



Session on **Applications of Investment Instruments**

One-Day University Level Workshop on
Investment Analysis and Portfolio Management

18th December 2019

Organized By
Department of Commerce and Management
MMK & SDM Mahila Mahavidyalaya
JLB Road, Mysuru - 04



Dr. Kantesha Sanningammanavara

Assistant Professor, PG Department of Business Administration,
Maharani's Women's Commerce and Management College,
Paduvarahalli, Mysuru - 12



Content



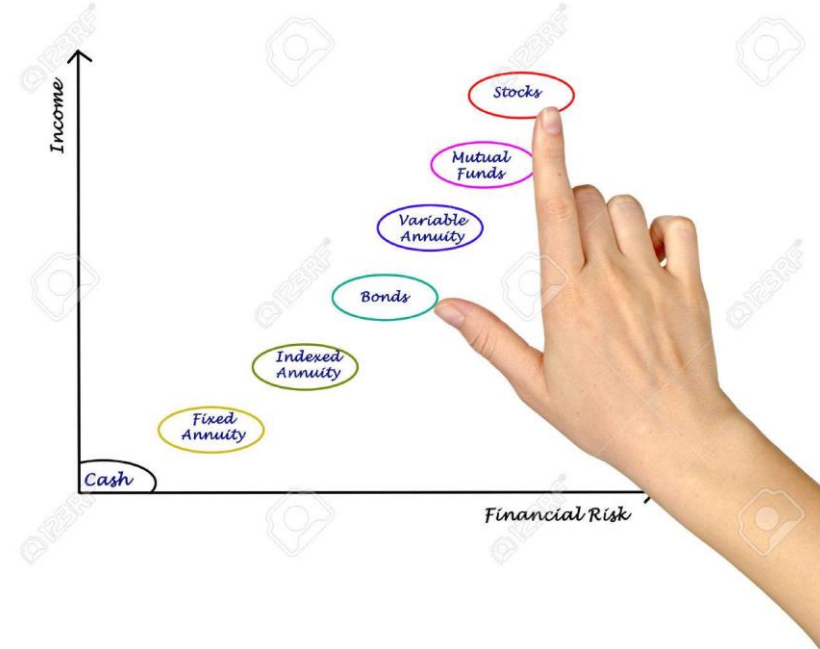
Investment Instruments

- Capital Market Instruments
- Money Market Instruments
- Derivatives Instruments

Investment Analysis

- Fundamental Analysis
- Technical Analysis

Efficient Market Hypothesis



Capital Market Instruments

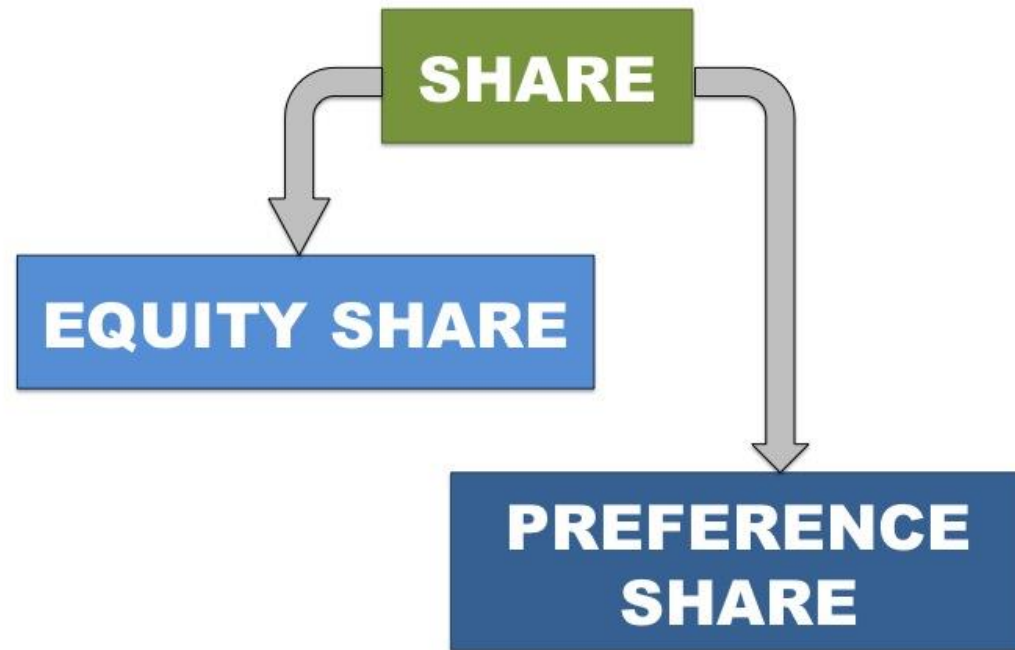
- Shares – Equity and Preference Shares
- Debentures
- Bonds
- Mutual Funds



Share – Meaning

- Capital of a company that is divided into *units or parts* of *equal amount*.
- A Share in the Share Capital of a Company and Includes Stock (Sec. 2(84), Companies Act 2013).
- A Share is a measure of the *interest* in the company's assets held by a Shareholder.

Types of Share (Sec. 43)



Equity Share

- A Share which is not a Preference Share is *Equity Share*.

Types of Equity Shares

- Ordinary/Common Equity Share
- Equity Share with DVR

Ordinary Equity Share: Right to receive *Dividends and Vote* at AGM

Equity Share with DVR: Lower Voting Rights and Dividend Premium

- ✓ In 2008, **Tata Motors** introduced equity shares with DVR– the ‘A’ equity shares. According to the issue
 - Every 10 ‘A’ equity shares have one voting right
 - ‘A’ equity shares get 5 percentage points more dividend than the ordinary shares.
- ✓ Due to the difference in voting rights, the ‘A’ equity shares traded at a **discount** to ordinary shares.

Companies that have issued DVR Equity Shares

- ✓ Gujarat NRE Coke
- ✓ Future Enterprises
- ✓ Jain Irrigation

Preference Share

- Preference Shares carry *preferential rights* for
 - Dividend Payment and
 - Capital Repayment
- Preference shares do **not have** voting rights available.
- **Types:** Cumulative vs Non-cumulative, Redeemable vs. Irredeemable, Participatory vs. Non-Participatory and Convertible vs. Non-Convertible

Debentures

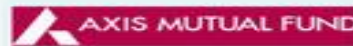
- Debentures are a debt instruments used by companies and government. Debenture is the *acknowledgment* of the debt the organization has taken from the public at large.
- Promises to pay *fixed interest rate* and *repay principal* at a future date.
- **Types:** Secured & Unsecured, Convertible & Non-Convertible, Registered & Bearer, Redeemable & Irredeemable.

Bond

- A bond is an instrument of *indebtedness*.
- It is a debt security under which the issuer is obliged to pay *interest (the coupon)* and have to repay the *principal* at a later date.
- Interest is usually payable at *fixed intervals*.
- Very often the bond is *negotiable*.
- **Types:** Corporate, Government, Convertible and Non Convertible, Fixed Rate, Floating Rate, Zero Interest Rate, Inflation Linked Bond, Bearer

Mutual Fund

- The money *pooled* in by a large number of people (or investors) is what makes up a Mutual Fund.
- This fund is managed by a Professional Fund Manager.
- It is a trust that collects money from a number of investors who share a *common investment objective*.
- It invests the money in equities, bonds, money market instruments and/or other securities.
- Each unit is measured as *NAV*



Mutual Fund Types

Equity Funds

- Large Cap
- Mid Cap
- Small Cap
- Multi Cap
- Sector
- Thematic
- Tax Saving
- Index Fund

Debt Funds

- Dynamic Bond Funds
- Income Fund
- Short-Term and Ultra Short-Term Debt Funds
- Liquid Funds
- Gilt Funds
- Credit Opportunities Funds
- Fixed Maturity Plans

Hybrid Funds

- Equity-Oriented Hybrid Funds
- Debt-Oriented Hybrid Funds
- Pension Plans
- Child Plans
- Monthly Income Funds
- Arbitrage Funds

Top Equity Fund

3Yr Return

5Yr Return

 **Mirae Asset Large Cap Fund**
Small Cap Funds

12.51%

12.08%

Invest

 **Axis Bluechip Fund**
Mid Cap Funds

19.28%

9.93%

Invest

 **ICICI Prudential Bluechip Fund**
Mid Cap Funds

12.75%

9.62%

Invest

 **SBI Bluechip Fund**
MultiCap Funds

11.4%

10.24%

Invest

 **SBI Magnum Multicap Fund**
Balanced Funds

12.18%

11.53%

Invest

Top Debt Fund

3Yr Return

5Yr Return

 **Nippon India Low Duration Fund**
Credit Opportunities Fund

7.06%

7.65%

Invest

 **UTI-ST Income Fund-Inst**
Gilt Fund

2.93%

5.4%

Invest

 **Aditya Birla Sun Life Savings Fund**
Liquid Fund

7.83%

8.38%

Invest

 **HDFC Short Term Debt Fund**
Liquid Fund

7.83%

8.34%

Invest

 **DSP Credit Risk Fund**
Short-term Fund

2.8%

5.74%

Invest

Money Market Instruments



- Call Money
- Treasury Bills
- Certificate of Deposit
- Commercial Paper
- Inter-Corporate Deposits



Call Money

- The short term finance raised by *commercial banks* as *inter-bank transactions* with an aim to maintain the cash reserve ratio.
- Maturity Period is of *1 Day to 14 Days*.
- Interest rate paid on Call Money is called as *Call Rate*.

