Technical Analysis Basics
Understanding How It Works

Rarely is large or even any investment made without reviewing the technical elements. Technical Analysis is, more an art form than a science, the forecasting of future financial price movements based on an examination of past price movements. The beauty of technical analysis lies in its versatility. The principles of technical analysis are universally applicable to stocks, indices, commodities, futures or any tradable instrument where the price is influenced by the forces of supply and demand.

It is the best hope that this compilation of technical concepts will increase the awareness and use of technical analysis, and in turn, improve the results of those who practice it.
What is Technical Analysis?

Technical Analysis is the forecasting of future financial price movements based on an examination of past price movements. Like weather forecasting, technical analysis does not result in absolute predictions about the future. Instead, technical analysis can help investors anticipate what is “likely” to happen to prices over time.

### Objectives
- To construct a systematic rules based trading system,
- To identify entry and exit levels for the trade positions,
- To maximize the gains from all sorts of trading activities, and minimize risk and losses arising from such activities.

### History

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### Scope

Technical analysis is applicable to stocks, indices, commodities, futures or any tradable instrument where the price is influenced by the forces of supply and demand.

### Components

- **Psychology:** investment behavior (demand/supply force)
- **Geometry:** plotting trend lines, identifying chart patterns
- **Mathematics:** indicators’ calculation
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Assumptions

Price Discounts Everything

Technical analysts believe that the current price fully reflects all information. Because all information is already reflected in the price, it represents the fair value, and should form the basis for analysis. After all, the market price reflects the sum knowledge of all participants, including traders, investors, portfolio managers, buy-side analysts, sell-side analysts, market strategist, technical analysts, fundamental analysts and many others.

Prices Movements are not Totally Random

A technician believes that it is possible to identify a trend, invest or trade based on the trend and make money as the trend unfolds. Because technical analysis can be applied to many different timeframes, it is possible to spot both short-term and long-term trends.

"What" is More Important than "Why"

Technicians, as technical analysts are called, are only concerned with two things:
1. What is the current price?
2. What is the history of the price movement?

The price is the end result of the battle between the forces of supply and demand for the company's stock. The objective of analysis is to forecast the direction of the future price. By focusing on price and only price, technical analysis represents a direct approach.

“A technical analyst knows the price of everything, but the value of nothing”.
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Strengths

Focus on Price

If the objective is to predict the future price, then it makes sense to focus on price movements. Price movements usually precede fundamental developments. By focusing on price action, technicians are automatically focusing on the future. The market is thought of as a leading indicator and generally leads the economy by 6 to 9 months. To keep pace with the market, it makes sense to look directly at the price movements.

Supply, Demand, and Price Action

Many technicians use the open, high, low and close when analyzing the price action of a security. There is information to be obtained from each bit of information. Separately, these will not be able to tell much. However, taken together, the open, high, low and close reflect forces of supply and demand. In its most basic form, higher prices reflect increased demand and lower prices reflect increased supply. Moreover, if prices move above the upper band (resistance level) of the trading range, then demand is winning. If prices move below the lower band (support level), then supply is winning.

Assist with Entry & Exit Point

Technical analysis can help with timing a proper entry and exit points. Some analysts use fundamental analysis to decide what to buy or sell and technical analysis to decide when to buy or sell.

Pictorial Price History

With the historical picture, it is easy to identify the following:

- Reactions prior to and after important events,
- Past and present volatility,
- Historical volume or trading levels,
- Relative strength of a stock versus the overall market.
## What is Technical Analysis?

