Analyzing Market Behavior using Technical Analysis

University at Buffalo
School of Management

University at Buffalo
Equity Research Group

Introduction:

Technical analysis is a method of evaluating securities that involves a statistical analysis of market activity, such as price and volume. Technical analysts do not attempt to measure a security's intrinsic value, but rather, use charts and other tools to identify patterns that can be used as a basis for investment decisions.

Technical analyst exclusive use of historical price and volume data is what separates them from fundamental counterparts.

Assumptions Before Starting:

1. Market Discount Everything
2. Price moves in Trends
3. History tends to repeat itself

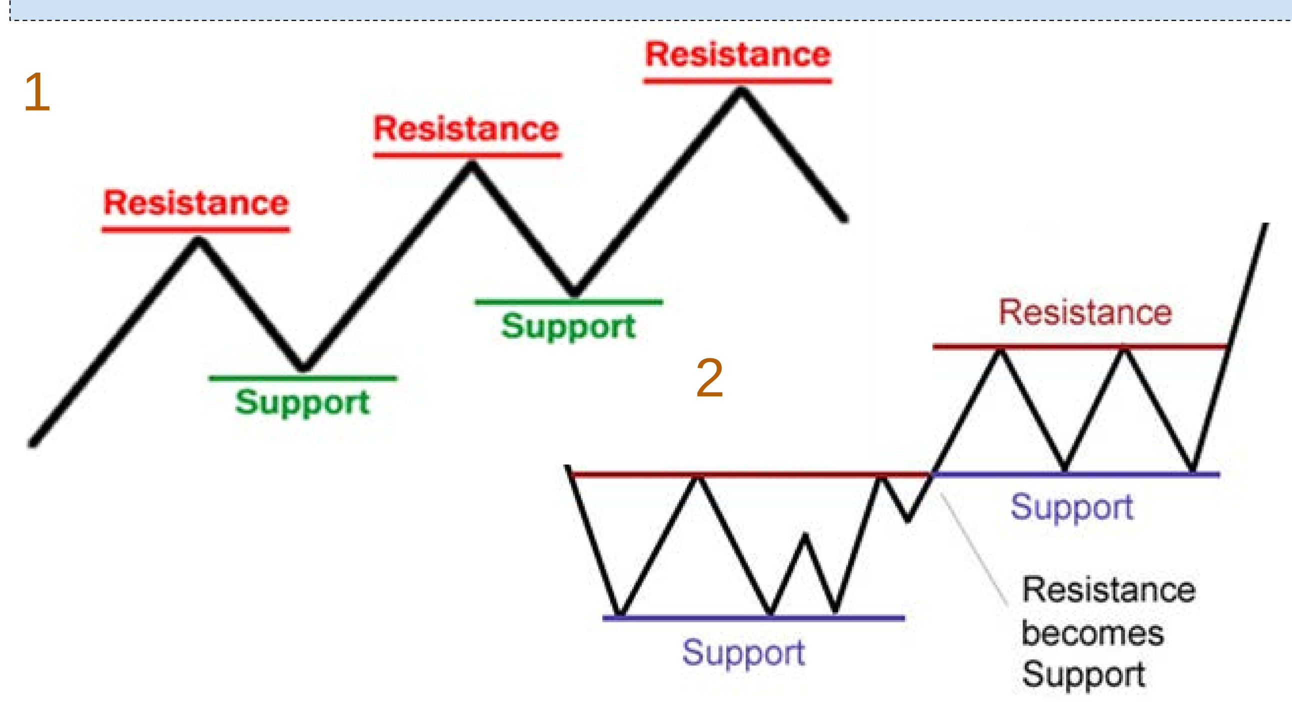
Different Types of Technical Analysis

Unique Technical Analysis:

1. Support and Resistance Lines
2. Moving Averages
3. Indicators and Oscillators
   a. Relative Strength Index
   b. MACD
   c. TTM Squeeze
4. Trendlines and Channels
5. Chart Types