Treasury Bills

- Treasury Bills were first issued in India in **1917**.
- Short-term financial instruments issued by RBI on regular basis
- Issued at **Discount** to Face Value
- 91 Days T-Bills, 182 Days T-Bills, & 364 Days T-Bills
- Individuals, Firms, Trusts, Institutions and banks can purchase T-Bills.
- Min. of **Rs. 25,000** and in multiples of Rs. 25,000

Certificate of Deposit

- CD is a negotiable MM instrument issued in *dematerialized* form or as a Usance Promissory Note.
- *RBI* governs issue of CDs.
- *Scheduled Commercial Banks* and All India Financial Institutions can issue CDs
- CDs are issued at *Discount* and Redeemed at Face Value
- Issue Size is *Rs. 1 lakh* and in multiples of Rs. 1 lakh.
- *Maturity Period*: Banks 7 Days to 1 Year, FI: 1 Year to 3 Years.
- *Transferability*: Endorsement and Delivery or Demat Transfer.

CDs can be issued to:

- ✓ Individuals
- ✓ Corporations
- ✓ Companies (including banks and PDs)
- ✓ Trusts
- ✓ Funds
- ✓ Associations

Non-Resident Indians (NRIs), but only on non-repatriable basis. Such CDs cannot be endorsed to another NRI in the secondary market.

Foreign Portfolio Investors (FPIs) are not permitted to invest in CDs

Commercial Paper

- Commercial Paper (CP) is an *unsecured* money market instrument issued in the form of a promissory note.
- It was introduced in India in 1990.
- ***Who can Issue?:*** Corporates, primary dealers (PDs) and the All-India Financial Institutions (FIs) are eligible to issue CP.
- ***Eligibility:*** Net worth shall not be < Rs. 4 Crores/Sanctioned Working Capital Limit/Borrowed Account as Standard Asset by the financing Banks/FI.
- Credit Rating of minimum A2 (SEBI)

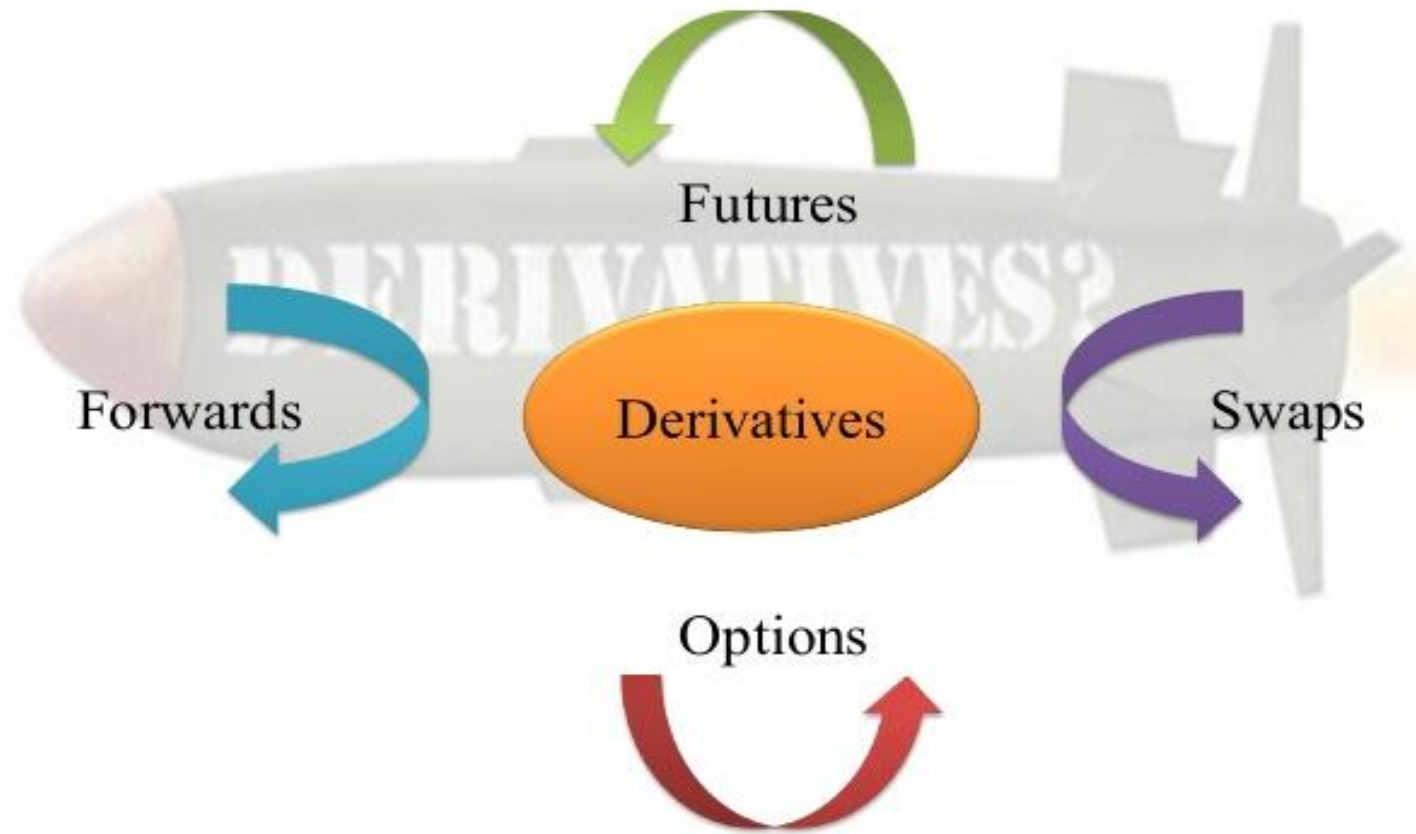
- ❖ ***Period:*** 7 Days to 1 Year
- ❖ ***Limit:*** BODs/CR Agency Limit. For FIs it is as per within the overall umbrella limit prescribed in the Master Circular on Resource Raising Norms for FIs. (DBOD)
- ❖ ***Denominations of CPs:*** Rs. 5 Lakhs and in multiples of Rs. 5 Lakhs.
- ❖ ***Who can Invest?:*** Individuals, banking companies, other corporate bodies and unincorporated bodies, NRIs and FIIs etc.
- ❖ CPs are always issued at Discount and Redeemed at Par.
- ❖ There is secondary market for CPs.

Inter-Corporate Deposits

- A company is entitled to provide another company or body corporate with loans, investment, guarantee and securities, either with the consent of the *board* or that of the *shareholders*.
- *Section 186* of Companies Act, 2013 deals with inter-corporate loan and investment.
- **Ceiling:** Not exceeding *60% of its paid-up* share capital, free reserves and security premium account or *100%* of its free reserves and security premium account, whichever is more.