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### Weaknesses

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<tr>
<td>Analyst Bias</td>
<td>Just as with fundamental analysis, technical analysis is subjective and our personal biases can be reflected in the analysis. It is important to be aware of these biases when analyzing a chart.</td>
</tr>
<tr>
<td>Open to Interpretation</td>
<td>Furthering the bias argument is the fact that technical analysis is open to interpretation. Even though there are standards, many times two technicians will look at the same chart and paint two different scenarios or see different patterns. Both will be able to come up with logical support and resistance levels as well as key breaks to justify their position. While this can be frustrating, it should be pointed out that technical analysis is more like an art than a science, somewhat like economics.</td>
</tr>
<tr>
<td>Too Late</td>
<td>Technical analysis has been criticized for being too late. By the time the trend is identified, a substantial portion of the move has already taken place. After such a large move, the reward to risk ratio is not great.</td>
</tr>
<tr>
<td>Always Another Level</td>
<td>Even after a new trend has been identified, there is always another “important” level close at hand. Technicians have been accused of sitting on the fence and never taking an unqualified stance. Even if they are bullish, there is always some indicator or some level that will qualify their opinion.</td>
</tr>
<tr>
<td>Not One Size Fits All</td>
<td>Not all technical signals and patterns work and even what works for one particular stock may not work for another. Even though many principles of technical analysis are universal, each security will have its own peculiarity.</td>
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Underlying Theories of Technical Analysis

Dow Theory

Dow Theory at a high level describes market trends and how they typically behave. Precisely, it provides signals that can be used to identify the primary market trend and/or indicate a change in that trend, and use volume to confirm those trends. Dow believed that the stock market as a whole was a reliable measure of overall business conditions within the economy and that by analyzing the overall market, one could accurately gauge those conditions and identify the direction of major market trends and the likely direction of individual stocks.

Elliott Wave Theory

The Elliott Wave Theory is based on a certain cyclic laws in human behavior psychology. According to Elliott, the market price behavior can be clearly estimated and shown in the chart as waves (wave is here an explicit price move). The Elliott Wave Theory says that the market can be in two large phases: Bull Market and Bear Market. Elliott proposes, as well, that all price moves on the market are divided into: five waves in the direction of the main trend and three corrective waves.

Gann Theory

The methods of analysis employed by Gann can best be described as the study of pattern, price and time and how their relationships affect the market. Gann treated these as the most important aspects which influenced the future movements of any market. The main focus of Gann theory is to understand that at various times, different aspects will influence the market. For example, a pattern may have a large influence on the market while at another time it will be price and time that will provide a dominating force on the market. Understanding these relationships is the key to trading with more success using Gann theory. Moreover, Gann Fans are drawn from major price peaks and bottoms and are used to show trend lines of support and resistance.
Top-Down Technical Analysis

The beauty of technical analysis lies in its versatility. Because the principles of technical analysis are universally applicable, each of the analysis steps below can be performed using the same theoretical background.

Top-Down Technical Analysis might involve Three Steps.

- **Broad market analysis** through the major indices such as DSEX, CSCX.
- **Sector analysis** to identify the strongest and weakest groups within the broader market.
- **Individual stock analysis** to identify the strongest and weakest stocks within select groups.

For each segment (market, sector, and stock), an investor would analyze long-term and short-term charts to find those that meet specific criteria. Analysis will first consider the market in general, perhaps DSEX.

If the broader market were considered to be in bullish mode, analysis would proceed to a selection of sector charts. Those sectors that show the most promise would be singled out for individual stock analysis.

Once the sector list is narrowed to 3-4 industry groups, individual stock selection can begin. With a selection of 10-20 stock charts from each industry, a selection of 3-4 of the most promising stocks in each group can be made.

How many stocks or industry groups make the final cut will depend on the strictness of the criteria set forth.

Under this scenario, we would be left with 9-12 stocks from which to choose.

These stocks could even be broken down further to find the 3-4 of the strongest of the strong.
Candlesticks – (a)

Price data (or “market action”) refers to any combination of the open, high, low, close, volume, or open interest for a given security over a specific timeframe. The timeframe can be based on intraday (1-minute, 5-minutes, 10-minutes, 15-minutes, 30-minutes or hourly), daily, weekly or monthly price data and last a few hours or many years.

In order to create a candlestick chart, one must have a data set that contains open, high, low and close values for each time period.

