profit target is calculated by taking the height of the triangle, at its thickest point, and adding or subtracting that to/from the breakout point.

15.7. Descending Triangle

A descending triangle is a bearish chart pattern used in technical analysis that is created by drawing one trend line that connects a series of lower highs and a second horizontal trend line that connects a series of lows. Oftentimes, traders watch for a move below the lower

support trend line because it suggests that the downward momentum is building and a breakdown is imminent. Once the breakdown occurs, traders enter into short positions and aggressively help push the price of the asset even lower.

- A descending triangle is a signal for traders to take a short position to accelerate a breakdown.
- A descending triangle is detectable by drawing trend lines for the highs and lows on a chart.
- A descending triangle is the counterpart of an ascending triangle, which is another trend line-based chart pattern used by technical analysts.

15.8. Wedge

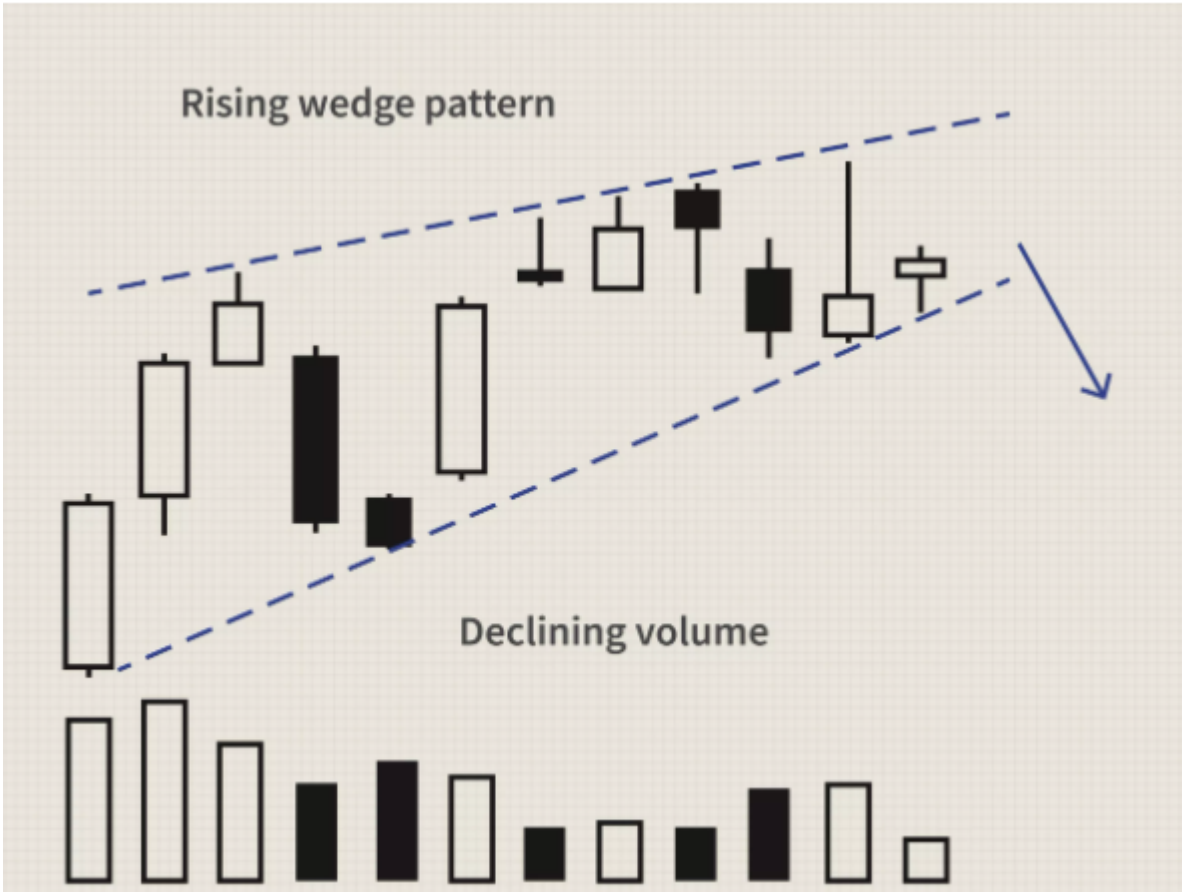
A wedge is a price pattern marked by converging trend lines on a price chart. The two trend lines are drawn to connect the respective highs and lows of a price series throughout 10 to 50 periods. The lines show that the highs and the lows are either rising or falling and differing rates, giving the appearance of a wedge as the lines approach a convergence. Wedge-shaped trend lines are considered useful indicators of a potential reversal in price action by technical analysts.

- Wedge patterns are usually characterized by converging trend lines over 10 to 50 trading periods.
- The patterns may be considered rising or falling wedges depending on their direction.
- These patterns have an unusually good track record for forecasting price reversals.

15.9. Wedge Up

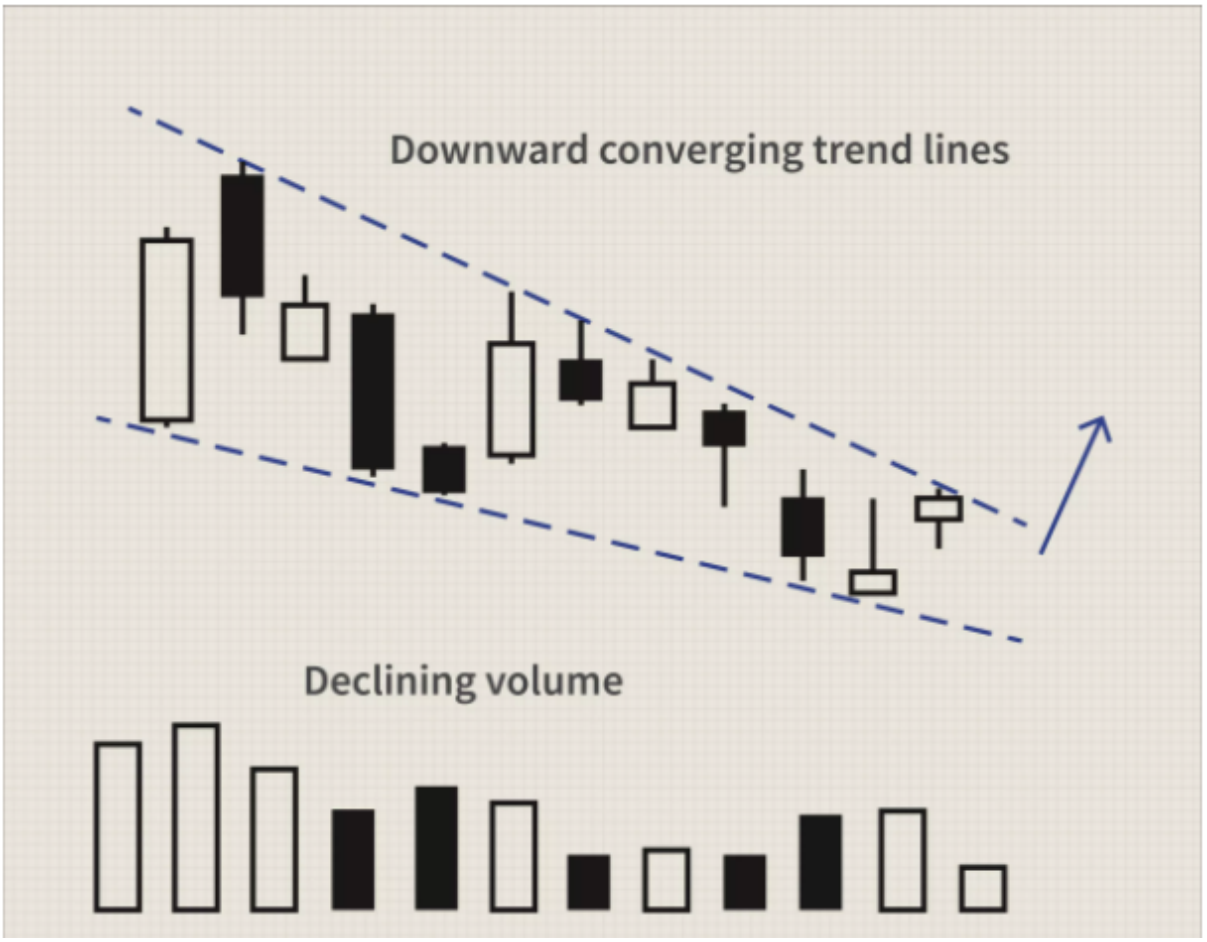
The rising wedge can be one of the most difficult chart patterns to accurately recognize and trade. While it is a consolidation formation, the loss of upside momentum on each

successive high gives the pattern its bearish bias. However, the series of higher highs and higher lows keeps the trend inherently bullish. The final break of support indicates that the forces of supply have finally won out and lower prices are likely. There are no measuring techniques to estimate the decline – other aspects of technical analysis should be employed to forecast price targets.



15.10. Wedge down

When a security's price has been falling over time, a wedge pattern can occur just as the trend makes its final downward move. The trend lines are drawn above the highs and below the lows on the price chart pattern can converge as the price slide loses momentum and buyers step in to slow the rate of decline. Before the lines converge, the price may breakout above the upper trend line.


Downward converging trend lines
Declining volume

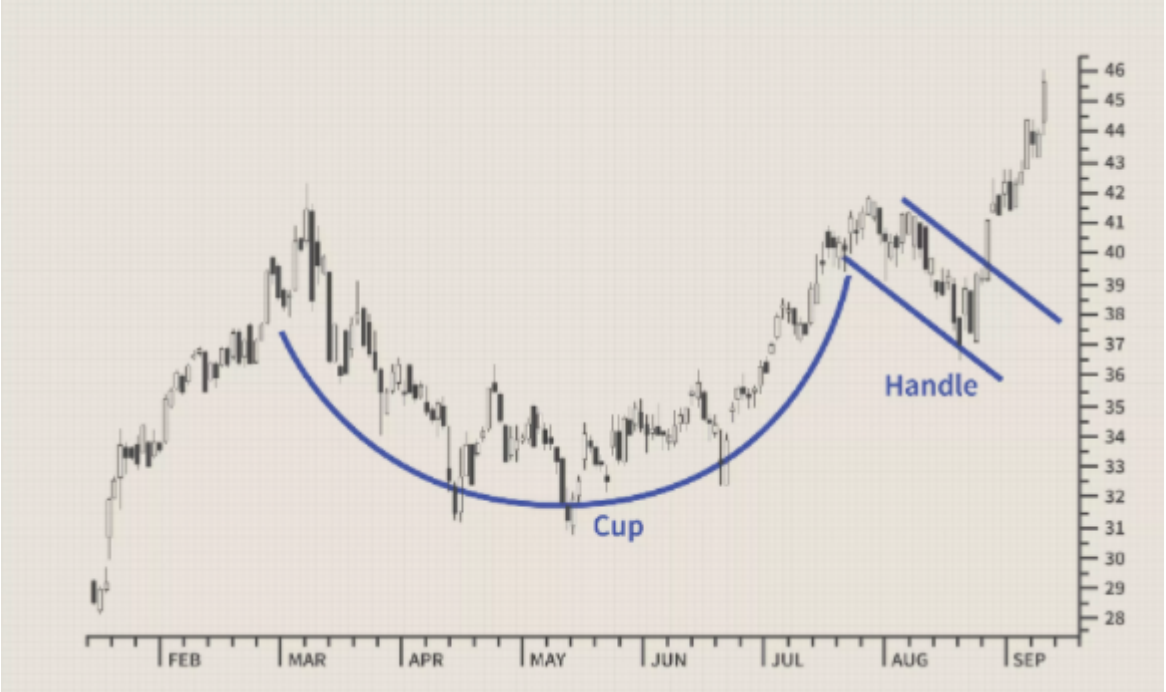
Wedge Down


DXLG
Mar 03 O:2.90 H:2.90 L:2.60 C:2.70 Vol:180.79K
-0.15 (5.26%)
SMA 50
SMA 200
SMA 20
DAILY
600K
400K
200K
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.70
2.50
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2017
Feb
Mar
DXLG [NASD]
Destination XL Group, Inc.
Services | Apparel Stores | USA