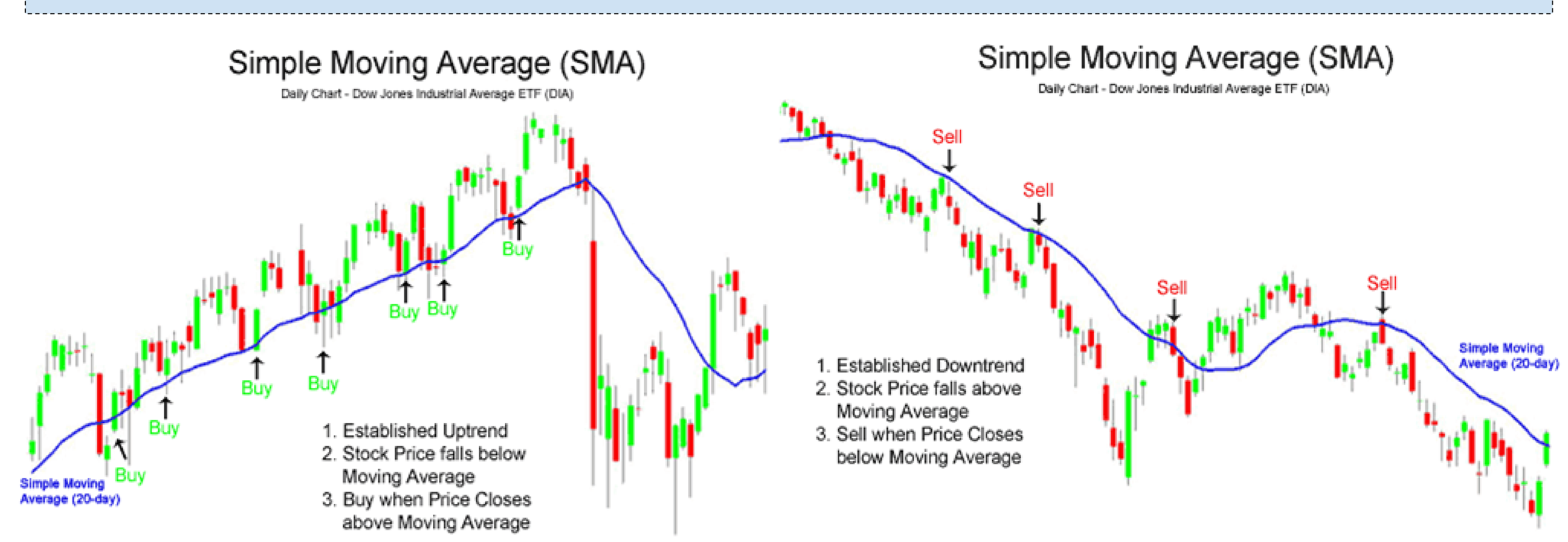
1. Support/Resistance Lines

Support and Resistance Lines is a concept that the movement of the price of a security will tend to stop and reverse at certain predetermined price levels. We want to identify these obvious levels, and get a "birds eye view" of the general market.



2. Moving Averages

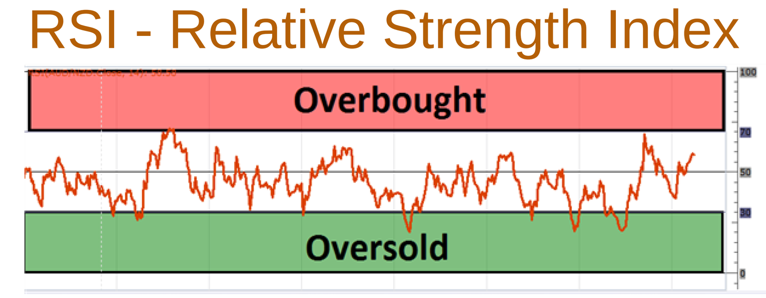
Moving Averages are used to gauge the direction of the current trend, using averages. Most commonly used are the 50 Day and also the 200 Day Moving Average. When these two lines crossover, there is a potential change in the trend and potential opportunity to enter in a trade.