Derivative Instruments

- Forwards
- Futures
- Options
- Swaps



Introduction

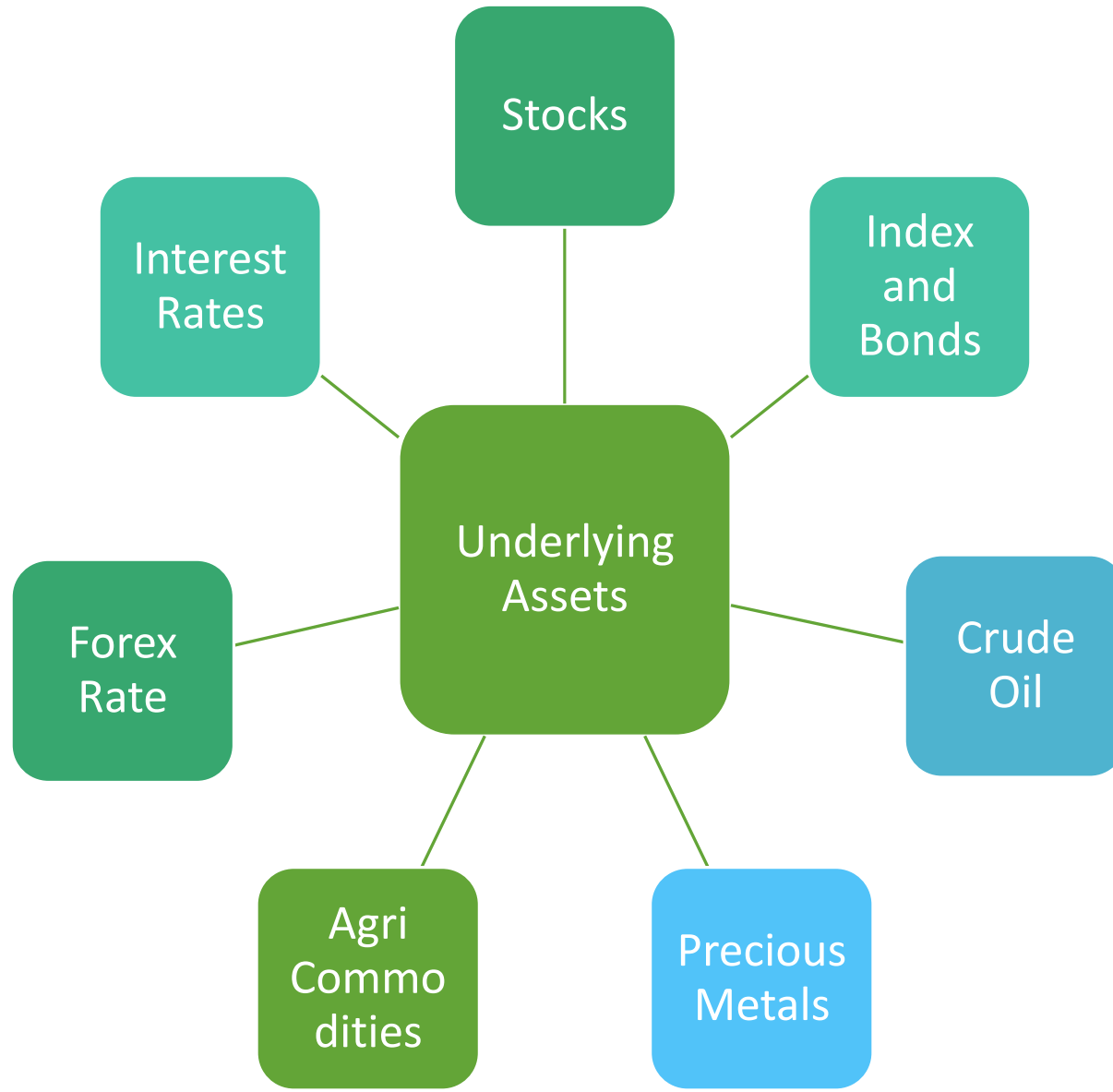
- ✓ Risk is inherent feature of all commodities and financial assets
- ✓ Prices are subject to fluctuation over a time
- ✓ Parties are exposed to the price risk
- ✓ To eliminate the price risk derivatives have been introduced

What is Derivative?

- It is a *Financial Instrument*, which *derives* its value from the value of an underlying asset.

Example

- The value of a gold future contract is derived from the value of the underlying asset i.e., Gold.



Forward Contract

It is a *customized* contract between two parties to buy/sell a specified financial asset at *pre-determined price* on a specified date in the future

Features:

- Its OTC traded contract
- Its customized in nature
- Pre-determined price
- Settlement takes on a future date

Forward Contract Example



I Agree to Sell
100kgs of Wheat
at Rs. 50/kg after 3
months



After 3 Months

100kgs of Wheat



Rs. 5,000

Future Contract

- Future is a standardized contract
- It is traded on an organized exchange

Standardization:

- Quantity, quality, delivery dates, price quotes, margin

Options

- Options are *financial instruments* like futures.
- An option is a legal contract which gives the holder the *right* to buy or sell a specified amount of underlying asset at a fixed price within a specified period of time.
- It gives the holder the *right to buy* (or sell) a designated asset. The holder is, however, not obliged to sell (or buy) the same.
- Here in this contract only the writer of the option is *obliged* not both parties.

Types of Option

Call Option: A Call Option is a contract which gives the owner the *right to buy* an asset for a certain price on or before a specified date.

Put Option: A Put Option gives its owner the *right to sell* a specified asset for a pre-determined price on or before a specified date.

American Option

European Option

Swaps

- The word “Swap” means an *exchange or barter* that plays a very important role in international finance.
- It is a contract whereby two parties *exchange a stream of cash* flows over a certain period of time.
- In this contract first party *promises* to make a payments to second party and the second party promises to make payment to the first.
- Both the payments take place on a *specified date*.

Types of Swaps

- Interest Rate Swap
- Currency Swap
- Credit Default Swap
- Commodity Swap
- Equity Swap

Investment Analysis

Fundamental Analysis

- Economy
- Industry
- Company

Technical Analysis

- Charts
- Indicators



Fundamental Analysis

- It is a *thorough* process of assessing the *intrinsic value* of a security such as a stock or currency, with the aim of discovering whether that security is *undervalued or overvalued*.
- Any factor that can impact on a security's value is *scrutinized and evaluated* by fundamental analysts.
- Economic Factors (35), Industry Factors (15), Company Related Factors (35) and other factors (15).

Economic Factors

- Growth of GDP
- Industrial Growth
- Agriculture and Monsoons
- Government budget and deficit
- Government Debt
- Price Level and Inflation
- Interest Rates
- BOP, Forex reserve and Exchange rate
- Foreign Investment
- Infra Facilities and Arrangement
- Sentiments

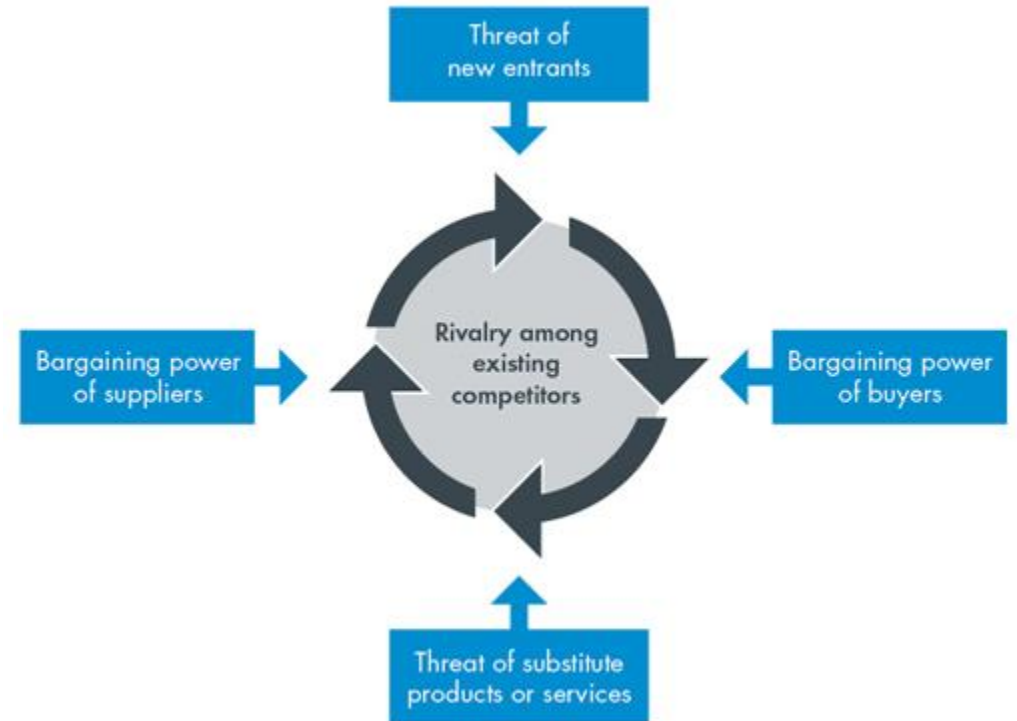


Industry Analysis

- Sensitivity to the *Business Cycle*
- *Industry Life Cycle* Analysis.
- Study of the Structure and characteristics of an industry
 - ✓ Structure of the industry and Nature of Competition
 - ✓ Nature and Prospects of Demand
 - ✓ Cost, Efficiency and Profitability
 - ✓ Technology and Research

Michael Porter Model

- Threat of New Entrants
- Rivalry among the Existing Firms
- Pressure from Substitute Products
- Bargaining Power of Buyers
- Bargaining Power of Suppliers



Company Analysis

- Strategy Analysis
 - Competitive Strategy
 - Cost Leadership and Product Differentiation
 - Corporate Strategy Analysis
- Accounting Analysis
- Financial Analysis
 - Earning and Dividend level
 - Growth Performance (CAGR and Sustainable GR)
 - Risk Exposure
 - Valuation Multiples – PE Ratio and PB Ratio

Technical Analysis

- Involves a study of market generated data like *prices and volumes* to determine the *future direction* of price movements.
- Technical analysts do not attempt to measure a security's intrinsic value, but instead use *charts and other tools* to identify patterns that can suggest future activity.

Assumptions of Technical Analysis

- Market Discounts Everything
- Price Follows Trends
- History Repeats

Fundamental Vs Technical Analysis

Technical Analysis

Predicts short term price movements

Focus on internal market data

TA appeals mostly to short-term traders

Dow Theory and Price Data

Looks Backward

Fundamental Analysis

Tries to establish long-term values

Focus on fundamental factors

FA appeals primarily to long-term investors.