15.11. Cup and Handle

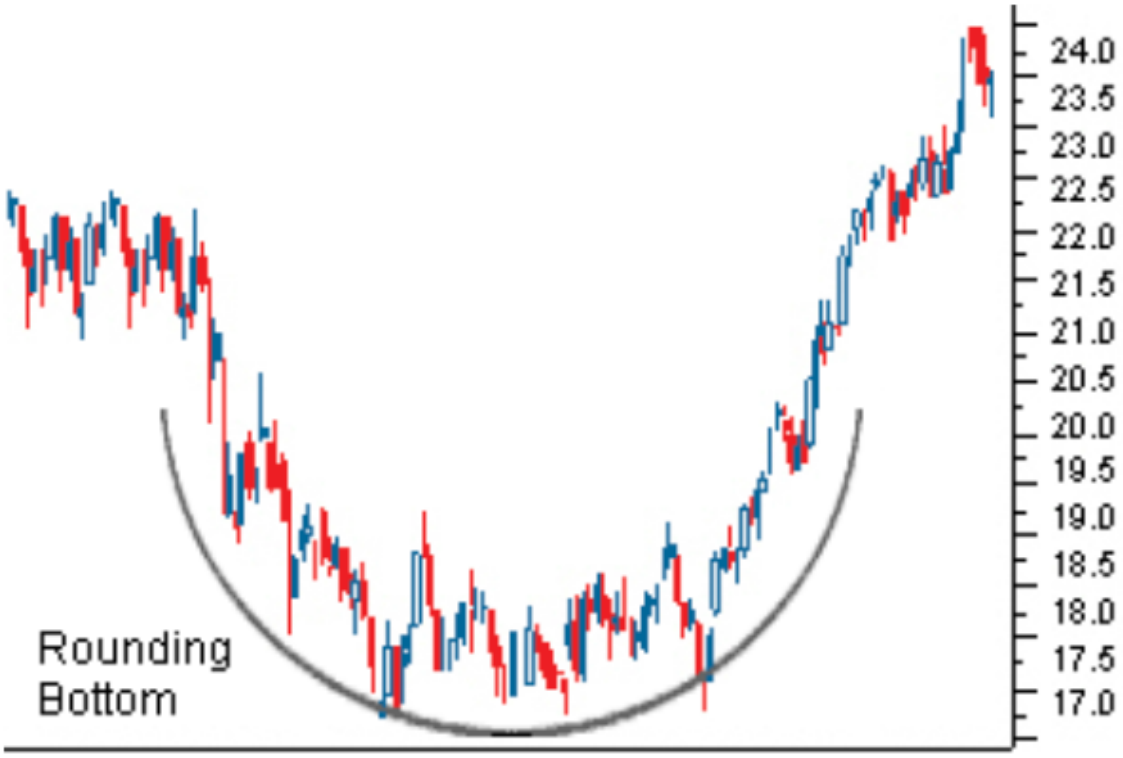
A cup and handle price pattern on a security's price chart is a technical indicator that resembles a cup with a handle, where the cup is in the shape of a "u" and the handle has a slight downward drift. The cup and handle are considered a bullish signal, with the right-hand side of the pattern typically experiencing lower trading volume. The pattern's formation may be as short as seven weeks or as long as 65 weeks.

- A cup and handle is a technical chart pattern that resembles a cup and handle where the cup is in the shape of a "u" and the handle has a slight downward drift.
- A cup and handle are considered a bullish signal extending an uptrend area and are used to spot opportunities to go long.
- Technical traders using this indicator should place a stop buy order slightly above the upper trendline of the handle part of the pattern.



15.12. Rounding Bottom

Rounding bottom is a chart pattern used in technical analysis and is identified by a series of price movements that graphically form the shape of a "U". Rounding bottoms are found at the end of extended downward trends and signify a reversal in long-term price movements. This pattern's time frame can vary from several weeks to several months and is deemed by many traders as a rare occurrence. Ideally, volume and price will move in tandem, where volume confirms the price action.



15.13. Flag.

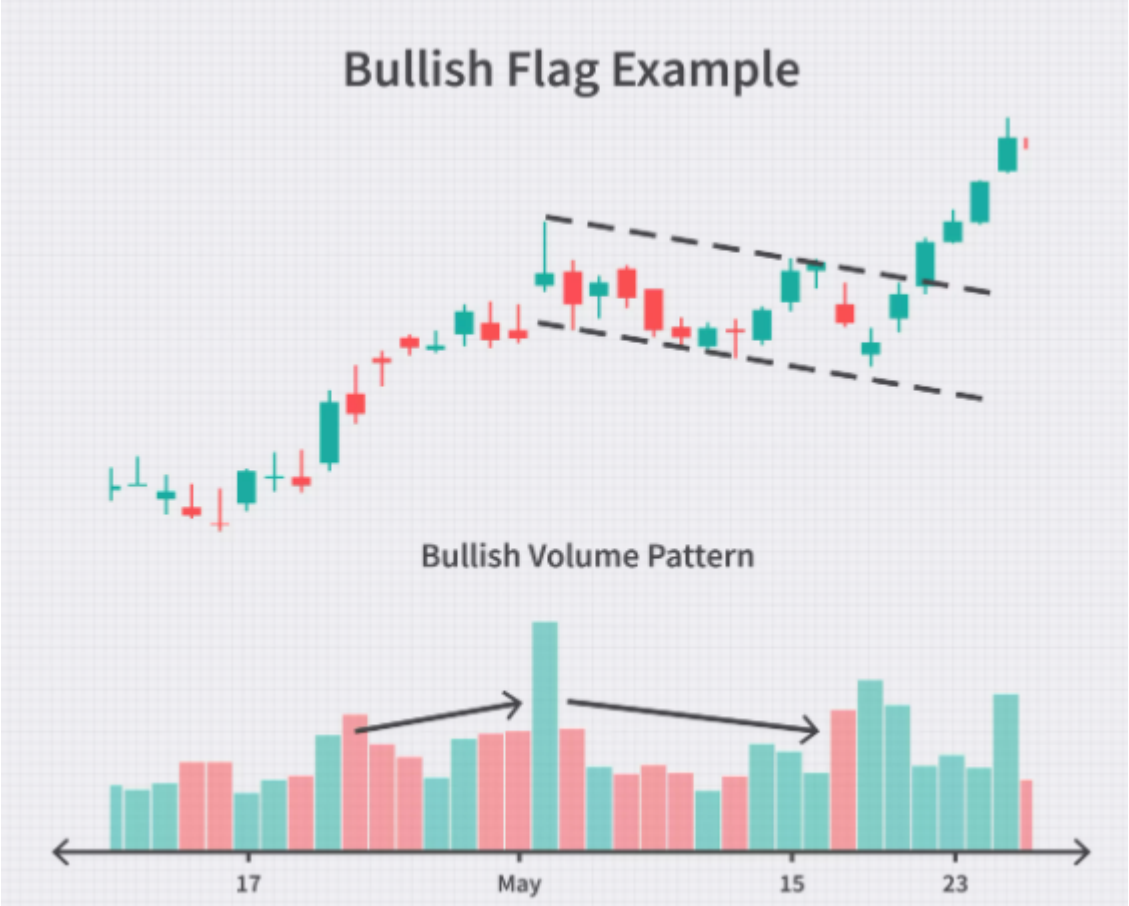
In the context of technical analysis, a flag is a price pattern that, in a shorter time frame, movies counter to the prevailing price trend observed in a longer time frame on a price chart. It is named because of the way it reminds the viewer of a flag on a flagpole.

The flag pattern is used to identify the possible continuation of a previous trend from a point at which price has drifted against that same trend. Should the trend resume, the price increase could be rapid, making the timing of a trade advantageous by noticing the flag pattern.

- A flag pattern, in technical analysis, is a price chart characterized by a sharp countertrend (the flag) succeeding a short-lived trend (the flag pole).
- Flag patterns are accompanied by representative volume indicators as well as price action.
- Flag patterns signify trend reversals or breakouts after a period of consolidation

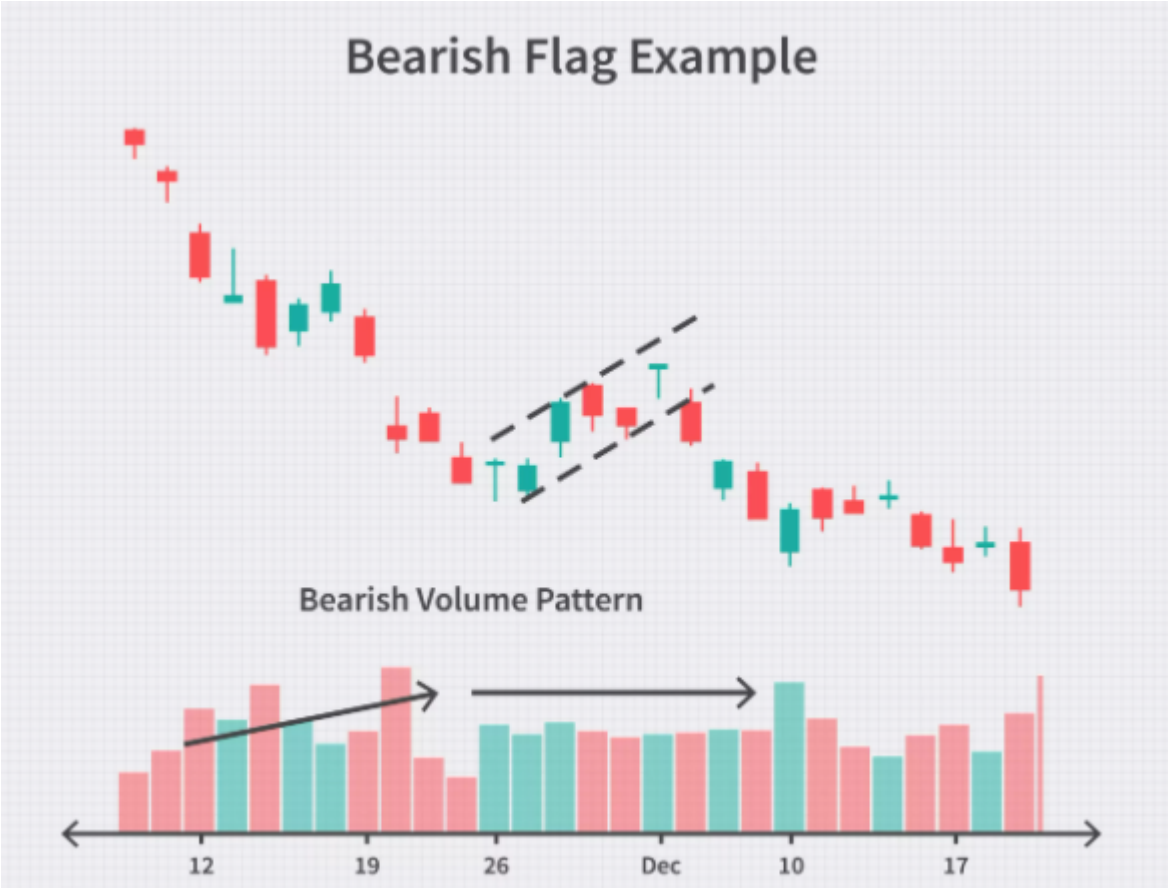
Bullish flag pattern

The price action rises during the initial trend move and then declines through the consolidation area. The breakout may not always have a high volume surge, but analysts and traders prefer to see one because it implies that investors and other traders have entered the stock in a new wave of enthusiasm.