The difference between the open price and the close price is called the **real body**. The amount the stock goes higher beyond the real body is called the **upper shadow**. The amount it goes lower is called the **lower shadow**. If the candle is green or white it means the open price is lower than the close price indicating **buying pressure**. If the candle is red or any other colored except green it means the close price is lower than the open price indicating **selling pressure**.
**Hammer:**
Hammer candlesticks form when a security moves significantly lower after the open, but rallies to close well above the intraday low. The resulting candlestick looks like a square lollipop with a long stick. If this candlestick forms during a decline, then it is called a Hammer.

**Hanging Man:**
Hanging Man candlesticks form when a security moves significantly lower after the open, but rallies to close well above the intraday low. The resulting candlestick looks like a square lollipop with a long stick. If this candlestick forms during an advance, then it is called a Hanging Man.

**Inverted Hammer:**
A one-day bullish reversal pattern. In a downtrend, the open is lower, then it trades higher, but closes near its open, therefore looking like an inverted lollipop.

**Shooting Star:**
A single day pattern that can appear in an uptrend. It opens higher, trades much higher, then closes near its open. It looks just like the Inverted Hammer except that it is bearish.
Three Black Crows:
A bearish reversal pattern consisting of three consecutive long black bodies where each day closes at or near its low and opens within the body of the previous day.

Three White Soldiers:
A bullish reversal pattern consisting of three consecutive long white bodies. Each should open within the previous body and the close should be near the high of the day.

Upside Tasuki Gap:
A continuation pattern with a long white body followed by another white body that has gapped above the first one. The third day is black and opens within the body of the second day, then closes in the gap between the first two days, but does not close the gap.

Downside Tasuki Gap:
A continuation pattern with a long, black body followed by another black body that has gapped below the first one. The third day is white and opens within the body of the second day, then closes in the gap between the first two days, but does not close the gap.
Doji:
Doji form when a security's open and close are virtually equal. The length of the upper and lower shadows can vary, and the resulting candlestick looks like, either, a cross, inverted cross, or plus sign. Doji convey a sense of indecision or tug-of-war between buyers and sellers. Prices move above and below the opening level during the session, but close at or near the opening level.

Dragonfly Doji:
A Doji where the open and close price are at the high of the day. Like other Doji days, this one normally appears at market turning points.

Gravestone Doji:
A doji line that develops when the Doji is at, or very near, the low of the day.

Long-Legged Doji:
This candlestick has long upper and lower shadows with the Doji in the middle of the day's trading range, clearly reflecting the indecision of traders.
Stars:
A candlestick that gaps away from the previous candlestick is said to be in star position. Depending on the previous candlestick, the star position candlestick gaps up or down and appears isolated from previous price action.

Morning Star:
A three-day bullish reversal pattern consisting of three candlesticks - a long-bodied black candle extending the current downtrend, a short middle candle that gapped down on the open, and a long-bodied white candle that gapped up on the open and closed above the midpoint of the body of the first day.

Morning Doji Star:
A three-day bullish reversal pattern that is very similar to the Morning Star. The first day is in a downtrend with a long black body. The next day opens lower with a Doji that has a small trading range. The last day closes above the midpoint of the first day.

Evening Star:
A bearish reversal pattern that continues an uptrend with a long white body day followed by a gapped up small body day, then a down close with the close below the midpoint of the first day.

Evening Doji Star:
A three-day bearish reversal pattern similar to the Evening Star. The uptrend continues with a large white body. The next day opens higher, trades in a small range, then closes at its open (Doji). The next day closes below the midpoint of the body of the first day.
**Candlesticks – (f)**

**Marubozu:**
A candlestick with no shadow extending from the body at either the open, the close or at both.

**Long Body / Long Day:**
A long day represents a large price move from open to close, where the length of the candle body is long.

**Short Body / Short Day:**
A short day represents a small price move from open to close, where the length of the candle body is short.

**Spinning Top:**
Candlestick lines that have small bodies with upper and lower shadows that exceed the length of the body. Spinning tops signal indecision.