ROE, ROA Concepts used

Looks Backward and Forward

Technical Analysis Tools

Charting Techniques

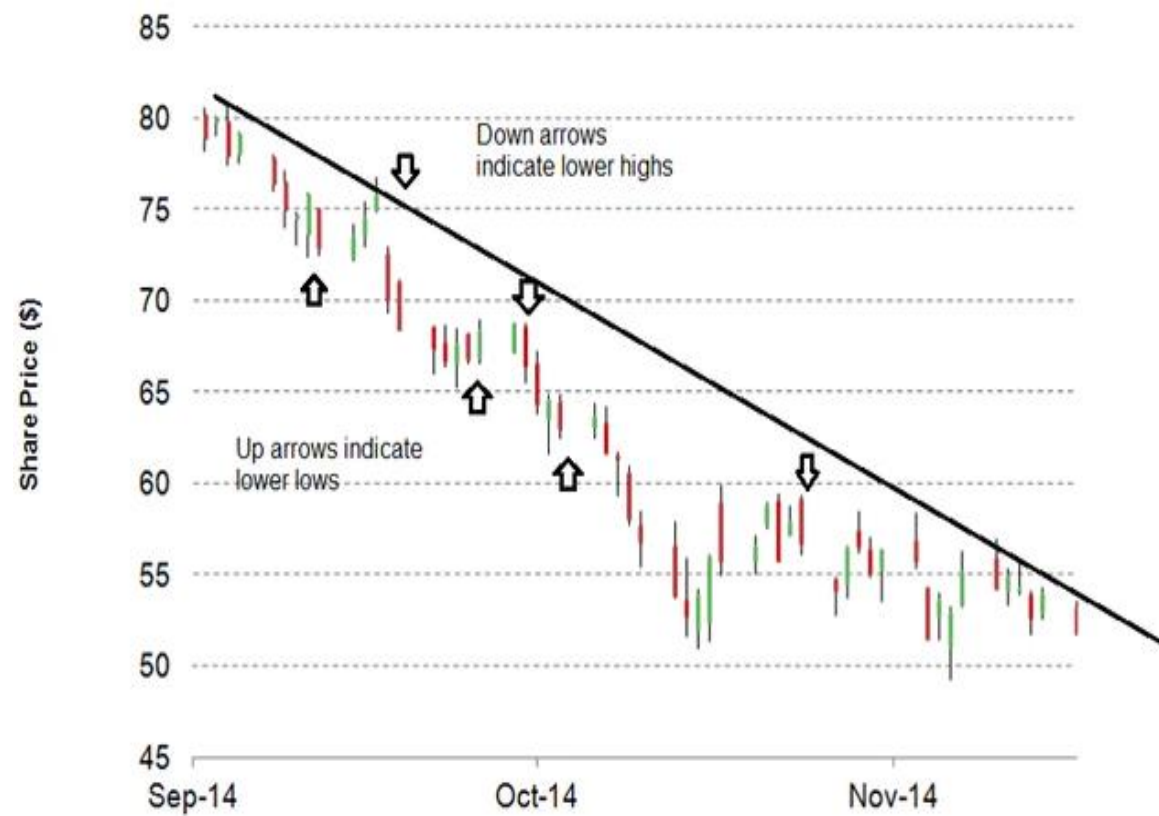
Basic Concepts underlying Chart Analysis

- ✓ Trends
 - Uptrend
 - Downtrend
 - Sideways Trend
- ✓ Relationship between Volume and Trends
- ✓ Support and Resistance Levels

Uptrend



Downtrend



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.

Amazon.com, Inc. (AMZN) Nasdaq Nat. Mkt.

© StockCharts.com

3-Mar-2000 4:00pm

Open 63.25 High 64.75 Low 62.06 Last 62.50 Volume 5.8M Chg -0.06 ▼



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.

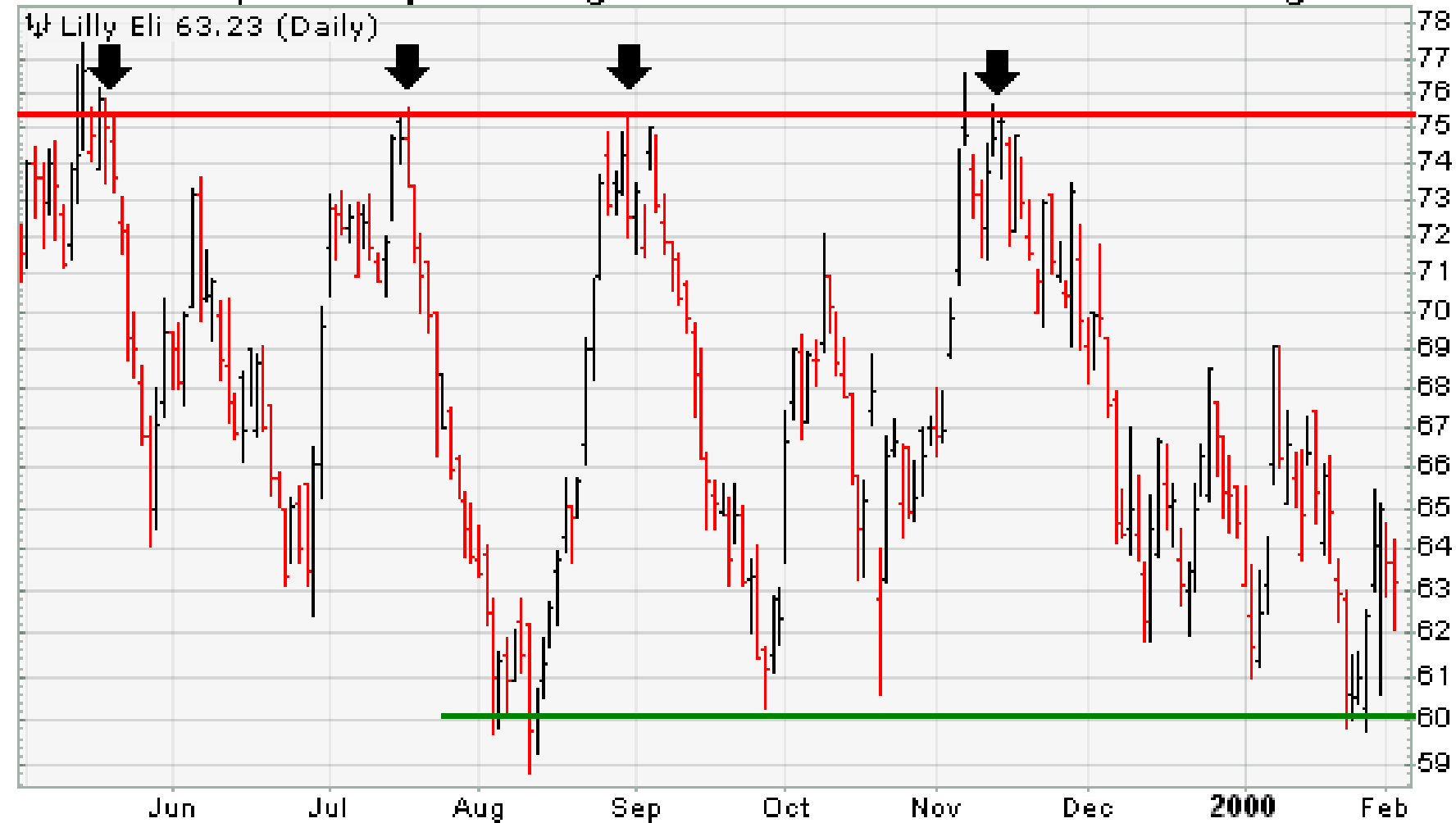
Lilly Eli & Co. (LLY) NYSE

© StockCharts.com

2-Feb-2000 4:00pm

Open 63.65 High 64.20 Low 62.07 Last 63.23 Volume 2.1M Chg -0.49 ▼

1/2 Lilly Eli 63.23 (Daily)



Dow Theory

- Proposed by *Charles H Dow*
- Perhaps *oldest and best known* theory of technical analysis
- It identifies and signals the change in stock market trends. It's useful for *trading and investing*.
- He considers that market is always has three movements
 1. *Narrow Movement* from day to day
 2. *Short-swing running* from 2 weeks to a month or more
 3. It's a main movement covering at least four years

Elliott Wave Theory

- The Elliot Wave theory was developed by *R N Elliott* in the 1930.
- The theory proposed that the market trends move in *repeated cycles*.

The cycles are classified based on how long they last. The cycles include:

- *Grand Super cycle* – This is the longest wave. It takes place over many centuries.
- *Super cycle* – This wave lasts for many decades. It lasts ~40–70 years.
- *Cycle* – This wave lasts from one to several years.
- *Primary* – This wave last for a few months to a couple of years.
- *Intermediate* – This wave lasts for a few weeks to a few months.
- *Minor* – This wave lasts for a few weeks.
- *Minute* – This wave lasts for a few days.
- *Minuette* – This wave lasts for a few hours.
- *Subminuette* – This wave lasts for a few minutes.