Bearish flag pattern

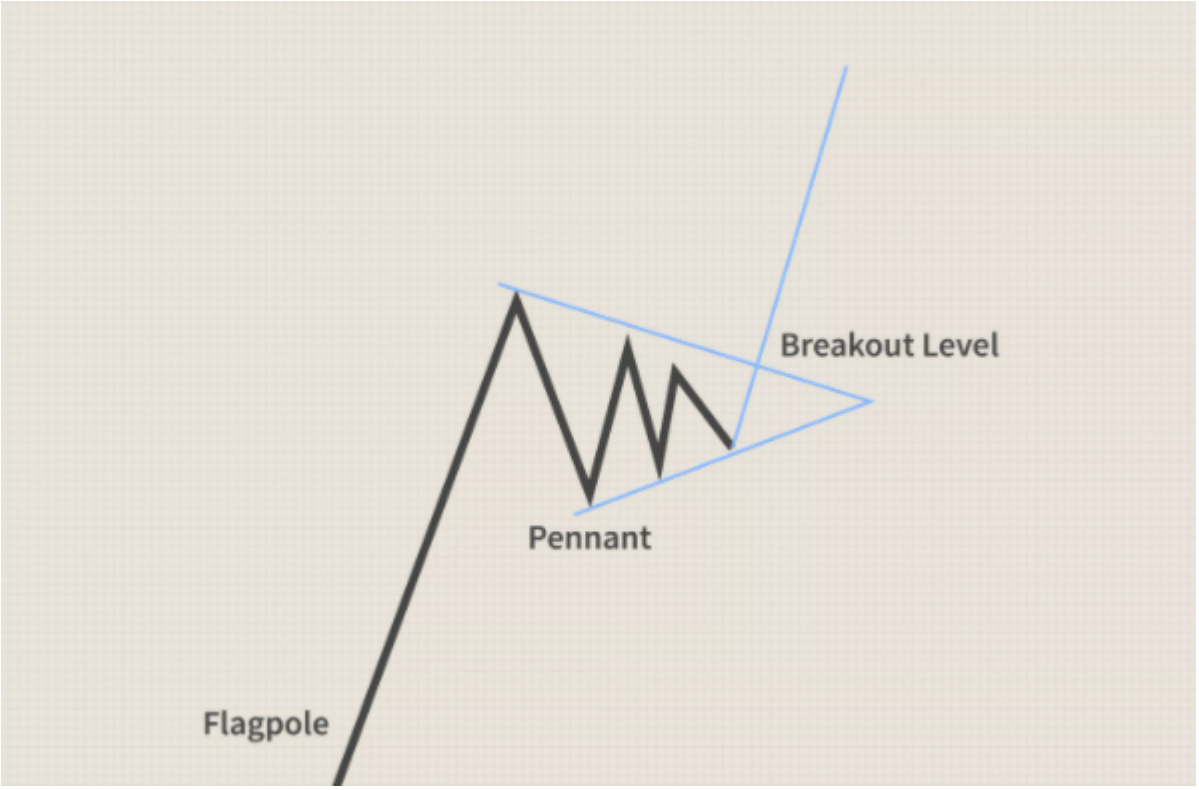
In a bearish flag pattern, the volume does not always decline during the consolidation. The reason for this is that bearish, downward trending price moves are usually driven by investor fear and anxiety over falling prices. The further prices fall, the greater the urgency remaining investors feel to take action.



15.14. Pennant

In technical analysis, a pennant is a type of continuation pattern formed when there is a large movement in security, known as the flagpole, followed by a consolidation period with converging trend lines—the pennant—followed by a breakout movement in the same direction as the initial large movement, which represents the second half of the flagpole.

- Pennants are continuation patterns where a period of consolidation is followed by a breakout used in technical analysis.
- It's important to look at the volume in a pennant—the period of consolidation should have lower volume and the breakouts should occur on higher volume.
- Most traders use pennants in conjunction with other forms of technical analysis that act as confirmation.



15.15. Fibonacci Retracements

Leonardo Pisano, nicknamed Fibonacci, was an Italian mathematician born in Pisa in the year 1170. His father Guglielmo Bonaccio worked at a trading post in Bugia, now called Béjaïa, a Mediterranean port in northeastern Algeria. As a young man, Fibonacci studied

mathematics in Bugia, and during his extensive travels, he learned about the advantages of the Hindu-Arabic numeral system

- In the Fibonacci sequence of numbers, after 0 and 1, each number is the sum of the two prior numbers.
- In the context of trading, the numbers used in Fibonacci retracements are not numbers in Fibonacci's sequence; instead, they are derived from mathematical relationships between numbers in the sequence.
- Fibonacci retracement levels are depicted by taking high and low points on a chart and marking the key Fibonacci ratios horizontally to produce a grid; these horizontal lines are used to identify possible price reversal points

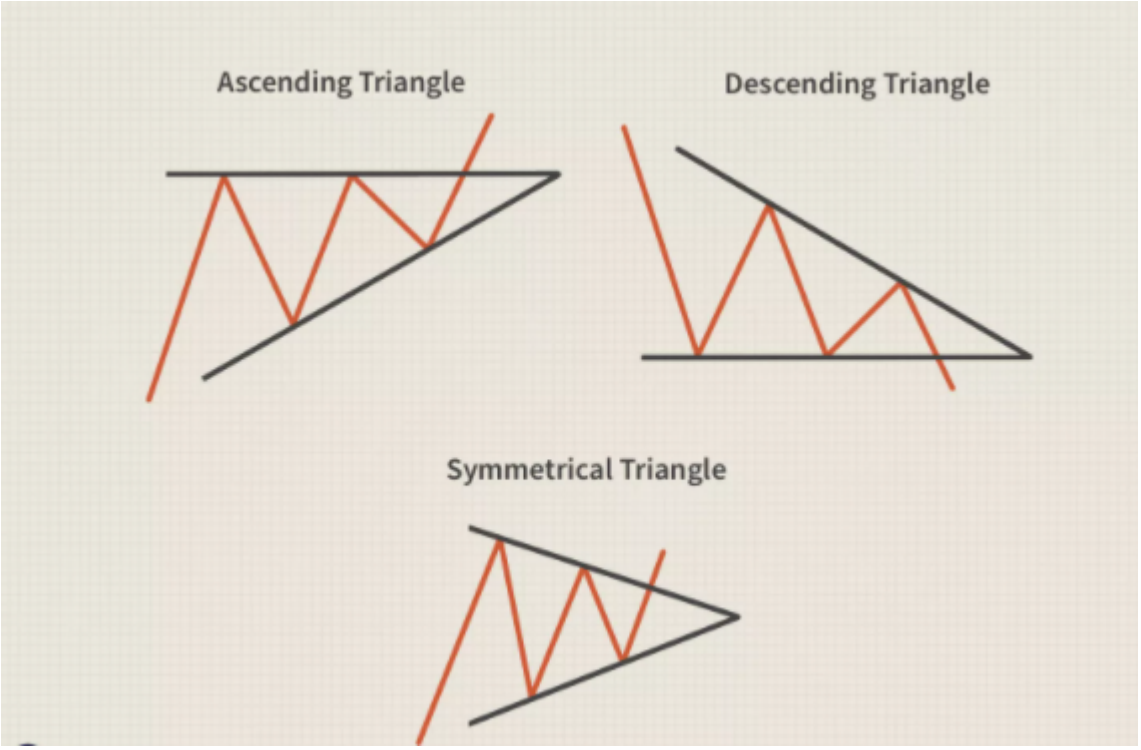
Figure 1: EUR/USD Daily Chart Fibonacci retracement. Chart Courtesy of TradingView. TradingView

15.16. Triangle

A triangle is a chart pattern, depicted by drawing trendlines along a converging price range, that connotes a pause in the prevailing trend. Technical analysts categorize triangles as continuation patterns.

- In technical analysis, a triangle is a continuation pattern on a chart that forms a triangle-like shape.
- Triangles are similar to wedges and pennants and can be either a continuation pattern if validated or a powerful reversal pattern, in the event of failure.

- Three potential triangle variations can develop as price action carves out a holding pattern, namely ascending, descending, and symmetrical triangles.



Ascending Triangle: An ascending triangle is a breakout pattern that forms when the price breaches the upper horizontal trendline with rising volume. It is a bullish formation. The upper trendline must be horizontal, indicating nearly identical highs, which form a resistance level. The lower trendline is rising diagonally, indicating higher lows as buyers patiently step up their bids. Eventually, the buyers lose patience and rush into the security above the resistance price, which triggers more buying as the uptrend resumes. The upper trendline, which was formerly a resistance level, now becomes support.

Descending Triangle: A descending triangle is an inverted version of the ascending triangle and is considered a breakdown pattern. The lower trendline should be horizontal, connecting near-identical lows. The upper trendline declines diagonally toward the apex. The breakdown occurs when the price collapses through the lower horizontal trendline support as a downtrend resumes. The lower trendline, which was support, now becomes resistance

Symmetrical Triangle: A symmetrical triangle is composed of a diagonal falling upper trendline and a diagonally rising lower trendline. As the price moves toward the apex, it will inevitably breach the upper trendline for a breakout and uptrend on rising prices or breach the lower trendline forming a breakdown and downtrend with falling prices.

15.17. Rectangle

A rectangle is a pattern that occurs on price charts. A rectangle is formed when the price reaches the same horizontal support and resistance levels multiple times. The price is confined to moving between the two horizontal levels, creating a rectangle. The concept of a rectangle is similar to a Darvas Box.

- A rectangle occurs when the price is moving between horizontal support and resistance levels.
- The pattern indicates there is no trend, as the price moves up and down between support and resistance.
- The rectangle ends when there is a breakout, and the price moves out of the rectangle.
- Some traders like to trade the rectangles, buying near the bottom and selling or shorting near the top, while others prefer to wait for breakouts.