**Long Shadows:**
Candlesticks with a long upper shadow and short lower shadow indicate that buyers dominated during the first part of the session, bidding prices higher. Conversely, candlesticks with long lower shadows and short upper shadows indicate that sellers dominated during the first part of the session, driving prices lower.
**Candlesticks – (g)**

**Dark Cloud Cover:**
A bearish reversal pattern that continues the uptrend with a long white body. The next day opens at a new high then closes below the midpoint of the body of the first day.

**Engulfing Pattern:**
A reversal pattern that can be bearish or bullish, depending upon whether it appears at the end of an uptrend (bearish engulfing pattern) or a downtrend (bullish engulfing pattern). The first day is characterized by a small body, followed by a day whose body completely engulfs the previous day's body and closes in the opposite direction of the trend. This pattern is similar to the outside reversal chart pattern, but does not require the entire range (high and low) to be engulfed, just the open and close.

**Harami:**
A two-day pattern that has a small body day completely contained within the range of the previous body, and is the opposite color.

**Harami Cross:**
A two-day pattern similar to the Harami. The difference is that the last day is a Doji.

**Piercing Line:**
A bullish two-day reversal pattern. The first day, in a downtrend, is a long black day. The next day opens at a new low, then closes above the midpoint of the body of the first day.
The primary pattern followed by technical analysts is the trend, which is the direction that market prices or individual security prices are moving. Trend line is a straight line drawn along successive reaction highs or lows.

An **uptrend, or bullish trend**, means that the price is moving higher. An uptrend line is a straight line drawn upward to the right along successive reaction lows.

A **downtrend, or bearish trend**, means the price is moving lower. A downtrend line is a straight line drawn downward to the right along successive reaction highs.

A **sideways trend**, where the price is moving sideways between upper and lower lines.

Trend Line Reverse Role: an uptrend line (support line) will usually become a resistance line once its decisively broke and similarly a downtrend line (resistance line) will usually become a support line once its broke.
Support & Resistance – (a)

Support Level:
- Support is the price level at which demand is thought to be strong enough to prevent the price from declining further.
- The logic dictates that as the price declines towards support and gets cheaper, buyers become more inclined to buy and sellers become less inclined to sell.
- By the time the price reaches the support level, it is believed that demand will overcome supply and prevent the price from falling below support.

Resistance Level:
- Resistance is the price level at which selling is thought to be strong enough to prevent the price from rising further.
- The logic dictates that as the price advances towards resistance, sellers become more inclined to sell and buyers become less inclined to buy.
- By the time the price reaches the resistance level, it is believed that supply will overcome demand and prevent the price from rising above resistance.
Support and Resistance Zones:
Because technical analysis is not an exact science, it is useful to create support and resistance zones. Sometimes, exact support and resistance levels are best, and, sometimes, zones work better. Generally, the tighter the range, the more exact the level.

General Guidelines:
- If the trading range spans less than 2 months and the price range is relatively tight, then more exact support and resistance levels are best suited.
- If a trading range spans many months and the price range is relatively large, then it is best to use support and resistance zones.

These are only meant as general guidelines, and each trading range should be judged on its own merits.
Support & Resistance – (c)

Support Becomes Resistance:
If price breaks below support, that support level can become the new resistance level.

Resistance Becomes Support:
If price breaks above resistance, then that resistance level can become the new support level.
Chart patterns are simply more complex versions of trend lines.

Chart patterns put all buying and selling into perspective by consolidating the forces of supply and demand into a concise picture.

The two most popular chart patterns are reversals and continuations.

A reversal pattern signals that a prior trend will reverse upon completion of the pattern, while a continuation pattern signals that the trend will continue once the pattern is complete.