Elliot Wave Theory



Relative Strength Index (RSI)

- The RSI is a measure of a stock's overbought and oversold position.
- The commonly used RSI is a 14-day RSI.
- It refers to the 14-day stock price that's used to calculate the RSI.
- The number of days used to calculate the RSI can vary

Calculation of RSI

- $RSI = 100 - (100 / (1 + RS))$
- $RS = \text{Average gains} / \text{average losses}$
- For a 14-day RSI, the stock's 14-day price movement is used to calculate average gain and loss.
- Average gain = sum of absolute gain in ten days/14
- Average loss = sum of absolute gain in four days/14

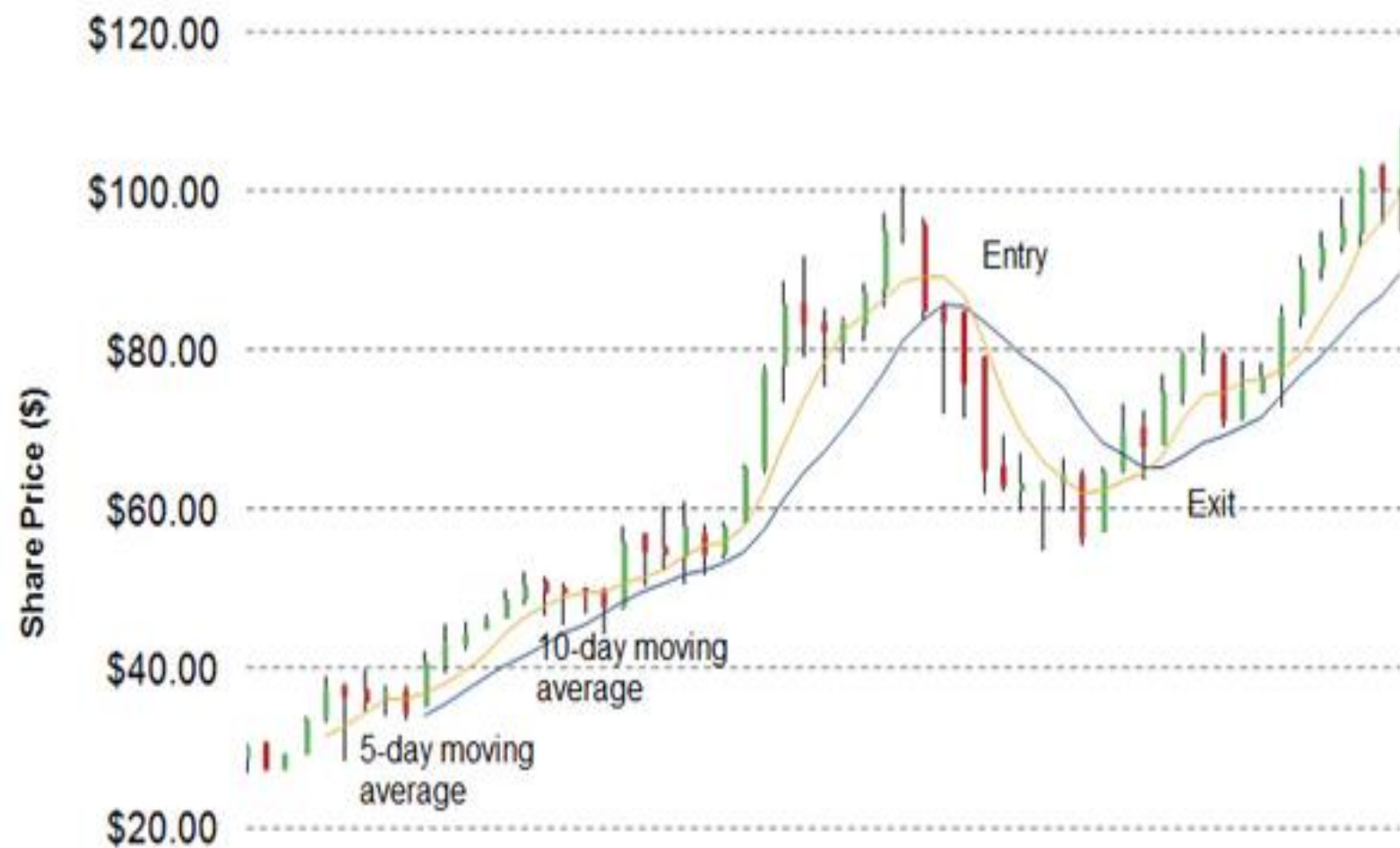
Stock Price and RSI



Simple Moving Average

- In technical analysis, the simple moving average (or SMA) is an average of the *closing price* of a stock over a *specified number of periods*.
- When the stock price changes, the moving average changes accordingly.

Moving Averages



Moving Average Convergence & Divergence (MACD)

- The Moving Average Convergence Divergence (or MACD) was developed by *Gerald Appel* in 1970.
- The MACD is the difference between two *moving averages*.

Calculation of MACD

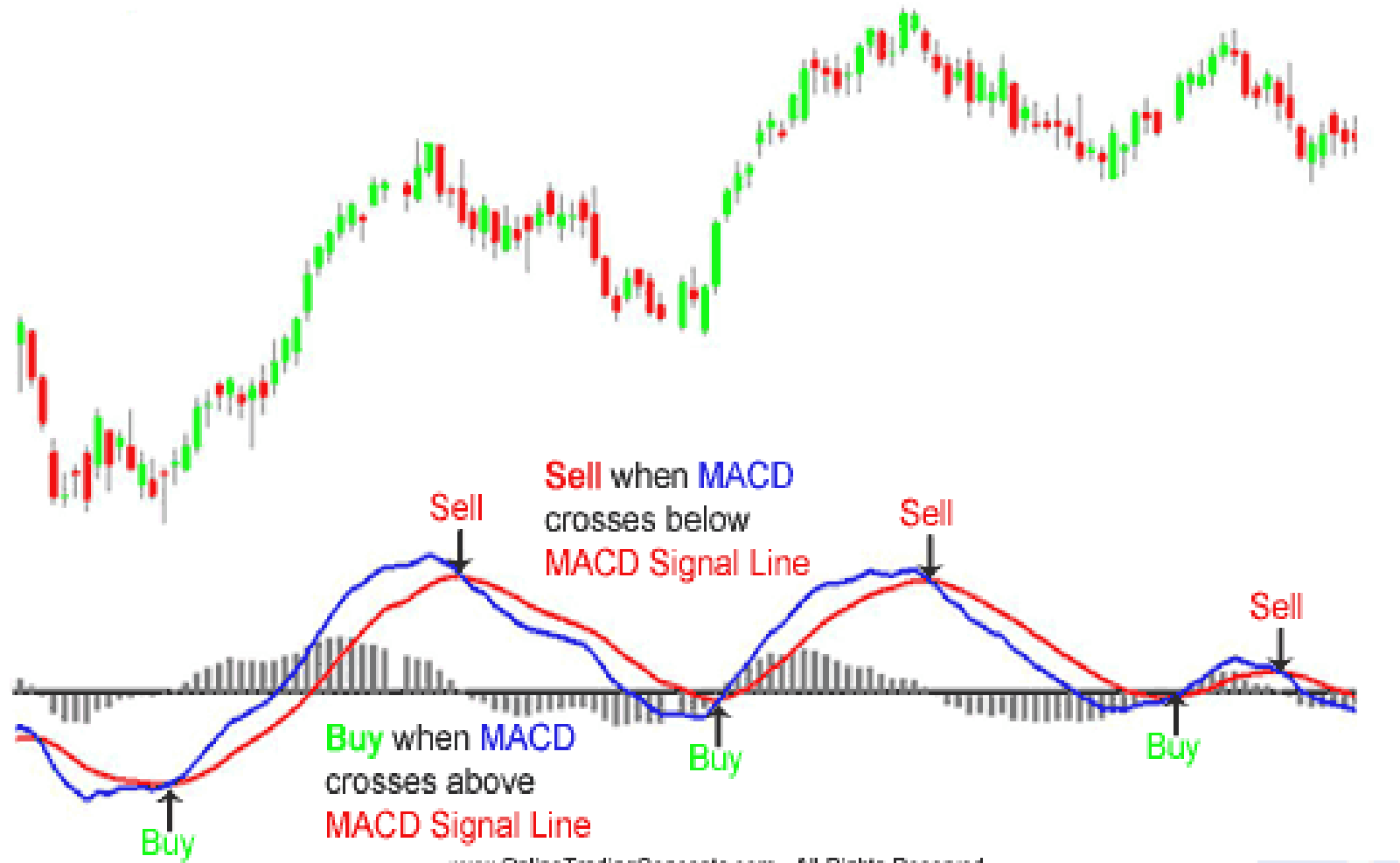
- MACD consists of two lines – Fast line and Slow line
- The fast line, or *MACD line*, is the (12-day exponential moving average) – (26-day exponential moving average).
- The slow line is a 9-day exponential moving average. The slow line is also called the *signal line*.
- It's important to note that an exponentially weighted average of a moving average is called an *exponential moving average*.

