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INVESTMENT ANALYSIS AND PORTFOILO MANAGEMENT

Author:
Dr. R .Ganapathi
Assistant Professor of Commerce,
Directorate of Distance Education ,
Alagappa University,
Karaikudi.

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INVESTMENT MANAGEMENT

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UNIT I: INVESTMENT AVENUE

Structure

1.1 Introduction

For most of the investors throughout their life, they will be earning and spending money. Rarely, investor's current money income exactly balances with their consumption desires. Sometimes, investors may have more money than they want to spend; at other times, they may want to purchase more than they can afford. These imbalances will lead investors either to borrow or to save to maximize the long-run benefits from their income. When current income exceeds current consumption desires, people tend to save the excess. They can do any of several things with these savings. One possibility is to put the money under a mattress or bury it in the backyard until some future time when consumption desires exceed current income.

When they retrieve their savings from the mattress or backyard, they have the same amount they saved. Another possibility is that they can give up the immediate possession of these savings for a future larger amount of money that will be available for future consumption. This tradeoff of present consumption for a higher level of future consumption is the reason for saving. What investor does with the savings to make them increase over time is investment.

In contrast, when current income is less than current consumption desires, people borrow to make up the difference. Those who give up immediate possession of savings (that is, defer consumption) expect to receive in the future a greater amount than they gave up. Conversely, those who consume more than their current income (that is, borrowed) must be willing to pay back in the future more than they borrowed. The rate of exchange between future consumption (future rupee) and current consumption (current rupee) is the pure rate of interest. Both people's willingness to pay this difference for borrowed funds and their desire to receive a surplus on their savings give rise to an interest rate referred to as the pure time value of money.

This interest rate is established in the capital market by a comparison of the supply of excess income available (savings) to be invested and the demand for excess consumption (borrowing) at a given time. An investment is the current commitment of rupee for a period of time in order to derive future payments that will compensate the investor for (1) The time the funds are committed, (2) The expected rate of inflation, and (3) The uncertainty of the future payments. The "Investor" can be an individual, a government, a pension fund, or a corporation.

Similarly, this definition includes all types of investments, including investments by corporations in plant and equipment and investments by individuals in stocks, bonds, commodities, or real estate.

This study emphasizes investments by individual investors. In all cases, the investor is trading a known rupee amount today for some expected future stream of payments that will be greater than the current outlay. Definition of Individual investor: "An individual who purchases small amounts of securities for themselves, as opposed to an institutional investor, Also called as Retail Investor or Small Investor." At this point, researcher has answered the questions about why people invest and what they want from their investments.

They invest to earn a return from savings due to their deferred consumption. They want a rate of return that compensates them for the time, the expected rate of inflation, and the uncertainty of the return. In today's world everybody is running for money and it is considered as a root of happiness. For secure life and for bright future people start investing. Every time investors are confused with investment avenues and their risk return profile. So, even if Researcher focuses on past, present or future, investment is such a topic that needs constant up gradation as economy changes. The research study will be helpful for the investors to choose proper investment avenue and to create profitable investment portfolio.

1.2 Meaning and Concepts of Investment

Investment is the employment of funds with the aim of getting return on it. In general terms, investment means the use of money in the hope of making more money. In finance, investment means the purchase of a financial product or other item of value with an expectation of favorable future returns. Investment of hard earned money is a crucial activity of every human being.

Investment is the commitment of funds which have been saved from current consumption with the hope that some benefits will be received in future. Thus, it is a reward for waiting for money. Savings of the people are invested in assets depending on their risk and return demands. Investment refers to the concept of deferred consumption, which involves purchasing an asset, giving a loan or keeping funds in a bank account with the aim of generating future returns. Various investment options are available, offering differing risk-reward tradeoffs. An understanding of the core concepts and a thorough analysis of the options can help an investor create a portfolio that maximizes returns while minimizing risk exposure.