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Double Top – M Pattern (A Bearish Reversal Pattern)

1. Prior Trend: A significant uptrend of several months
2. First Peak: The highest point of the current trend
3. Trough: A decline ranging from 10% (at least) to 20%
4. Second Peak: The advance off the low meets resistance from the previous high. Norm of the time period between peaks is 1-3 months.
5. Decline from Peak: Subsequent decline with high volume
6. Support Break: Breaking support from the lowest point of trough with high volume
7. Support Turned Resistance
8. Price Target: Tk. (62-52)=Tk. 10 then Tk. (52-10)=Tk. 42 (achieved)

Double Bottom – W Pattern (A Bullish Reversal Pattern)

1. Prior Trend: A significant downtrend of several months
2. First Trough: The lowest point of the current trend
3. Peak: A advance ranging from 10% to 20%
4. Second Trough: The decline off the high meets support from the previous low. Norm of the time period between troughs is 1-3 months.
5. Advance from Trough: Subsequent advance with high volume
6. Resistance Break: Breaking resistance from the highest point of peak with high volume
7. Resistance Turned Support
8. Price Target: Tk. (58-48)=Tk. 10 then Tk. (58+10)=Tk. 68 (achieved)
**Rectangle**

*(A Continuation Pattern)*

1. **Prior Trend:** A Uptrend or Downtrend of several months
2. **Upper Resistance Line:** At least Two (ideally, equivalent) Reaction Highs
3. **Lower Support Line:** At least Two (ideally, equivalent) Reaction Lows
4. **Volume Indication:**
   -- More Volume in Advances to Resistance _ Break-out
   -- More Volume in Declines to Support _ Break-down
5. **Duration:**
   -- Developing ideally over a 3 month period
   -- a 6 month Pattern Exceeding Breakage Target
6. **Breakage Direction and Confirmation:** Break-out or Break-down with Price (up/down 3%), Time (3 days) or Volume (expansion)
7. **Return to Breakage:** Broken Support becoming Resistance or Broken Resistance becoming Support
8. **Target:** Measuring the Height of the Rectangle and applying it to the Break-out or Break-down
**Triple Top** (A Bearish Reversal Pattern)

1. **Prior Trend**: An uptrend
2. **Three Highs**: Reasonable equal, well-spaced and establish clear resistance
3. **Volume**: High volume near the highs and at the support break forming by the lows. The patterns usually form over 3 to 6 month period.
4. **Support Turned Resistance**
5. **Price Target**: Tk. (17.8-15.6)=Tk. 2.2 then Tk. (15.6-2.2)=Tk. 13.4 (achieved)

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**Triple Bottom** (A Bullish Reversal Pattern)

1. **Prior Trend**: An downtrend
2. **Three Lows**: Reasonable equal, well-spaced and establish clear support
3. **Volume**: High volume near the lows and at the resistance break forming by the highs. The patterns usually form over 3 to 6 month period.
4. **Resistance Turned Support**
5. **Price Target**: Tk. (46.1-43)=Tk. 3.1 then Tk. (46.1+3.1)=Tk. 49.2 (achieved)
Price Channel-Bullish
(A Bullish Continuation Pattern)

1. Main Trend Line: Extending Up by at least Two Reaction Lows
2. Channel Line: Forming with Two Reaction Highs and Acting as Resistance
3. Channel Line Breakage: Break-out the Channel Line indicating an Acceleration of the Advance

Price Channel-Bearish
(A Bearish Continuation Pattern)

1. Main Trend Line: Extending Down by at least Two Reaction Highs
2. Channel Line: Forming with Two Reaction Lows and Acting as Support
3. Channel Line Breakage: Break-down the Channel Line indicating an Acceleration of the Decline
**Head and Shoulders Top**
(A Bearish Reversal Pattern)

1. **Prior Trend**: An uptrend
2. **Left Shoulder**:
   - Peak – high point of trend;
   - Low – usually above the trend line and 1st point of the neckline
3. **Head**:
   - Peak – exceeds the previous high;
   - Low - breaks the uptrend line and 2nd point of the neckline
4. **Right Shoulder**:
   - Peak – lower than the head and in line with the high of the left shoulder;
   - Low – break the neckline
5. **Neckline**: Forming by connecting low points 1 and 2. Downward slope is more bearish than an upward slope
6. **Volume**
7. **Neckline Break**
8. **Support Turned Resistance**
9. **Price Target**: Tk. (91-75)=Tk. 16 then Tk. (75-16)=Tk. 59 (achieved)
Head and Shoulders Bottom
(A Bullish Reversal Pattern)