TradingView

16. Volume

Average Volume: The average daily quantity of shares that have been traded for the past X period. Usually, this is calculated for the past 3 months.

Relative volume: Relative volume compares the current volume to the average volume that the stock should have at the same time of day. If the relative volume is over 1 this means the stock is experiencing more than its usual volume. If for example, the relative volume is 4, this means the stock is experiencing 4 times its usual volume.

17. Indicators

Technical indicator: Mathematical computation based on historical price and volume which aims to help forecast future price movement and is mostly used for entry/ exit signals.

17.1. Moving Average

In statistics, a moving average is a calculation used to analyze data points by creating a series of averages of different subsets of the full data set. In finance, a moving average (MA) is a stock indicator that is commonly used in technical analysis. The reason for calculating the moving average of a stock is to help smooth out the price data by creating a constantly updated average price.

- A moving average (MA) is a stock indicator that is commonly used in technical analysis.
- The reason for calculating the moving average of a stock is to help smooth out the price data over a specified time by creating a constantly updated average price.

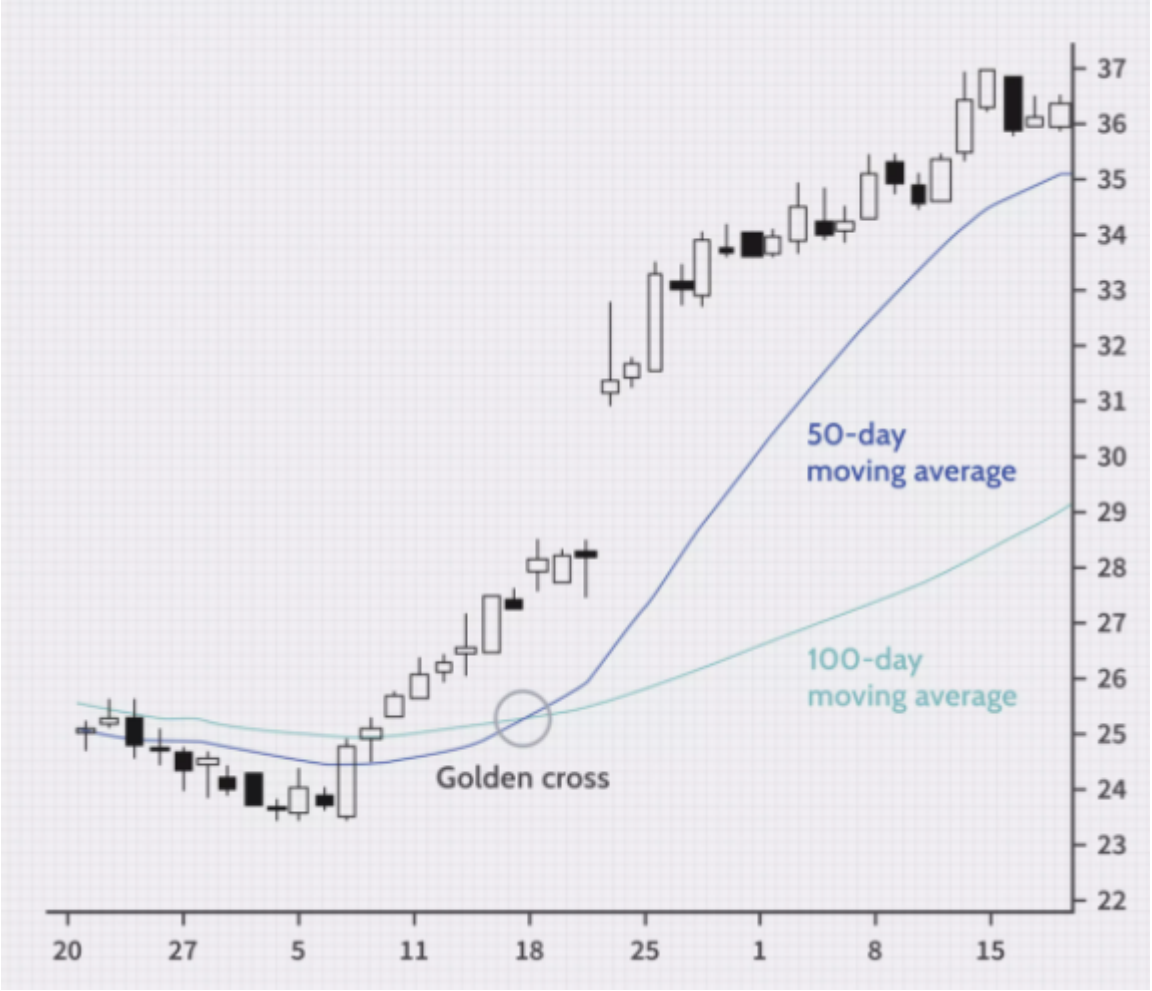
A simple moving average (SMA) is a calculation that takes the arithmetic mean of a given set of prices over the specific number of days in the past; for example, over the previous 15, 30, 100, or 200 days.

Exponential moving averages (EMA) is a weighted average that gives greater importance to the price of a stock on more recent days, making it an indicator that is more responsive to new information.

17.2. Crossover

The crossover is a point on the trading chart in which a security's price and a technical indicator line intersect, or when two indicators themselves cross. Crossovers are used to estimate the performance of a financial instrument and to predict coming changes in trends, such as reversals or breakouts.

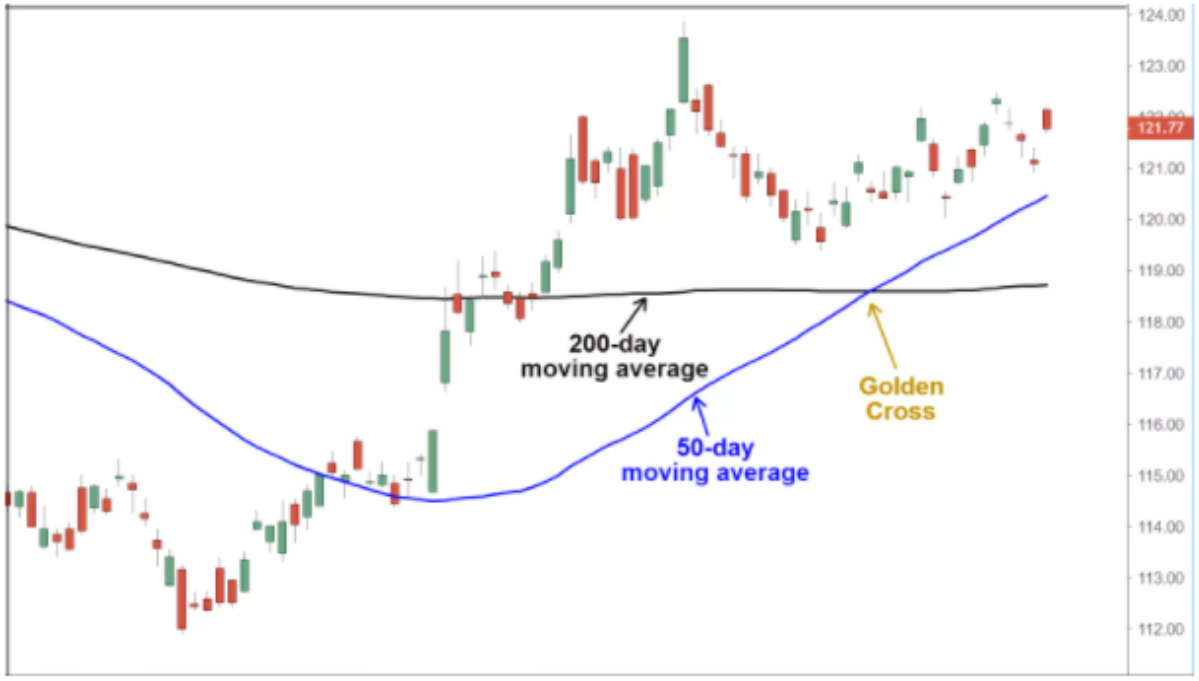
- A crossover refers to an instance where an indicator and a price, or multiple indicators, overlap and cross one another.
- Crossovers are used in technical analysis to confirm patterns and trends such as reversals and breakouts, generating buy or sell signals accordingly.
- Moving average crossovers are common, including the death cross and golden cross.



Golden Cross

Technical analysis involves the use of statistical analysis to make trading decisions. Technical analysts use a ton of data, often in the form of charts, to analyze stocks and markets. At times, the trend lines on these charts curve and cross in ways that form shapes, often given funny names like "cup with handle," "head and shoulders," and "double top." Technical traders learn to recognize these common patterns and what they might portend for the future performance of a stock or market.

- A golden cross suggests a long-term bull market going forward, while a death cross suggests a long-term bear market.
- Either crossover is considered more significant when accompanied by high trading volume.
- Once the crossover occurs, the long-term moving average is considered a major support level (in the case of the golden cross) or resistance level (in the instance of the death cross) for the market from that point forward.
- Either cross may occur as a signal of a trend change, but they more frequently occur as a strong confirmation of a change in trend that has already taken place.



Golden Cross.

Death Cross

Conversely, a similar downside moving average crossover constitutes the death cross and is understood to signal a decisive downturn in a market. The death cross occurs when the short-term average trends down and crosses the long-term average, basically going in the opposite direction of the golden cross.

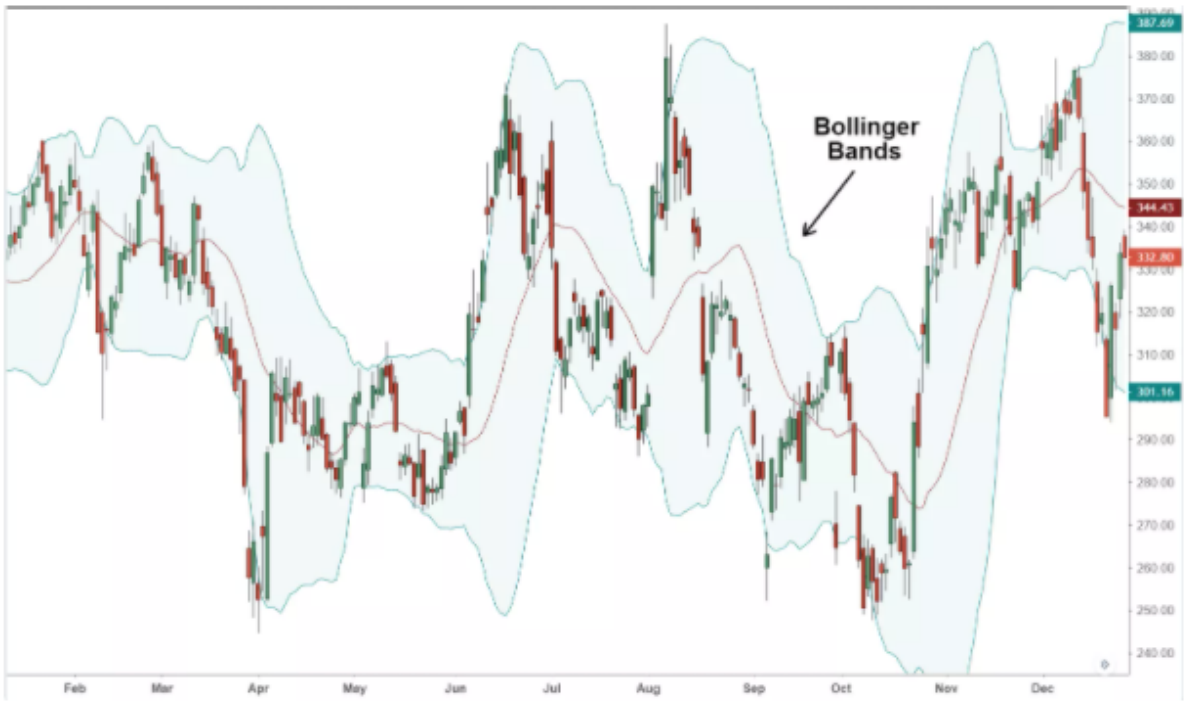
The death cross preceded the economic downturns in 1929, 1938, 1974, and 2008. There have been many times when a death cross appeared, such as in the summer of 2016, when it proved to be a false indicator.