There are two concepts of Investment:

1) Economic Investment:

The concept of economic investment means addition to the capital stock of the society. The capital stock of the society is the goods which are used in the production of other goods. The term investment implies the formation of new and productive capital in the form of new construction and producer's durable instrument such as plant and machinery. Inventories and human capital are also included in this concept. Thus, an

investment, in economic terms, means an increase in building, equipment, and inventory.

2) Financial Investment:

This is an allocation of monetary resources to assets that are expected to yield some gain or return over a given period of time. It means an exchange of financial claims such as shares and bonds, real estate, etc. Financial investment involves contrasts written on pieces of paper such as shares and debentures. People invest their funds in shares, debentures, fixed deposits, national saving certificates, life insurance policies; provident fund etc. in their view investment is a commitment of funds to derive future income in the form of interest, dividends, rent, premiums, pension benefits and the appreciation of the value of their principal capital. In primitive economies most investments are of the real variety whereas in a modern economy much investment is of the financial variety.

The economic and financial concepts of investment are related to each other because investment is a part of the savings of individuals which flow into the capital market either directly or through institutions. Thus, investment decisions and financial decisions interact with each other. Financial decisions are primarily concerned with the sources of money where as investment decisions are traditionally concerned with uses or budgeting of money.

INVESTMENT OBJECTIVES

Investing is a wide spread practice and many have made their fortunes in the process. The starting point in this process is to determine the characteristics of the various investments and then matching them with the individuals need and preferences. All personal investing is designed in order to achieve certain objectives.

These objectives may be tangible such as buying a car, house etc. and intangible objectives such as social status, security etc. similarly; these objectives may be classified as financial or personal objectives. Financial objectives are safety, profitability, and liquidity. Personal or individual objectives may be related to personal characteristics of individuals such as family commitments, status, dependents, educational requirements, income, consumption and provision for retirement etc.

The objectives can be classified on the basis of the investors approach as follows:

a) Short term high priority objectives: Investors have a high priority towards achieving certain objectives in a short time. For example, a young couple will give high priority to buy a house. Thus, investors will go for high priority objectives and invest their money accordingly.

b) Long term high priority objectives: Some investors look forward and invest on the basis of objectives of long term needs. They want to achieve financial independence in long period. For example, investing for post retirement period or education of a child etc. investors, usually prefer a diversified approach while selecting different types of investments.

c) Low priority objectives: These objectives have low priority in investing. These objectives are not painful. After investing in high priority assets, investors can invest in these low priority assets. For example, provision for tour, domestic appliances etc.

d) Money making objectives: Investors put their surplus money in these kinds of investment. Their objective is to maximize wealth. Usually, the investors invest in shares of companies which provide capital appreciation apart from regular income from dividend. Every investor has common objectives with regard to the investment of their capital. The importance of each objective varies from investor to investor and depends upon the age and the amount of capital they have.

These objectives are broadly defined as follows.

a. Lifestyle – Investors want to ensure that their assets can meet their financial needs over their lifetimes.

b. Financial security – Investors want to protect their financial needs against financial risks at all times.

c. Return – Investors want a balance of risk and return that is suitable to their personal risk preferences.

d. Value for money – Investors want to minimize the costs of managing their assets and their financial needs.

e. Peace of mind – Investors do not want to worry about the day to day movements of markets and their present and future financial security. Achieving the sum of these objectives depends very much on the investor having all their assets and needs managed centrally, with portfolios planned to meet lifetime needs, with one overall investment strategy ensuring that the disposition of assets will match individual needs and risk preferences.

1.3 Types of Investments

Think of the various types of investments as tools that can help you achieve your financial goals. Each broad investment type—from bank products to stocks and bonds—has its own general set of features, risk factors and ways in which they can be used by investors.

Definition of a Financial Investment

Have you ever heard someone talking about stocks, bonds, or mutual funds and were a little confused? Does the mention of investments or financial topics seem overwhelming? Understanding some basic information about financial investments can be a great first step in learning how to invest, knowing your path to retirement, or maximizing the rate of return on your money.