1. **Prior Trend:** A downtrend
2. **Left Shoulder:**
   - Trough – low point of trend;
   - High – usually below the trend line and 1st point of the neckline
3. **Head:**
   - Trough – exceeds the previous low;
   - High - breaks the downtrend line and 2nd point of the neckline
4. **Right Shoulder:**
   - Trough – higher than the head and in line with the low of the left shoulder;
   - High – break the neckline
5. **Neckline:** Forming by connecting high points 1 and 2. Upward slope is more bullish than an downward slope
6. **Volume**
7. **Neckline Break**
8. **Resistance Turned Support**
9. **Price Target:** Tk. (177.2-156.3)=Tk. 20.9 then Tk. (177.2+20.9)=Tk. 198.1 (achieved)
**Ascending Triangle**  
(A Bullish Continuation Pattern)

1. Prior Trend: Uptrend
2. Top Horizontal Line: At least two (ideally, equivalent) reaction highs
3. Lower Ascending Trend Line: At least two higher reaction lows
4. Duration: Developing over a 1-3 months period
5. Volume: In developing phase _ low; After break out _ higher
6. Return to Breakage: Broken Resistance becoming Support
7. Target: Measuring the widest height of the triangle and applying it to the Break out point

**Descending Triangle**  
(A Bearish Continuation Pattern)

1. Prior Trend: Downtrend
2. Lower Horizontal Line: At least two (ideally, equivalent) reaction lows
3. Upper Ascending Trend Line: At least two lower reaction highs
4. Duration: Developing over a 1-3 months period
5. Volume: In developing phase _ low; After break down _ higher
6. Return to Breakage: Broken Support becoming Resistance
7. Target: Measuring the widest height of the triangle and applying it to the Break down point
Indicators

- A technical indicator is a series of data points that are derived by applying a formula to the price data of a security. Price data includes any combination of the open, high, low, and close over a period of time.
- Indicators are used in two main ways: to confirm price movement and the quality of chart patterns, and to form buy and sell signals.
- Even though it may be obvious when indicators generate buy and sell signals, the signals should be taken in context with other technical analysis tools.

Leading (Price) Indicators
The leading indicators are designed to lead price movements or provide signals immediately with the movement occurs. A leading indicator is thought to be effective in trading or during periods of sideways.

- Some popular leading indicators include -
  a. Relative Strength Index (RSI),
  b. Commodity Channel Index (CCI),
  c. Stochastic Oscillator,
  d. Williams %R,
  e. Parabolic SAR,
  f. Rate of Change (ROC).

Lagging (Price) Indicators
The lagging indicators follow the price action and are commonly referred to as trend-following indicators. Trend-following indicators work best when markets or securities develop strong trends.

- Some popular lagging indicators include -
  a. Moving Averages (MA),
  b. Moving Average Convergence Divergence (MACD),
  c. Average Directional Index (ADX).

Volume Indicators
The volume indicators use both price and volume to measure buying and selling pressure.

- Some popular volume indicators include -
  a. Money Flow Index (MFI),
  b. On Balance Volume (OBV),
  c. Accumulation Distribution Line (ADL).

Volatility Indicators
The volatility indicators measure fluctuation in a security’s price and reveal the period of calm and volatile trading of a security.

- Some popular volatility indicators include -
  a. Bollinger Bands (BB),
  b. Percentage Bands or Envelopes,
  c. Average True Range (ATR),
  d. Keltner Channels.
Relative Strength Index (RSI)

Parameters:
- Default: 14
- Lower: increasing sensitivity
- Higher: decreasing sensitivity

Overbought/Oversold:
- Oscillating Range: 0 – 100
- Overbought (indicating price may pullback): RSI > 70
- Oversold (indicating price may throwback): RSI < 30

RSI in Trend

RSI Bull Market Range: 40-90
RSI Support Zone: 40-50

RSI Bear Market Range: 10-60
RSI Resistance Zone: 50-60

These ranges may vary depending on RSI parameters, strength of trend and volatility of the underlying security.