Stock Price and MACD



MACD

Daily Chart - Nasdaq 100 ETF (QQQQ)



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Created with TradeStation

Bar Chart

- Simplest and most commonly used tools of technical analysis, depicts the daily price range along with the closing price



Line Chart

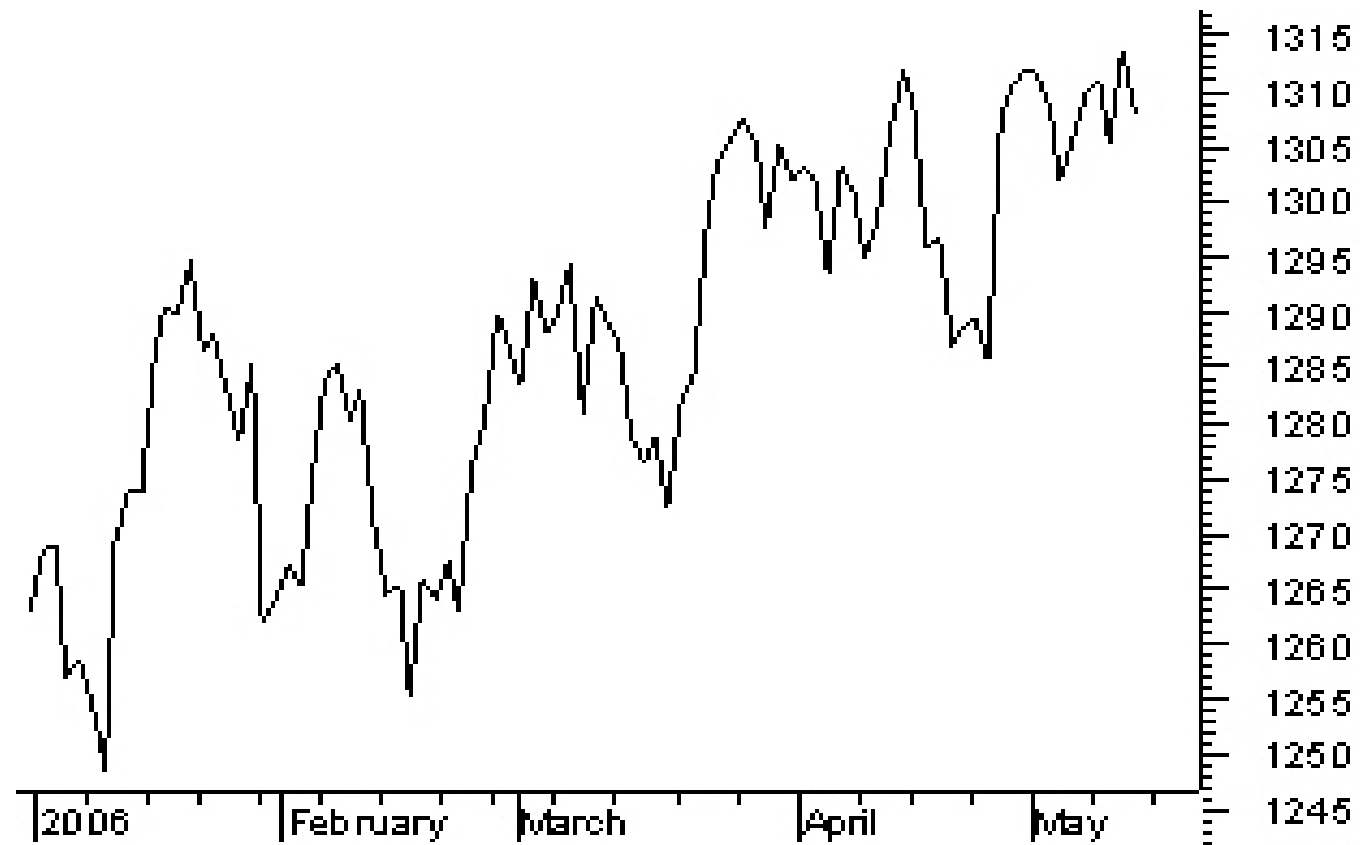
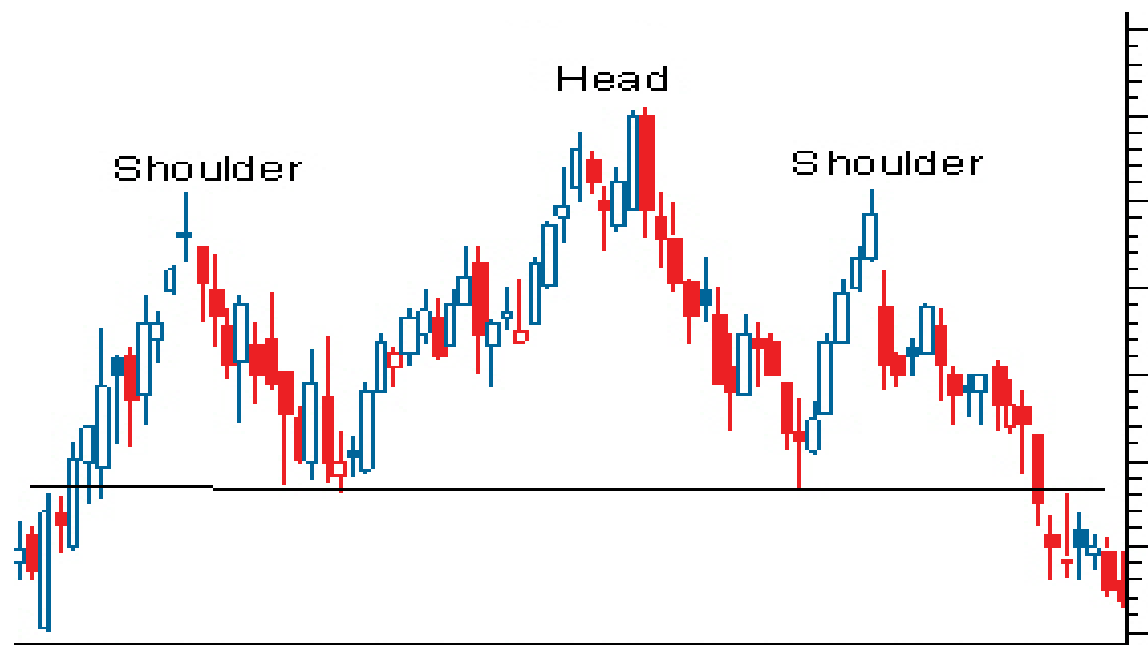


Chart by MetaStock

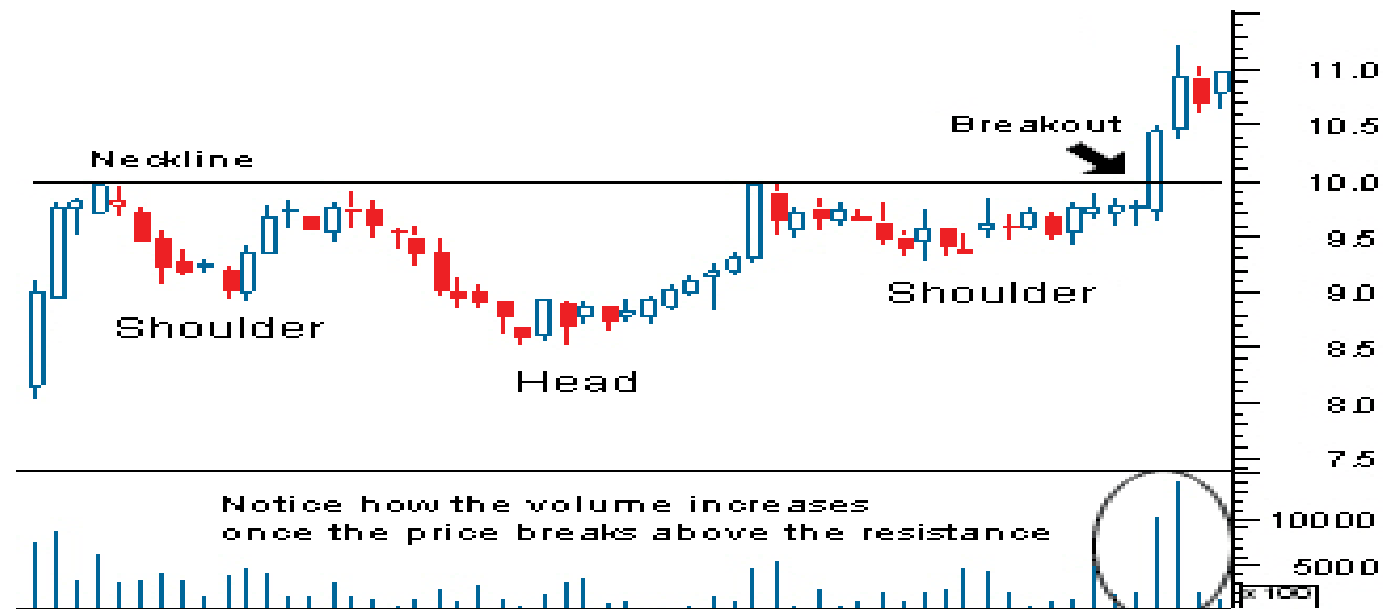
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Formation and Indication