A **financial investment** is an asset that you put money into with the hope that it will grow or appreciate into a larger sum of money. The idea is that you can later sell it at a higher price or earn money on it while you own it. You may be looking to grow something over the next year, such as saving up for a car, or over the next 30 years, such as saving for retirement.

How you invest these dollars can be very different how much time you have on your side is often a key thing to consider when making a financial investment. The more time you have the more risk you can usually take. The more risk you take, the more potential for making more money!

It is important to note that there is also an economic definition of financial investments that deals with how businesses invest in products, equipment, factories, employees, and inventories. This lesson will focus on

the finance definition of financial investment. Let's look at a few key terms worth knowing when it comes to financial investments.

Appreciation is the amount an investment grows in value. For example, you buy a share of stock for $10, and a year later it is worth $15; the stock has appreciated $5.

Dividends are usually cash payments that are paid out on financial investments based on the success and earnings of a company. For example, you invest in Microsoft stock, and it may pay you a dividend of $5 a share. If you owned 500 shares you would get paid 500 * $5 which is $2,500!

Interest is the fee a bank, institution, or government pays you for loaning them money through the purchase of a CD or bond. You can also earn small amounts of interest on a checking or savings account. For example, you may have $10,000 in government savings bonds that pay 5% interest annually; that adds up to $500 a year!

Types of Financial Investments

CDs stand for certificates of deposit and are certificates that earn interest over a set amount of time. They usually range from 30 days to 5 years and are issued most often by banks. These are extremely low risk.

Next, we'll cover bonds. When you purchase a **bond**, you are lending out your money to a company or government entity. They pay you interest on your money and eventually pay you back the amount you lent out. In general, these are slightly more risky than CDs but provide a better return or interest rate.

Stocks are ownership interests in part of a company. When you buy stock in Wal-Mart, Google, or Starbucks, you are becoming part owner of the business. This allows you to potentially receive profits that the company allocates to its owners. Those profits are dividends. A stock can also appreciate in value, based on the success of the company. These are higher risk but have good long-term potential to make bigger profits.

Mutual funds are often a pooled collection of stocks and bonds that are overseen by a professional manager. Mutual funds often usually focus on a specific type of investment, such as small companies, large companies, bonds, or real estate Mutual funds can appreciate in value and can pay dividends, as well. These can have high and low risk, depending on the type of fund you invest in.

Gold is a precious metal that you can invest in. It is often a small part of a portfolio that appreciates over time. It is thought to be a form of financial protection, in lieu of cash. You can also invest in silver, copper, and other metals. Over the long-term, precious metals are fairly low risk; in the short-term, they can be very volatile in value.

Real estate investing involves the purchase, ownership, management, rental and/or sale of real estate for profit. Improvement of realty property as part of a real estate investment strategy is generally considered to be a sub-specialty of real estate investing called real estate development. Real estate is a asset form with limited liquidity relative to other investments, it is also capital intensive (although capital may be gained through mortgage leverage) and is highly flow dependent. If these factors are not well understood and managed by the investor, real estate becomes a risky investment.

Real estate markets in most countries are not as organized or efficient as markets for other, more liquid investment instruments. Individual properties are unique to themselves and not directly interchangeable, which presents a major challenge to an investor seeking to evaluate prices and investment opportunities. For this reason, locating properties in which to invest can involve substantial work and competition among investors to purchase individual properties may be highly variable depending on knowledge of availability. Information asymmetries are commonplace in real estate markets. This increases transactional risk, but also provides many opportunities for investors to obtain properties at bargain prices. Real estate entrepreneurs typically use a variety of appraisal techniques to determine the value of properties prior to purchase.

Typical sources of investment properties include:

- Market listings (through a Multiple Listing Service or Commercial Information Exchange)
- Real estate agents and Real estate brokers
- Banks (such as bank real estate owned departments for REO's and short sales)
- Government entities (such as Fannie Mae, Freddie Mac and other government agencies)
- Public auction (foreclosure sales, estate sales, etc.)
- Private sales (transactions for sale by owner For sale by owner)
- Real estate wholesalers and investors (flipping)
- Via shares in a listed REIT

Once an investment property has been located, and preliminary due diligence (investigation and verification of the condition and status of the property) completed, the investor will have to negotiate a sale price and sale terms with the seller, then execute a contract for sale. Most investors employ real estate agents and real estate attorneys to assist with the acquisition process, as it can be quite complex and improperly executed transactions can be very costly.