Death Cross.

17.3. Bollinger Band® Definition

A Bollinger Band® is a technical analysis tool defined by a set of trendlines plotted two standard deviations (positively and negatively) away from a simple moving average (SMA) of a security's price, but which can be adjusted to user preferences.

- Bollinger Bands® is a technical analysis tool developed by John Bollinger for generating oversold or overbought signals.
- Three lines compose Bollinger Bands: A simple moving average (middle band) and an upper and lower band.
- The upper and lower bands are typically 2 standard deviations +/- from a 20-day simple moving average but can be modified.



TradingView.

17.4. Oscillator

An oscillator is a technical analysis tool that constructs high and low bands between two extreme values, and then builds a trend indicator that fluctuates within these bounds. Traders use the trend indicator to discover short-term overbought or oversold conditions. When the value of the oscillator approaches the upper extreme value, technical analysts interpret that information to mean that the asset is overbought, and as it approaches the lower extreme, technicians consider the asset to be oversold.

- Oscillators are momentum indicators used in technical analysis, whose fluctuations are bounded by some upper and lower bands.
- When oscillator values approach these bands, they provide overbought or oversold signals to traders.
- Oscillators are often combined with moving average indicators to signal trend breakouts or reversals.

TradingView.

17.5 Moving Average Convergence Divergence (MACD)

Moving average convergence divergence (MACD) is a trend-following momentum indicator that shows the relationship between two moving averages of a security's price. The MACD is calculated by subtracting the 26-period exponential moving average (EMA) from the 12-period EMA.

- Moving average convergence divergence (MACD) is calculated by subtracting the 26-period exponential moving average (EMA) from the 12-period EMA.
- MACD triggers technical signals when it crosses above (to buy) or below (to sell) its signal line.
- The speed of crossovers is also taken as a signal that a market is overbought or oversold.
- MACD helps investors understand whether the bullish or bearish movement in the price is strengthening or weakening.

17.6. Relative Strength Index

The relative strength index (RSI) is a momentum indicator used in technical analysis that measures the magnitude of recent price changes to evaluate overbought or oversold conditions in the price of a stock or other asset. The RSI is displayed as an oscillator (a line graph that moves between two extremes) and can have a reading from 0 to 100. The indicator was originally developed by J. Welles Wilder Jr. and introduced in his seminal 1978 book, "New Concepts in Technical Trading Systems."

- The relative strength index (RSI) is a popular momentum oscillator developed in 1978.
- The RSI provides technical traders signals about bullish and bearish price momentum, and it is often plotted beneath the graph of an asset's price.
- An asset is usually considered overbought when the RSI is above 70% and oversold when it is below 30%.

17.7. Stochastic Oscillator

A stochastic oscillator is a momentum indicator comparing a particular closing price of a security to a range of its prices over a certain time. The sensitivity of the oscillator to market movements is reducible by adjusting that time or by taking a moving average of the result. It is used to generate overbought and oversold trading signals, utilizing a 0–100 bounded range of values.

- A stochastic oscillator is a popular technical indicator for generating overbought and oversold signals.
- It is a popular momentum indicator, first developed in the 1950s.
- Stochastic oscillators tend to vary around some mean price level since they rely on an asset's price history.

TradingView.

17.8. Price Rate Of Change Indicator (ROC)

The Price Rate of Change (ROC) is a momentum-based technical indicator that measures the percentage change in price between the current price and the price a certain number of periods ago. The ROC indicator is plotted against zero, with the indicator moving upwards into positive territory if price changes are to the upside, and moving into negative territory if price changes are to the downside.

- The Price Rate of Change (ROC) oscillator is an unbounded momentum indicator used in the technical analysis set against a zero-level midpoint.
- A rising ROC above zero typically confirms an uptrend while a falling ROC below zero indicates a downtrend.
- When the price is consolidating, the ROC will hover near zero. In this case, it is important traders watch the overall price trend since the ROC will provide little insight except for confirming the consolidation.

17.9 Money Flow Index - MFI

The Money Flow Index (MFI) is a technical oscillator that uses price and volume data for identifying overbought or oversold signals in an asset. It can also be used to spot divergences that warn of a trend change in price. The oscillator moves between 0 and 100.

- The Money Flow Index (MFI) is a technical indicator that generates overbought or oversold signals using both prices and volume data.
- An MFI reading above 80 is considered overbought and an MFI reading below 20 is considered oversold, although levels of 90 and 10 are also used as thresholds.
- A divergence between the indicator and price is noteworthy. For example, if the indicator is rising while the price is falling or flat, the price could start rising.

TradingView.

17.10. Average True Range (ATR)

The average true range (ATR) is a technical analysis indicator, introduced by market technician J. Welles Wilder Jr. in his book New Concepts in Technical Trading Systems, which favors market volatility by decomposing the entire range of an asset price for that period.
This is an indication of price volatility.

- The average true range (ATR) is a market volatility indicator used in technical analysis.
- It is typically derived from the 14-day simple moving average of a series of true range indicators.
- The ATR was originally developed for use in commodities markets but has since been applied to all types of securities.

17.11. True Range

Welles Wilder described these calculations to determine the trading range for a stock or commodity. True Range is defined as the largest of the following:

- The distance from today's high to today's low.
- The distance from yesterday's close to today's high.
- The distance from yesterday's close to today's low.

True Range(TR) = max[(high - low), abs(high - close prev), abs(low - close prev)]

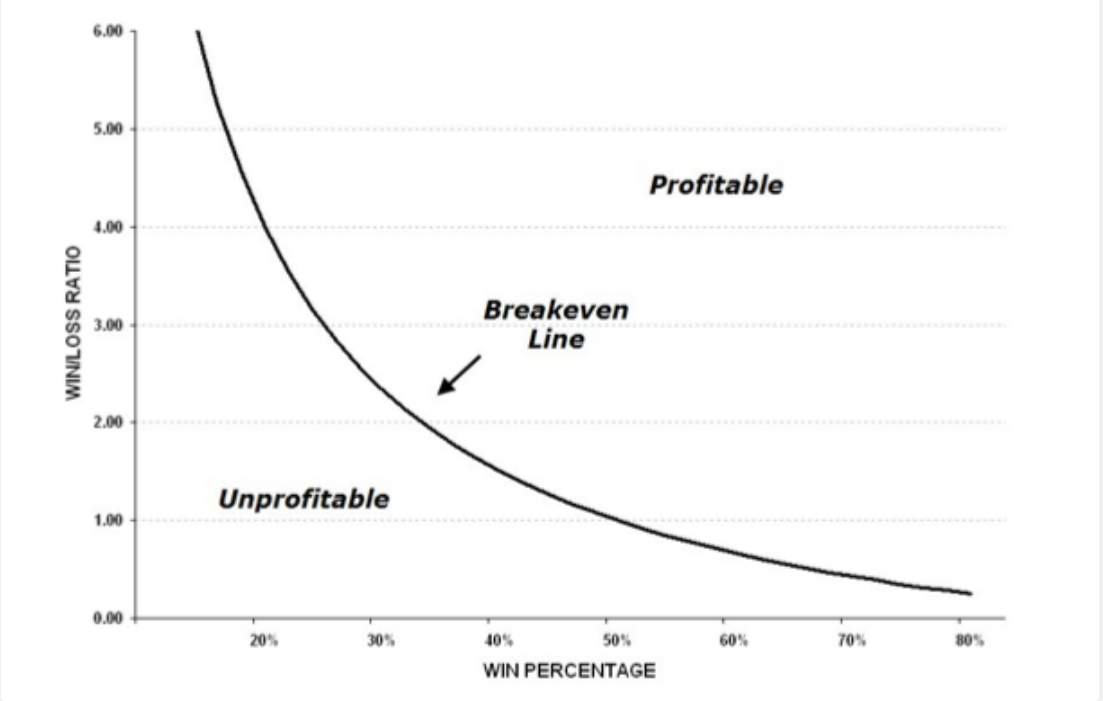
18. Expectancy

Simply put, your trading expectancy is the average amount you can expect to win (or lose) per trade with your system, when a large number of trades are taken (at least thirty to be statistically significant). To calculate your trading expectancy, you need to know three things - your win percentage, your average win, and your average loss. The calculation is as follows:

Expectancy = (Probability of Win * Average Win) - (Probability of Loss * Average Loss)

It's easy to understand the power of expectancy by thinking of a casino. The casino has many games which have a small positive expectancy in their favor. The edge for the casino is small enough that the players can go on long winning streaks and make good profits in the short term (thus inspiring false confidence), but if they continue to play over the long term the numbers will be in the casino's favor as, on average, they will make a few pennies for each dollar the player risks. The casino always beats the masses in the long run.

As traders, we can effectively be the casino while sustaining a much larger positive expectancy at the same time.



19. Gambling vs Educated Betting

Gambling: Play games of chance for money. The act of gambling money on the outcome of an unpredictable event.

Educated Betting: The act of gambling money on the outcome of an event that you perceive a positive expected value.

What do traders do?

1. Educated Betting.
2. We are in the business of betting.
3. There is no certainty in the outcome of our trades/investments

20. Batting Average & Win/Loss Ratio

Batting average: The average probability that a trader is right. Calculation: the number of profitable trades divided by the total number of trades during a specific period.

Win/Loss Ratio: The ratio of the average profitable trades over the average unprofitable trades.

21. Risk Management

1. An action or an activity that has the potential to go wrong.
2. Knowing the risk is necessary to manage it.
3. Systematic Risk
4. Unsystematic Risk
5. Risk Management

Systematic Risk: The risk inherent to the entire market or an entire market segment. Systematic risk, also known as “un diversifiable risk,” “volatility” or “market risk,” affects the overall market, not just a particular stock or industry. This type of risk is both unpredictable and impossible to completely avoid. It cannot be mitigated through diversification, only through hedging or by using the right asset allocation strategy. Unsystematic Risk: Company- or industry-specific hazard that is inherent in each investment.

Unsystematic risk, also known as “non-systematic risk,” “specific risk,” “diversifiable risk” or “residual risk,” can be reduced through diversification. By owning stocks in different companies and different industries, as well as by owning other types of securities such as Treasuries and municipal securities, investors will be less affected by an event or decision that has a strong impact on one company, industry, or investment type.