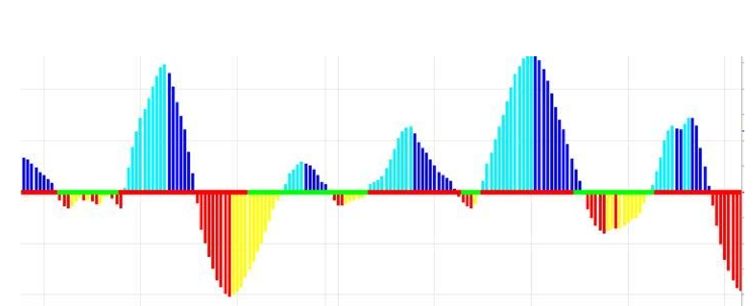
3. Indicators and Oscillators

Indicators are used within technical analysis to gain insight into the supply and demand of securities. **Oscillators** vary over time within a band and are used to discover short-term overbought or oversold conditions. Common oscillators are MACD, ROC, RSI, CCI.

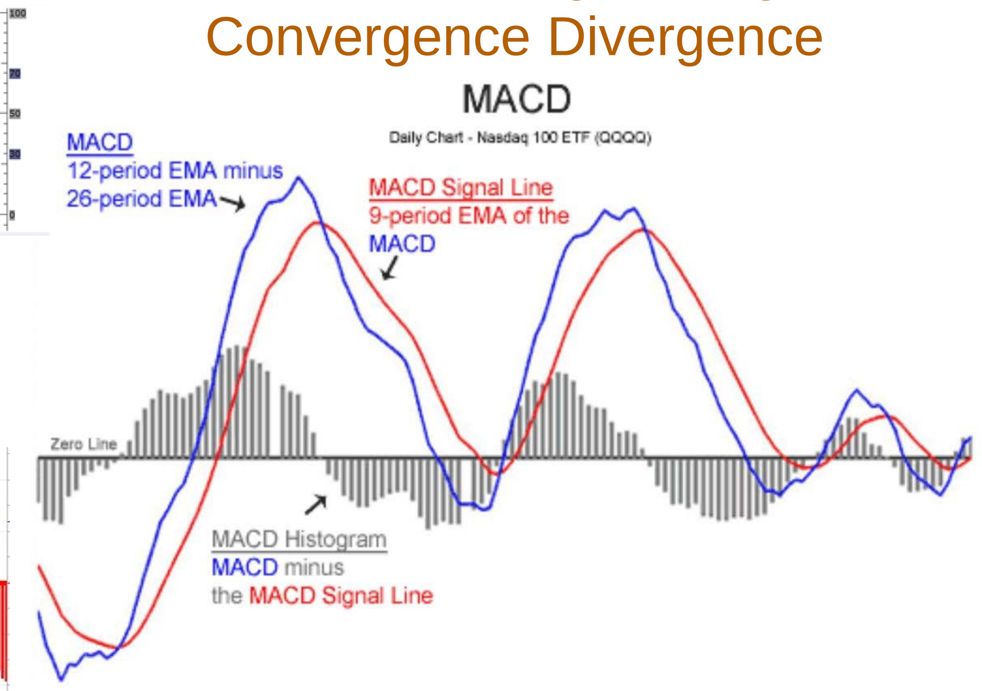
RSI - Relative Strength Index



TTM - TTM Squeeze



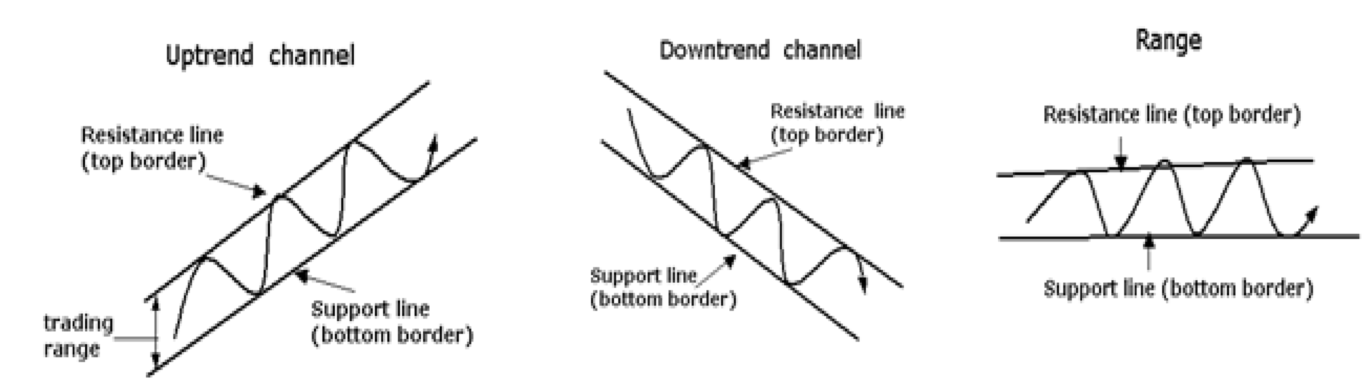
MACD - Moving Average Convergence Divergence