Despite changes in volatility and the markets over the years, RSI remains as relevant now as it was in Wilder's days.
Parabolic SAR

- Best for trend following securities
- SAR = Stop And Reverse
- Constituting with dots above and below the prices
- Confirming uptrend/bullish sign (buy signal): 3 dots below the prices
- Confirming downtrend/bearish sign (sell signal): 3 dots above the prices
- Moving the dots slowly and the picking up speed and accelerating with the trend
- Leading to many false signals when the price moves sideways
- Average Accuracy Level: 30% only
- Requirement to increase accuracy:
  - Trend following securities
  - Securities specific setting
  - Used in conjunction with other indicators
Moving Average Convergence/Divergence

- Trend following indicator
- Constructed with two moving averages (slow & fast) and histograms (positive and negative)
- Convergence and Divergence between two moving averages

**Trend Identification:**
Uptrend: Sustained Positive MACD
Downtrend: Sustained Negative MACD

**Signal Crossovers:**
Bullish: MACD line turns up and crosses above the signal line
Bearish: MACD line turns down and crosses below the signal line

**Centerline Crossovers:**
Bullish: MACD line moves above the centerline / zero line
Bearish: MACD line moves below the centerline / zero line
Moving Averages

- A trend following indicator
- Do not predict price direction
- **Lag Factor**: The longer the moving average, the more the lag
- **Moving Averages**: According to weights given to recent prices, so that, get turning: WMA > EMA > SMA
- **Most Popular Timeframes (Days)**: Short-term_10, Mid-term_50, Long-term_200
- **Trend Identification**: Uptrend _ Rising MA, Downtrend _ Falling MA
- **Double Crossovers**:  
  Bullish (Golden Cross) : the shorter MA crosses above the longer MA  
  Bearish (Dead Cross) : the shorter MA crosses below the longer MA
- **Price Crossovers**:  
  Bullish : Prices move above the MA  
  Bearish : Prices move below the MA
- **Support & Resistance Levels**: SMA (generally, 200 Days SMA) is better suited to identify support and resistance levels
Money Flow Index (MFI)

- Volume-weighted RSI
- Constructed with price and volume to measure buying and selling pressure
- RSI leads prices & Incorporating volume increases lead time

**Parameters:**
- Default: 14
- Lower: increasing sensitivity
- Higher: deceasing sensitivity

**Overbought/Oversold:**
- Oscillating Range: 0 – 100
- Overbought (indicating price may pullback): MFI > 80 (actual: MFI > 90)
- Oversold (indicating price may throwback): MFI < 20 (actual: MFI < 10)
Bollinger Bands (BB)

- **Volatility Bands:**
  - Placed above and below a moving average
  - Widen when volatility increases
  - Narrow when volatility decreases

- **Things To Remember:**
The bands should contain 88-89% of price action, which makes a move outside the bands significant.

- **Signal of Trend: Bollinger Band Squeeze:**
  - Volatility falls to low levels
  - The bands become narrow
  - Periods of low volatility are often followed by periods of high volatility
  - A subsequent band break signals the start of a new move

- **Signal in Trend: Bollinger Bounce:**
  - At time of price trending, stock’s price will “bounce” off the top or bottom BB
  - Short-term Bullish Indicator: price is close to or touching the bottom BB
  - Short-term Bearish Indicator: price is close to or touching the top BB
  - SMA acts support during uptrend and resistance during downtrend
To Recapitulate...

Technical analysis focuses directly on the **bottom line**: What is the price? Where has it been? Where is it going?

There is no questioning the **current price** of a security.

The price set by the market reflects the **sum knowledge of all participants**.

These participants have considered (discounted) everything under the sun and settled on a price to buy or sell. These are the forces of **supply and demand** at work.

Technical analysis is **more an art form than a science**. As an art form, it is subject to interpretation.

Each investor should use only those **technical tools** which suit his or her style.

Developing a style takes time, effort and dedication, but the **rewards** can be significant.