Risk Management: Risk management is the process of identification, analysis, and either acceptance or mitigation of uncertainty in investment decision-making. Essentially, risk management occurs anytime an investor or fund manager analyzes and attempts to quantify the potential for losses in an investment and then takes the appropriate action (or inaction) given their investment objectives and risk tolerance.

22. Risk mitigation

1. Risk mitigation is defined as taking steps to reduce adverse effects.
2. Risk Acceptance
3. Risk Avoidance
4. Risk Limitation
5. Risk Transference

Risk acceptance does not reduce any effects. However, it is still considered a strategy.

Risk avoidance is the opposite of risk acceptance. It is the action that avoids any exposure to the risk whatsoever.

Risk limitation is the most common risk management strategy used by businesses. This strategy limits a company's exposure by taking some action. It is a strategy employing a bit of risk acceptance along with a bit of risk avoidance or an average of both.

Ways to limit losses

1. Stop losses
2. Hedging

Risk transference is the involvement of handling risk off to a willing third party.

23. Money Management

The process of budgeting, saving, investing, spending, or otherwise overseeing the cash usage of an individual or group. The predominant use of the phrase in financial markets is that of an investment professional making investment decisions for large pools of funds, such as mutual funds or pension plans

Percentage Gain Required To Make Back Losses	
% Of Account Lost	**% Gain Required To BE**
-20% Loss	**+25% Gain**
-30% Loss	**+43% Gain**
-40% Loss	**+67% Gain**
-50% Loss	**+100% Gain**
-60% Loss	**+150% Gain**

1. Maximum risk per position should never exceed 5%.
2. If you have $10,000. The maximum that you can lose should be 500$
3. 2% is ideal.
4. There is a very real probability that you take 10 losing trades in a row.

24. Psychology

Trading psychology is by far the most important aspect of trading. It is more important than technical, fundamentals, and EVEN risk management. The reason for this is that your emotions can control you in a way that everything you know about trading is thrown out the window and thus your knowledge can't even help you. Traders continually improve on what they see that they need to improve on. To better get an understanding of how to improve on our trading psychology, let's take a look at some emotional biases that humans have

1. Loss Aversion
2. Endowment Effect
3. Status Quo Bias
4. Anchoring Effect
5. Confirmation Bias

24.1. Loss Aversion

Loss aversion theory states that losses have a bigger negative impact than equivalent gains have a positive impact. This means that the negative feelings associated with giving up an object are greater than the positive feelings that are associated with acquiring that same object

24.2. Endowment Effect

This anomaly has been heavily studied and has shown that we place greater value on something when we own it than when we don't own it. If I asked you to place a dollar value on a mug, if I gave it to you first (so that you are its owner) you would place a higher value on it than if I hadn't given it to you.

24.3. Status Quo Bias

This bias states that we prefer our current state over other states available.

24.4. Anchoring Effect

Anchoring is a term used in psychology to describe the common human tendency to rely too heavily on one trait or one piece of information when making decisions.

24.5. Confirmation Bias

Confirmation bias states that we search for information (or interpret information in a way) to confirm our beliefs. Humans have pre-existing beliefs and they sometimes trick themselves that they were led to those beliefs through research on the analysis of information while they specifically looked for information to confirm that belief.

25. Valuation methods

1. Fundamental analysis
2. Technical analysis

Fundamental analysis: Evaluating a stock's price based on its revenues, earnings, future growth, return on equity, profit margins, etc. Evaluation is done by examining a company's income statements, it's earnings releases, and balance sheet.

Technical analysis: Forecasting future price direction by analyzing past price and volume data. This is mainly done by analyzing charts and indicators.

Technical Analysis Vs. Fundamental

1. Charts vs. Financial Statements
2. Time Horizon
3. Trading Versus Investing
4. The Critics

26. Fundamental Analysis

Fundamentals and macro-events can represent catalyst moments for stocks. It can either be a merger between two companies, a company missing hugely on earnings, or a change in regulation. Any of those events could cause huge movements and change of direction for a stock.

26.1. Fundamentals

When using fundamental analysis we are trying to evaluate the worth of a company. By doing this we are trying to figure out what its fair value is. Fundamental analysis is done by examining the financial statements that companies are obliged to release every quarter. These are the:

- Balance sheet
- Income statement
- Cash flow statement

26.2. Financial Statements

Balance Sheet: This form reports on the company's assets, liability, and owner's equity. It also has a section for management discussion and analysis.

- Assets = Liabilities + Equity
- Equity = Assets - Liabilities

Equity: The value of a company after all liabilities (debts) are paid.

Assets: The tangible (equipment, buildings, etc) and intangible (intellectual property, etc) resources that a company has, that it can use to make money.

Liabilities: Debts or obligations owed to another party. Examples of liabilities include: accounts payable, loans, bonds, tax payable, etc

Income statement (earning statement): This form reports on the company's financial performance. This is the form where the earnings are disclosed. This form will show the companies:

- Revenue
- Expenses
- Net profit

Cash Flow statement

This form reports on the company's cash flow (cash entering the company and cash exiting the company). Cash flow is divided into 3 parts, cash from

- Core operations
- Investing component
- Financing component

26.3. Equity Valuation basic tools and metrics

Analysts and investors look at different tools, ratios, and metrics to value the price of a stock. As traders, we won't value stock but we will review the tools and metrics that other people use to value the stock so we can predict its movement when fundamental data changes.

Investors use equity valuation to find what the fundamental value of a stock is.

Value is defined as the rational value that investors would give to an asset if they had complete information about the nature of the stock.

Investors will use different tools and valuation models to define what the value of a stock is and then take a position by comparing their findings with the market price of the stock. The greater the deviation between market prices and valuation - the greater the likelihood of an investor taking a position.

26.4. Fundamental Ratios

There are many types of ratios that can be derived from financial reports. These ratios can be categorized as follows

- Activity ratios
- Liquidity ratios
- Solvency ratios
- Profitability ratios
- Valuation ratios

Activity ratios: This category includes ratios that measure asset utilization such as Turnover ratio, Total assets turnover.

Liquidity ratios: Liquidity ratios: Measures ability of a company to pay short-term.

Solvency ratios: Conveys information on the company's ability to pay the long-term debt. E.g. Debt to Equity ratio: (Total Debt/Total Shareholder's equity) – Indicates company's reliance on debt as a source of financing

Profitability ratios: Profitability ratios: Provides information on how well the company generates profits from its operations. Return on Equity: Net income/ average total equity

Valuation ratios Provide investors information about the relative value of stocks.

26.5 Essential Terms

Shares outstanding: All the shares that have been issued by the company.

Market capitalization: This is the market value of a company's outstanding shares. You can get this value by multiplying the price of the stock by the number of shares outstanding. In general when we are categorizing companies in terms of their capitalization we use these terms

- Small cap: $300 million to $2 billion
- Mid cap: $2 billion to $10 billion
- Large cap: over $10 billion

Earnings: This is the net income (after-tax) that a company produces in a specific period. Usually, we look at quarterly income as well as yearly income. A company's earnings are one of the most important things analysts and investors look at.

Dividends: A distribution made to shareholders of a corporation. This can be given from earnings, retained earnings, or other cash that the company has. Changes to dividends and dividend growth have a huge impact on some stocks.

Earnings per share (EPS): This is by far the most important ratio in fundamental analysis. This is calculated by dividing the total earnings by the number of shares. It tells us the portion of the earnings that is allocated to each share.

Price per earnings (P/E): This tells us how much we are paying for every dollar of revenue the company currently generates. The calculation is done by dividing the current Price by the company's EPS during the last 12 months.

Return on Equity (ROE): This ratio is a measure of performance that calculates the number of profits made by each dollar of shareholder's equity.

Book value: It is the amount of cash that would be left if the company sold everything it owned and paid off all its debt. This is also the shareholder's equity.

Calculation = Tangible assets - Liabilities.

Book value per share: This tells us the per-share value of a company. It is calculated by dividing the book value by the outstanding shares.

Price to book (P/B): This is used to gauge a company's market value to its book value. It is calculated by dividing the stock's price by last quarter's book value per share.

Debt to equity (D/E): This ratio shows how much of the company's assets are from debt versus equity. The higher the ratio, the more leveraged the company is (meaning the more debt it is using to finance its operations).

26.6. Current vs Expected

The value of a company is not only based on how much it is making now but on how much it is making now plus how much it is expected to make in the future. Because of this analysts make forecasts on how much they expect the company to make in the future and base their evaluation on those numbers as well.

EPS next Year: This is the expected EPS based on the expected earnings for the company for next year (based on street estimates) and today's stock price.

Forward P/E: This is similar to the regular P/E ratio, except that the price of the stock is divided by the "expected" earnings per share of the next fiscal year.

26.7. Growth & Value Companies

Growth company: A company that is not generating as much profit now as it is expecting to generate in the future. These companies usually have high P/E and low Dividend yield.
Value company: A company that is already generating the profits it expects to stay at in the future. These companies usually have low P/E and High Dividend yield.

26.8. Important Metrics

Insider: Any person who is a director or a senior officer of the company. Also, any person who owns more than 10% of a company is considered an insider.

Insider Ownership: This is equal to the total number of shares owned by insiders divided by the shares outstanding.

Insider transactions: This is the change in insider ownership in the past X months. This can be used to get an idea about recent insider transactions.

Institutions: Mutual funds, hedge funds, pension funds, insurance companies, banks, or other large financial organizations that manage funds.

Institutional ownership: This is equal to the total number of shares owned by institutions divided by the shares outstanding.

Institutional transactions: This is the change in institutional ownership in the past X months. This can be used to get an idea about recent institutional transactions.

Float: The shares that are available for trading on the market. This equals the shares outstanding minus all shares held by the company, controlling-interest investors, insiders, or the company's stock ownership plan.

Short float (short interest shares): The number of shares that are currently short on the market. It is calculated by dividing the total number of shares short by the float.

Short ratio (short interest ratio): The short interest gives us an indication of how many days it would take for all the shorts to cover. To calculate this ratio you need to divide the total amount of shares short by the average daily volume.

Stock Splits: This is a way to divide an existing share into multiple shares which increase shares outstanding. Technically, the shareholder holding this stock has more shares but the value of his or her holding remains the same. Splits are expressed in ratios such as 2 for 1. Meaning that for each stock held, you will receive two.