4. Trend lines and Channels

Trend lines are drawn by connecting the recent highs or lows of price action.**Channels** are formed by drawing suppose levels in an upward trend and the resistance levels in a downward trend.

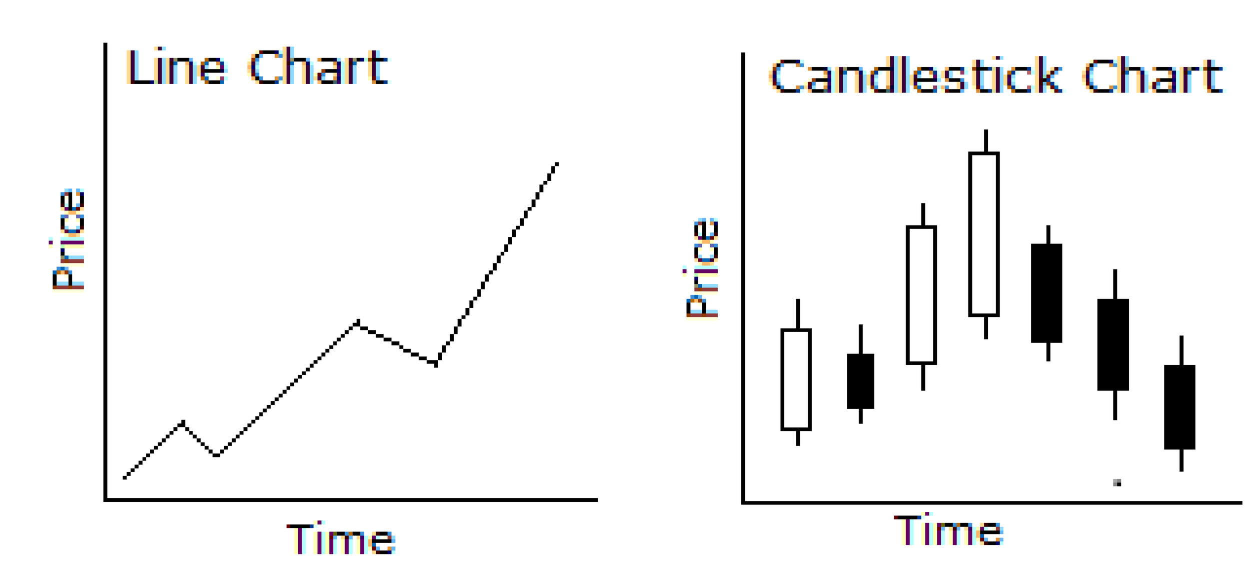
- **Uptrend or Ascending Trend line** is drawn by connecting the latest lows with a straight line.
- **Downtrend or Descending Trend line** is created by connecting the latest highs with a straight line.



5. Chart Types

Charts are a very important tool used by Technical Analysts. Using the charts correctly you can pinpoint price changes over time.

- **Line Chart** Represents the closing prices over a set period. Form the line by connecting the closing prices for each period over the timeframe
- **Candlestick Charts** Vertical line showing the trading range for a given period of time. Shaded either green or red based on stock performance.



Conclusion:

Technical Analysis is not only used for stock trading data. This can be used for futures, commodities, fixed-income, currencies, cryptocurrency, and other securities. With this in mind, there are unlimited opportunities within every chart using a specific analytic data set.

References: Yahoo Finance, Investopedia, TradingView

Wesley Mark, Roderick Hughes, Shaun Tiedemann
Advisor: Yuxiang Jiang (David)