- Head and Shoulders Top (HST) Pattern – Bearish Development
- Inverse Head and Shoulders Top (IHST) Pattern – Bullish Development
- Triangle or Coil Formation – Uncertain to predict
- Flags and Pennants Formation
- Double Top Formation – Bearish Development
- Double Bottom Formation – Bullish Development

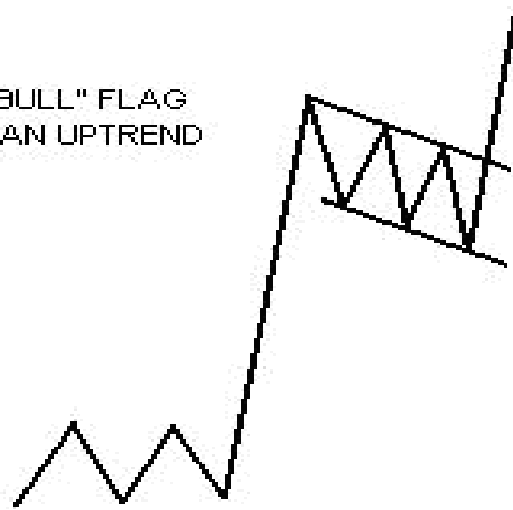


Source: Chart by MetaStock



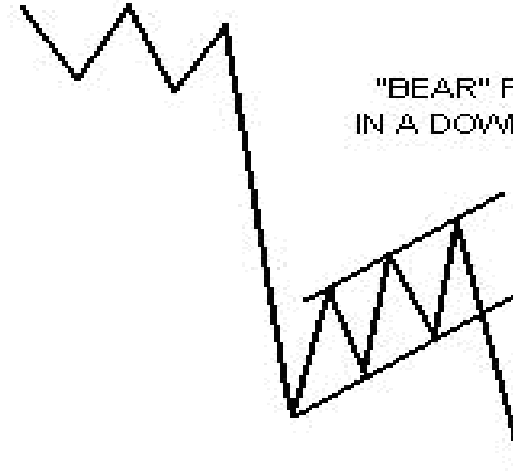
Source: Chart by MetaStock

"BULL" FLAG
IN AN UPTREND



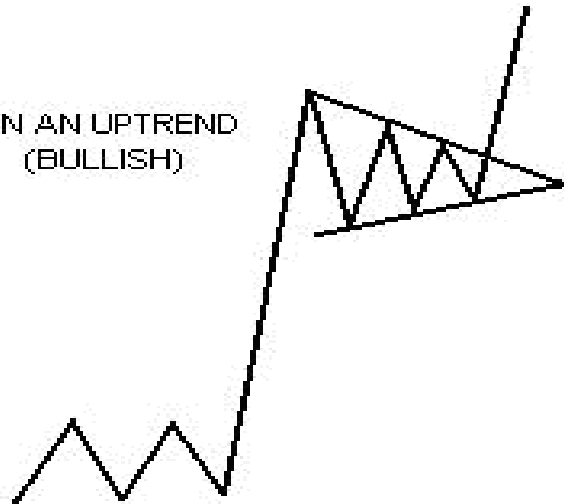
FLAGS

"BEAR" FLAG
IN A DOWNTREND

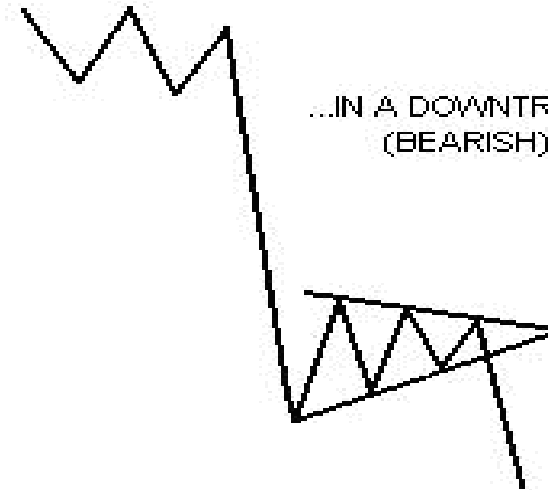


PENNANTS...

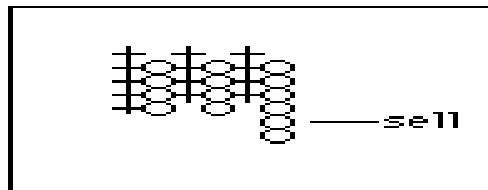
...IN AN UPTREND
(BULLISH)



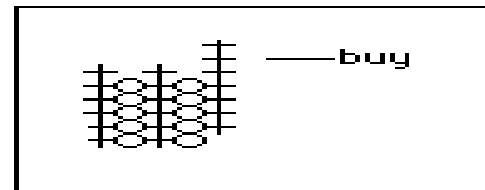
...IN A DOWNTREND
(BEARISH)



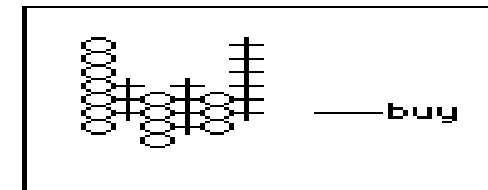
Point and Figure Charts



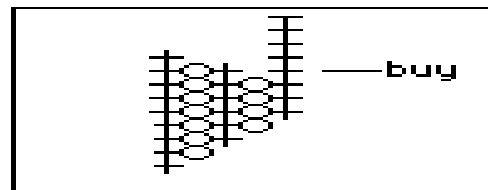
Breakout of a
triple bottom



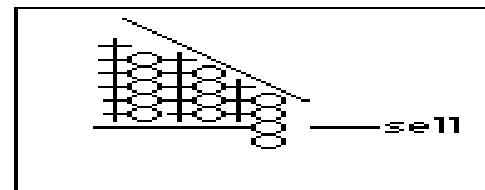
Breakout of a
triple top



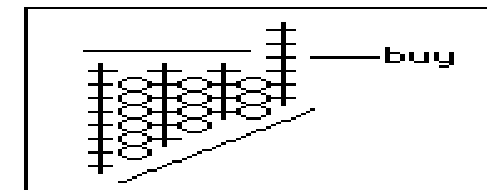
Saucer Bottom



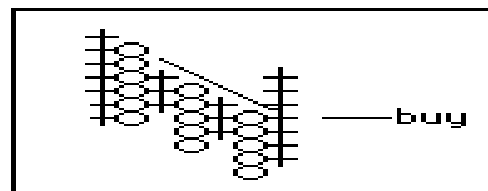
Upside breakout of a
symetric triangle



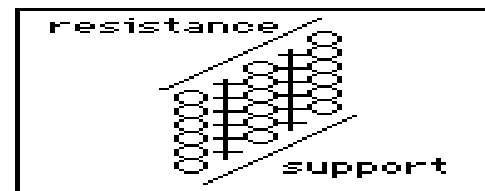
Downside breakout of
a descending triangle



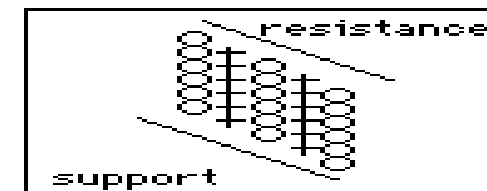
Upside breakout of
an ascending triangle