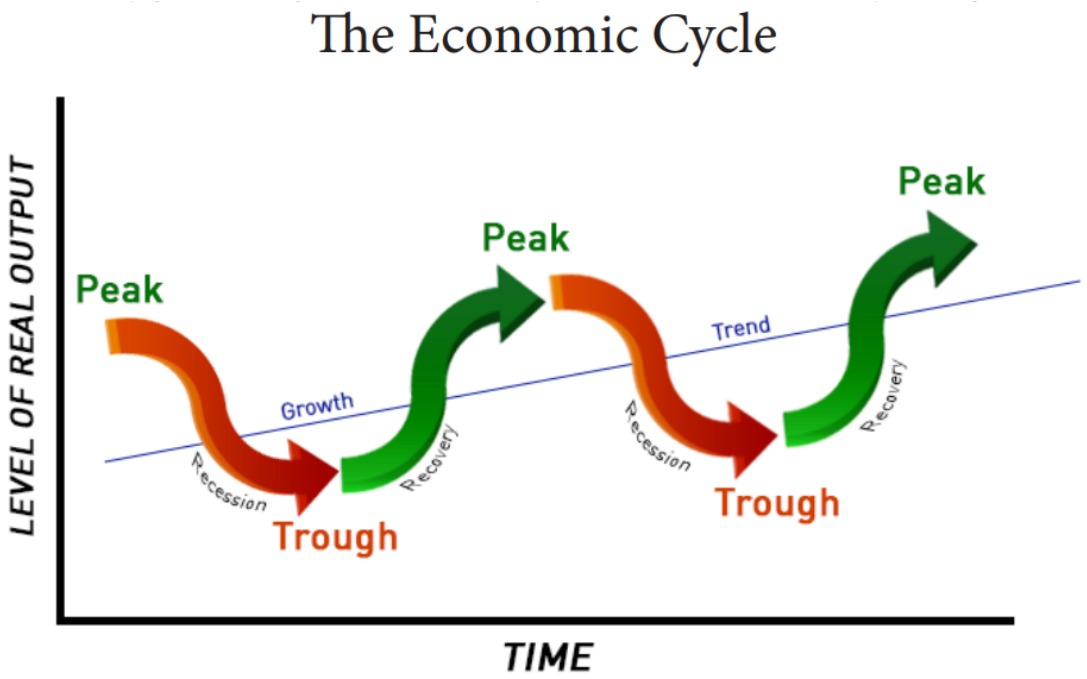
Example:
You hold 100 shares of ABC @ $30. After a 3 for 1 stock split, the holder will now have 300 shares that are now worth $10 each. The arithmetic is as follows: $30 x 100 shares = $10 x 300 shares = $3000.

Reverse Stock Split: After a reverse stock split, there are fewer number shares that trade at a higher (again market value of holdings should remain unchanged). There are different reasons why companies conduct reverse stock splits. For one, there is a minimum price that a company's stock needs to trade at to stay listed on the exchanges. Also, some companies just don't want to be perceived as being of lower investment grade (since some people perceive low stock prices with low quality)

26.9 Economic Cycle

The economy goes through four different cycles known as business cycle stages:

- Expansion
- Peak
- Contraction
- Trough



Expansion:

- Between trough and peak.
- The economy is growing.
- Positive Gross Domestic Product which measures economic output.

Peak:

- Transition period into contraction

Contraction:

- Starts and Peak and ends at the trough.
- Economic growth diminishes.
- GDP falls (when GDP becomes negative, it is considered a recession.)

Trough:

- The stage where the economy transitions from contraction to expansion.

What represents a stronger economy

- Increase in economic output (GDP)
- Decrease in unemployment
- Increase in inflation
- Increase in investments (capital expenditure)
- Political stability

26.10. Monetary Policy

Monetary policy is the process of:

- Supplying currency
- Setting interest rates

26.11. Central bank

An institution that manages currency, money supply, and interest rates for a country. The role of this institution is to control the monetary system to reduce economic crises.

26.12. Fiscal Policy

This is the power of the government to raise/reduce taxes.

- Higher taxes -> less money in circulation
- Lower taxes -> more money in circulation, more spending

26.13. Importance Reports

Many reports come out at different frequencies that track the economic factors that we have talked about. These reports indicate how the Fed might change its policies in the future and thus are widely followed. These reports include

- EIA Petroleum Status Report
- Jobless Claims Report
- Housing Market Index
- Consumer Sentiment Index

26.14. Leading Economic Indicators

The index of leading economic indicators aka the LEI index is an index that is made up of ten economic indicators and updated around every 20th of the month by the Conference Board.

26.15. Coincident Economic Indicators:

The index of coincident economic indicators aka the CEI index is an index that is made up of four economic indicators and updated around every 20th of the month by the Conference Board.

27. Technical Analysis

Technical analysis is the study of historical market data, including price and volume. Using insights from market psychology, behavioral economics, and quantitative analysis, technical analysts aim to use past performance to predict future market behavior. The two most common forms of technical analysis are chart patterns and technical (statistical) indicators.

- Technical analysis attempts to predict future price movements, providing traders with the information needed to make a profit.
- Traders apply technical analysis tools to charts to identify entry and exit points for potential trades.
- An underlying assumption of technical analysis is that the market has processed all available information and that it is reflected in the price chart.

How to Use Technical Analysis

The core principle underlying technical analysis is that the market price reflects all available information that could impact a market. As a result, there's no need to look at economic, fundamental, or new developments since they're already priced into given security. Technical analysts generally believe that prices move in trends and history tends to repeat itself when it comes to the market's overall psychology. The two major types of technical analysis are chart patterns and technical (statistical) indicators.

Chart patterns are a subjective form of technical analysis where technicians attempt to identify areas of support and resistance on a chart by looking at specific patterns. These patterns, underpinned by psychological factors, are designed to predict where prices are headed, following a breakout or breakdown from a specific price point and time. For example, an ascending triangle chart pattern is a bullish chart pattern that shows a key area of resistance. A breakout from this resistance could lead to a significant, high-volume move higher.

Technical indicators are a statistical form of technical analysis where technicians apply various mathematical formulas to prices and volumes. The most common technical indicators are moving averages, which smooth price data to help make it easier to spot trends. More complex technical indicators include the moving average convergence divergence (MACD), which looks at the interplay between several moving averages. Many trading systems are based on technical indicators since they can be quantitatively calculated.

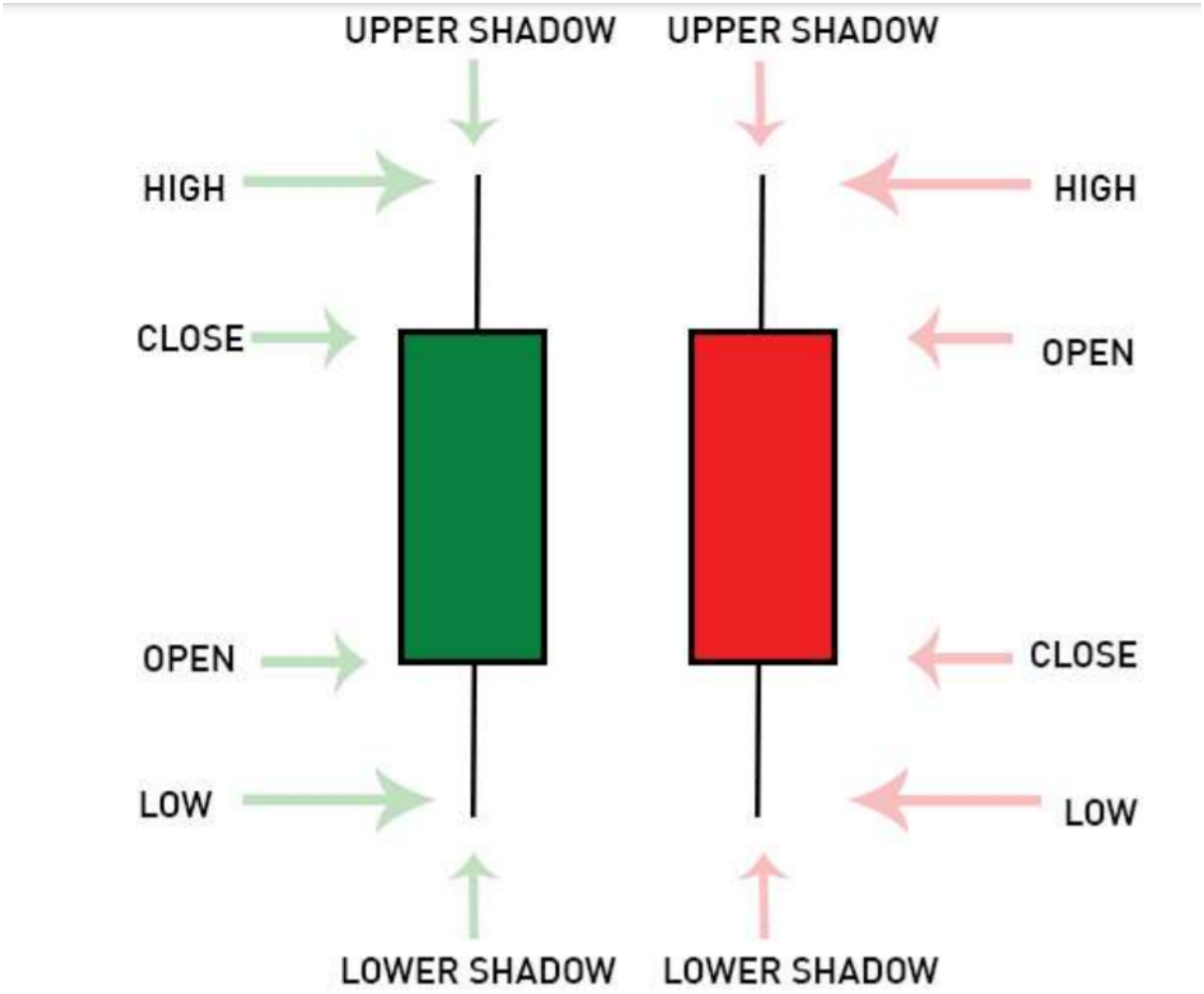
Candlestick

A candlestick is a type of price chart used in technical analysis that displays the high, low, open, and closing prices of a security for a specific period. It originated from Japanese rice

merchants and traders to track market prices and daily momentum hundreds of years before becoming popularized in the United States. The wide part of the candlestick is called the "real body" and tells investors whether the closing price was higher or lower than the opening price (black/red if the stock closed lower, white/green if the stock closed higher).

- Candlestick charts display the high, low, open, and closing prices of a security for a specific period.
- Candlesticks originated from Japanese rice merchants and traders to track market prices and daily momentum hundreds of years before becoming popularized in the United States.
- Candlesticks can be used by traders looking for chart patterns.

A graphical representation of the high, low, opening, and closing price of a security for a specific period. A green Real Body represents a stock that closed at a higher price than it opened at. A red Real Body represents a stock that closed at a price lower than it opened at.



27.1 Big Candles

There are two types of the big candle

- Big Red Candle
- Big Green Candle

Big Red Candle

Has an unusually long red body with a wide range between high and low. Prices open near the high and close near the low. Considered a bearish pattern

Big Green Candle

Has an unusually long white body with a wide range between high and low of the day. Prices open near the low and close near the high. Considered a bullish pattern

27.2. Dojis

Dojis form when the opening and closing prices are virtually equal. There are different types of dojis. They are

- Alone
- Long-Legged
- Gravestone
- Dragonfly
- Shooting Star
- Hammer

Alone

dojis are neutral patterns.

Long-Legged

This Doji reflects a great amount of indecision about the future direction of the underlying asset.

Gravestone

The long upper shadow suggests that the direction of the trend may be nearing a major turning point. It is formed when the opening and closing prices of the underlying asset are equal and occur at the low of the day.

Dragonfly

The long lower shadow suggests that the direction of the trend may be nearing a major turning point. It is formed when the opening and closing prices of the underlying asset are equal and occur at the high of the day.

Shooting Star

A black or a white candlestick that has a small body, a long upper shadow, and a little or no lower tail. Considered a bearish pattern in an uptrend.

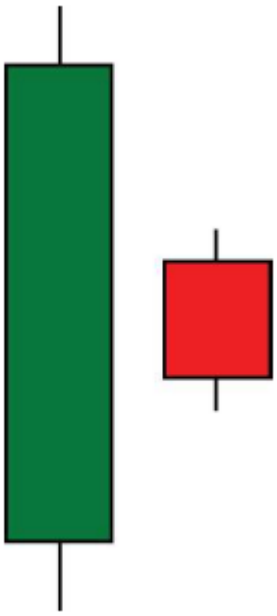
Hammer

A black or a white candlestick that consists of a small body near the high with a little or no upper shadow and a long lower tail. Considered a bullish pattern during a downtrend.

27.3. Patterns

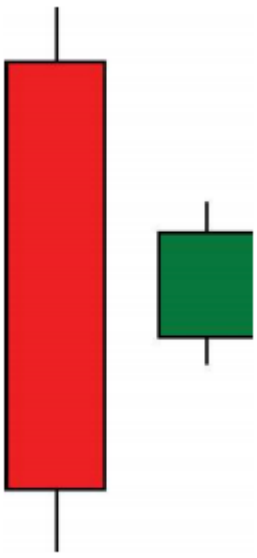
Bearish Harami

Consists of an unusually large green body followed by a small red body (contained within a large green body). It is considered a bearish pattern when preceded by an uptrend.



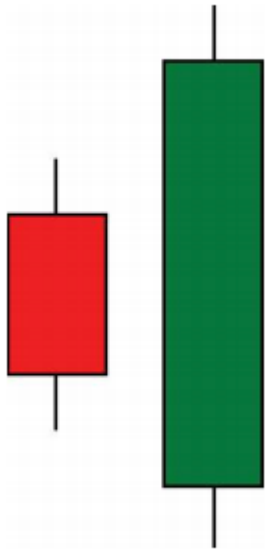
Bullish Harami

Consists of an unusually large red body followed by a small green body (contained within a large red body). It is considered as a bullish pattern when preceded by a downtrend



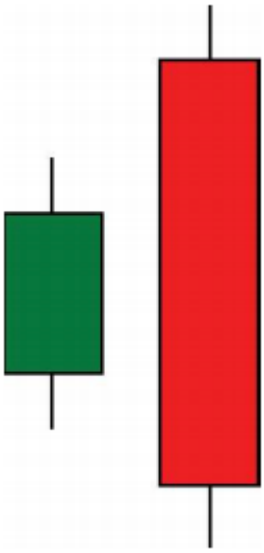
Engulfing Bullish

Consists of a small red body that is contained within the followed large green candlestick. When it appears at the bottom it is interpreted as a major reversal signal.



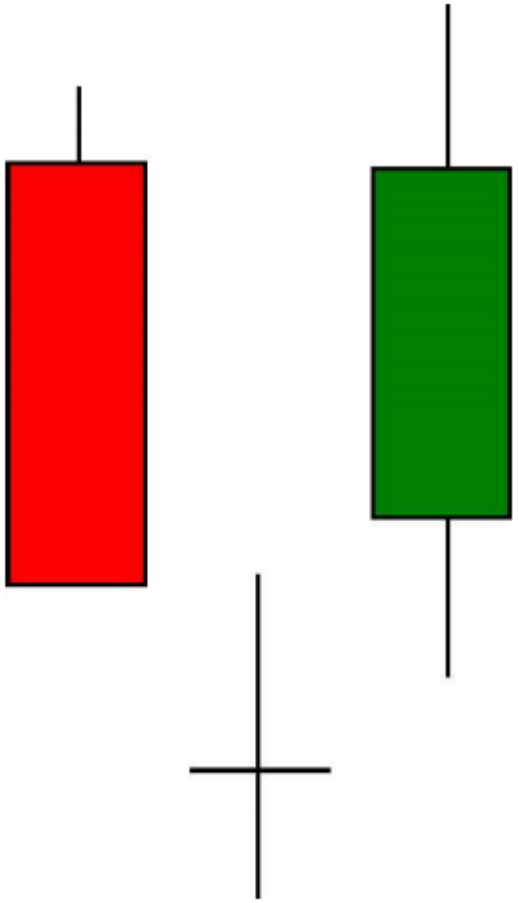
Engulfing Bearish

Consists of a small green body that is contained within the followed large red candlestick. When it appears at the top it is considered as a major reversal signal.



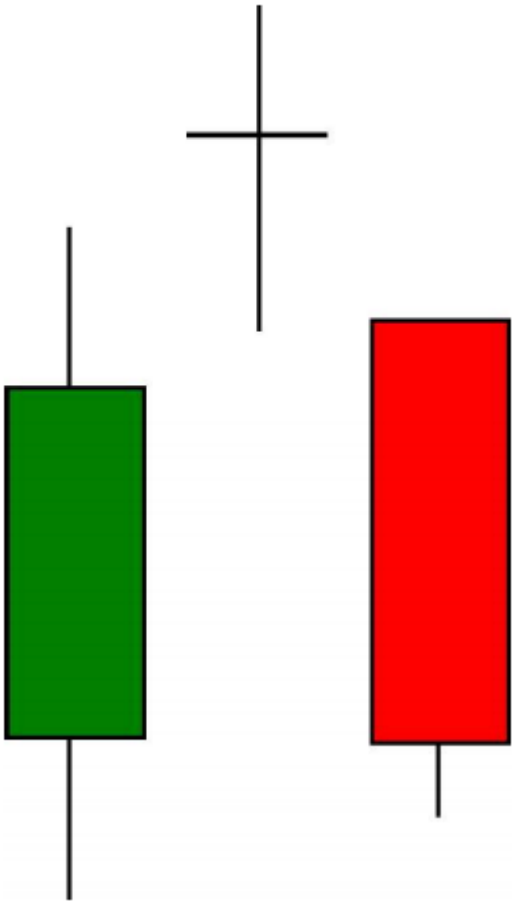
Morning Doji Star

Consists of a large red body candlestick followed by a Doji that occurred below the preceding candlestick. On the following day, a third green body candlestick is formed that closes well into the red body candlestick which appeared before the Doji. It is considered a major reversal signal.



Evening Doji Star

Consists of three candlesticks. First is a large green body candlestick followed by a Doji that gaps above the green body. The third candlestick is a red body that closes well into the green body. When it appears at the top it is considered as a reversal signal. It signals a bearish trend.



27.4. Continuation Patterns

When a trader looks at the price chart of a stock, it can appear to be completely random movements. This is often true and, yet, within those price movements are patterns. Chart patterns are geometric shapes found in the price data that can help a trader understand the price action, as well as make predictions about where the price is likely to go. Continuation patterns, when they occur, indicate that a price trend is likely to continue. This article provides an introduction to continuation patterns, explaining what these patterns are and how to spot them.

- Continuation patterns are an indication traders look for to signal that a price trend is likely to remain in play.
- These patterns occur in the middle of a trend and signal that once a pattern has been completed, the trend will most likely resume.

- All kinds of time frames can be scoured for continuation patterns, such as tick charts, daily or weekly charts.
- Triangles, flags, pennants, and rectangles are examples of continuation patterns that market traders often work with.

Common continuation patterns include **triangles**, **flags**, **pennants**, and **rectangles**.

27.5. Reversal

A reversal is a change in the price direction of an asset. A reversal can occur to the upside or downside. Following an uptrend, a reversal would be to the downside. Following a downtrend, a reversal would be to the upside. Reversals are based on overall price direction and are not typically based on one or two periods/bars on a chart.

Certain indicators, such as a **moving average**, **oscillator**, or channel, may help in isolating trends as well as spotting reversals. Reversals may be compared with breakouts.

- A reversal is when the direction of a price trend has changed, from going up to going down, or vice-versa.
- Traders try to get out of positions that are aligned with the trend before a reversal, or they will get out once they see the reversal underway.
- Reversals typically refer to large price changes, where the trend changes direction. Small counter-moves against the trend are called pullbacks or consolidations.
- When it starts to occur, a reversal isn't distinguishable from a pullback. A reversal keeps going and forms a new trend, while a pullback ends and then the price starts moving back in the trending direction.

28. Strategy Types

Mean reversion: Mean reversion strategies rely on the theory that prices usually move back towards their mean.

Momentum: Momentum strategies rely on the theory that there are continuations in trends and a certain force of motion in a moving body that can keep pushing a price away from its mean.

29. GamePlan

You need to write down on paper every part of your trading plan before you start trading. Your trading plan should include: •Description of strategy •Hold time •Entry signals •Exit signals •Position sizing •Max loss •Stock selection •Bail-out indications

Trading plan template

Gameplan	
Strategy	name of strategy
Style	day-trading, swing trading, investing
Type	momentum, mean-reversion, event-driven
Holding period	min to max holding time
Stock selection	fundamental & technical criteria for eligibility
Entry signal	set of criteria to trigger entry
Entry style	Aggressive, Passive scaling methodology (1 entry, scaling in, scaling out)
Take profit	signal when to take profits
take profit style	market order, limit order, combination
Position sizing	max position
Stop Loss	The price point for exit
Take Loss style	Aggressive, Passive
Bail-out indicators	things that can happen that cause you to just get out

30. Trading Strategy

30.1. Strategy 1: Short Squeeze

This strategy revolves around the fact that short traders have to cover their position at one point or another. Shorting is not a long-term investment style and there are many fees associated with being short a stock. Therefore, knowing that a stock has a high short ratio gives us an indication that there could be demand for the stock in the short term. Knowing that a stock has a high short ratio and the short float is not enough for a buy signal. It's not because short floats are high that the stock won't keep dropping, and that long side investors won't keep selling pushing the stock's price further down. What you want to do is combine the short ratio and short float with price action. If the price goes up and we know that a lot of people are short then we know they will have to close their position, which they will do by buying back the shares. By doing this they will put more buying pressure on the stock, which will lead to higher prices, which will, in turn, trigger more stop losses and more covering, and so on. This is what we call a short squeeze.

30.2. Strategy 2: Pair Trading

Pair trading strategy was developed in the 1980s by Morgan Stanley and since then, it’s one of the most popular hedge fund ‘strategy until today.

It’s a market-neutral trading strategy which means that we can profit from any market conditions: uptrend, downtrend, or sideways movement.

Synonyms of pair trading: statistical arbitrage, long/short strategy, convergence trading strategy, Equity-market-neutral.

In pair trading, we are looking for 2 very correlated stocks (that move together). We track the price movement of these stocks since we know they should be moving in line with one another. A way of tracking their price movement is by comparing the spread (the difference between the price of one stock to the price of the other stock) and if that spread narrows or widens we know that the stocks are converging or diverging. If the pairs (the stocks) diverge from one another, we know that there is a high likelihood that they converge shortly. This creates a trading opportunity that we can capitalize on. We can buy the stock that is undervalued and short the one that is overvalued. In this situation, we have just entered a pair.