Upside breakout of
bearish resistance line



Uptrending channel



Downtrending channel

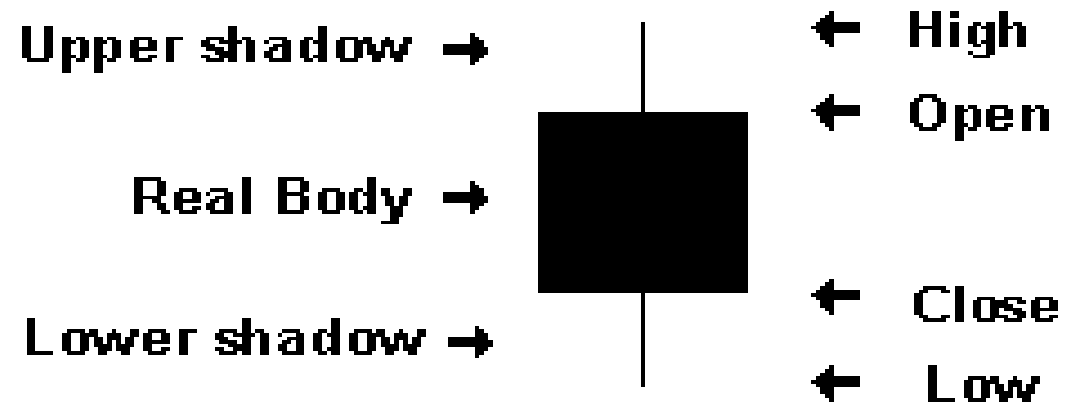
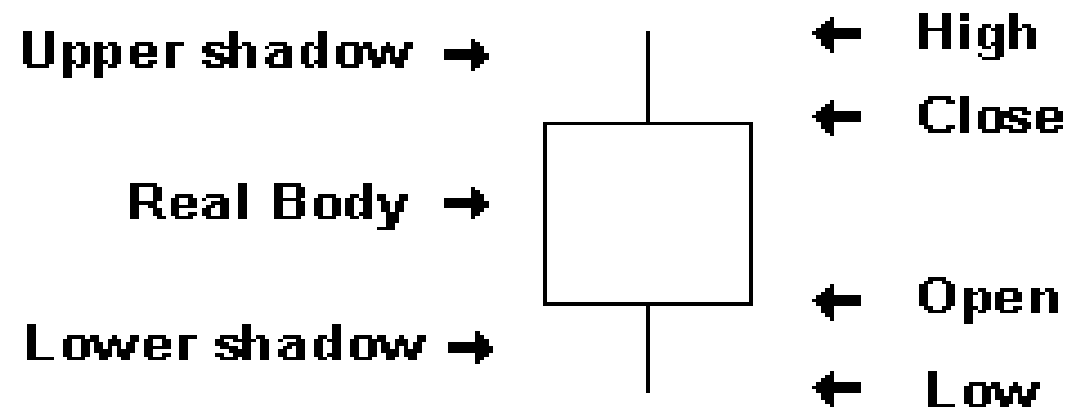
Japanese Candlestick

- The Japanese began using *technical analysis* to trade rice in the 17th century.
- According to *Steve Nison*, candlestick charting first appeared sometime after 1850.
- Much of the credit for candlestick development and charting goes to a legendary rice trader named *Homma* from the town of *Sakata*.

Formation

- Data – Open, High, Low and Close Prices for each time
- The hollow or filled portion of the candlestick is called “*the body*” (also referred to as “the real body”)
- The long thin lines above and below the body represent the high/low range and are called “*shadows*” (also referred to as “wicks” and “tails”)
- The high is marked by the top of the upper shadow and the low by the bottom of the lower shadow.

Candlestick Formation

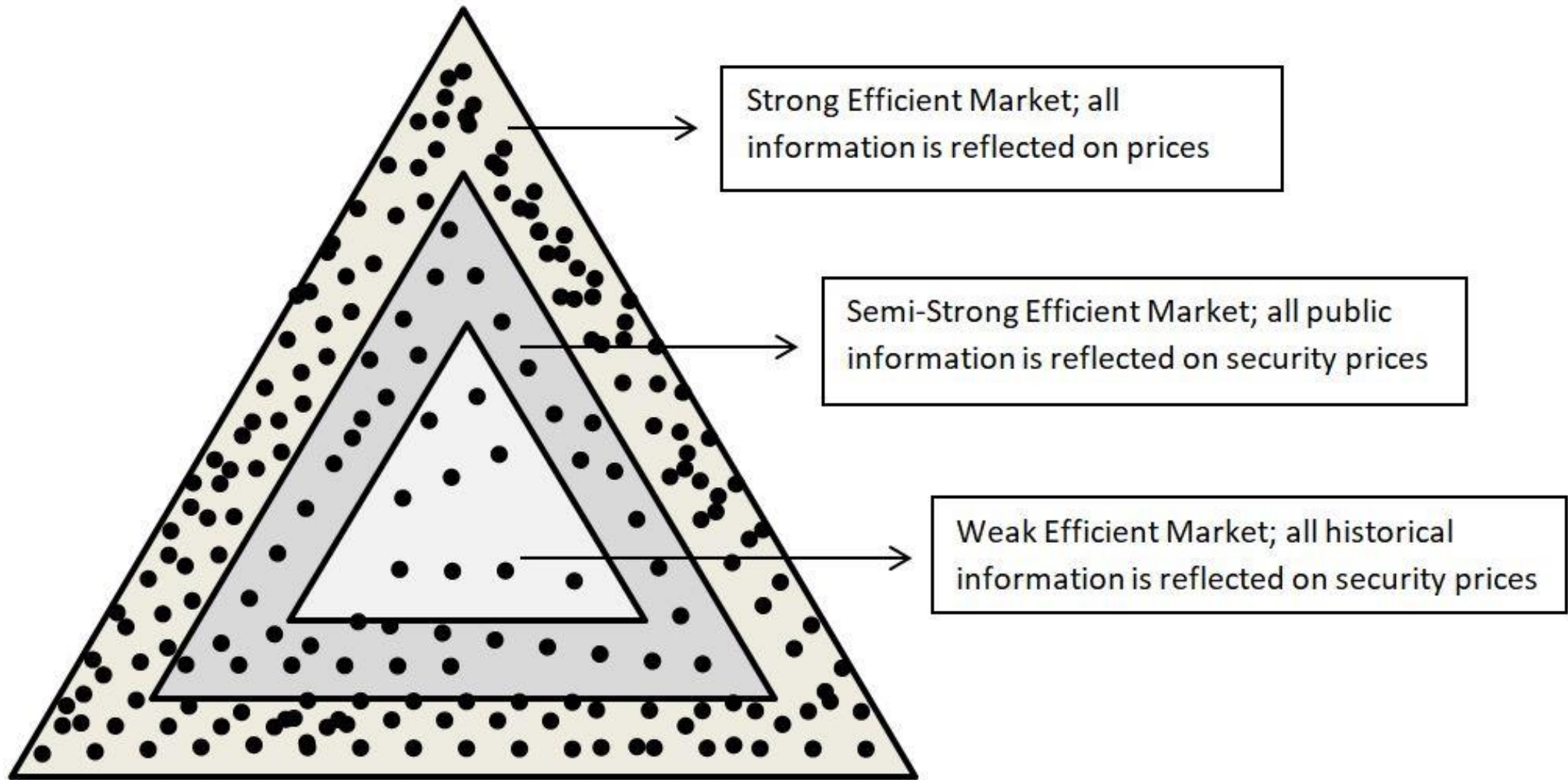


Efficient Market Hypothesis

- The EMH states that share prices *reflect* all relevant information, and that it is impossible to *beat the market* or achieve above-average returns on a sustainable basis.
- The EMH was developed from a Ph.D. dissertation by economist *Eugene Fama* in the 1960.
- He says that at any given time, stock prices reflect *all available information* and trade at exactly their fair value at all times.

Efficient Market Hypothesis

- Therefore, it is impossible to consistently choose stocks that will *beat the returns* of the overall stock market.
- Basically, the hypothesis implies that the pursuit of market-beating performance is more about *chance* than it is about researching and selecting the *right stocks*.



Forms of EMH

Weak Form

The weak form assumes that current stock prices reflect all available information, and that *past price performance* has no relationship with the future.

In other words, this form of the hypothesis says that using *technical analysis* to achieve exceptional returns is *impossible*.

Semi-Strong Form of EMH

The semi-strong form says that stock prices have factored in all available *public information*. Because of this, it's impossible to use *fundamental analysis* to choose stocks that will beat the market's returns.

Strong Form of EMH

Finally, the strong form of the efficient market hypothesis says that all information -- *public as well as private* -- is incorporated into current stock prices. This form of the efficient market hypothesis essentially assumes a perfect market, and isn't plausible when there are insider trading restrictions.

Equity Valuation

- Fair Market value of an equity.

Single Period Valuation

- $$P_0 = \frac{D_1}{(1+r)} + \frac{P_1}{(1+r)}$$

OR

- $$P_0 = \frac{D_1 + P_1}{(1+r)}$$

Multi-Period Valuation Model

$$P_0 = \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \dots + \frac{D_n}{(1+r)^n} + \frac{P_n}{(1+r)^n}$$

Where

$$P_n = \frac{D_{n+1}}{r - g}$$

$$D_{n+1} = D_n (1 + g)$$

Zero Growth Model

$$P_0 = \frac{D}{r}$$

Constant Growth Model

$$P_0 = \frac{D_1}{r - g}$$

Where,

P₀ = Present Value

D₁ = Dividend paid at the end of year 1

g = Growth Rate

r = Required Rate of Return

Two-Stage Growth Model

$$P_0 = D_1 \left[\frac{1 - \left(\frac{1 + g_1}{1 + r} \right)^n}{r - g_1} \right] + \left[\frac{D_1 (1 + g_1)^{n-1} (1 + g_2)}{r - g_2} \right] * \frac{1}{(1 + r)^n}$$

g_1 = Above normal growth rate applicable for n years

g_2 = Growth rate Application in Second Stage

r = Required Rate of Return

THANK YOU