During the acquisition of a property, an investor will typically make a formal offer to buy including payment of "earnest money" to the seller at the start of negotiation to reserve the investor's rights to complete the transaction if price and terms can be satisfactorily negotiated. This earnest money may or may not be refundable, and is considered to be a signal of the seriousness of the investor's intent to purchase. The terms of the offer will also usually include a number of contingencies which allow the investor time to complete due diligence, inspect the property and obtain financing among other requirements prior to final purchase. Within the contingency period, the investor usually has the right to rescind the offer with no penalty and obtain a refund of earnest money deposits. Once contingencies have expired, rescinding the offer will usually require forfeiture of the earnest money deposits and may involve other penalties as well.

Real estate assets are typically very expensive in comparison to other widely available investment instruments (such as stocks or bonds). Only rarely will real estate investors pay the entire amount of the purchase

price of a property in cash. Usually, a large portion of the purchase price will be financed using some sort of financial instrument or debt, such as a mortgage loan collateralized by the property itself.

The amount of the purchase price financed by debt is referred to as leverage. The amount financed by the investor's own capital, through cash or other asset transfers, is referred to as equity. The ratio of leverage to total appraised value (often referred to as "LTV", or loan to value for a conventional mortgage) is one mathematical measure of the risk an investor is taking by using leverage to finance the purchase of a property. Investors usually seek to decrease their equity requirements and increase their leverage, so that their return on investment (ROI) is maximized. Lenders and other financial institutions usually have minimum equity requirements for real estate investments they are being asked to finance, typically on the order of 20% of appraised value. Investors seeking low equity requirements may explore alternate financing arrangements as part of the purchase of a property (for instance, seller financing, seller subordination, private equity sources, etc.)

If the property requires substantial repair, traditional lenders like banks will often not lend on a property and the investor may be required to borrow from a private lender utilizing a short term bridge loan like a Hard money loan from a Hard money lender. Hard money loans are usually short term loans where the lender charges a much higher interest rate because of the higher risk nature of the loan. Hard money loans are typically at a much lower Loan-to-value ratio than conventional mortgages.

Some real estate investment organizations, such as real estate investment trusts (REITs) and some pension funds and Hedge funds, have large enough capital reserves and investment strategies to allow 100% equity in the properties that they purchase. This minimizes the risk which comes from leverage, but also limits potential ROI.

By leveraging the purchase of an investment property, the required periodic payments to service the debt create an ongoing (and sometimes large) negative cash flow beginning from the time of purchase. This is sometimes referred to as the carry cost or "carry" of the investment. To be successful, real estate investors must manage their cash flows to create enough positive income from the property to at least offset the carry costs.

With the signing of the JOBS Act in April 2012 by President Obama there has been an easing on investment solicitations. A newer method of raising equity in smaller amounts is through real estate crowdfunding which can pool accredited and/or non-accredited investors together in a special purpose vehicle for all or part of the equity capital needed for the acquisition. Fundrise was the first company to crowdfund a real estate investment in the United States

Business investment

Business investment refers to the commitment of funds to a business either in an active capacity or as a passive investor. An active investor would provide seed capital or startup capital, pre-IPO funds or franchising finance. However, most people seek business investment opportunities as passive investors, purchasing stocks and bonds. Business investment decisions require a risk-return tradeoff analysis.

Business Investment: Returns

Business investment opportunities are largely contingent on the prospective rate of return or profit of a proposed business venture. The return on investment (ROI) is the ratio of money gained to the amount of funds invested. In case of passive investing (into shares and bonds), the ROI (or rate of return) includes a stream of income (dividends for shares and interest for bonds) as well as capital gains (appreciation in share or bond prices over time).

The rate of return from a business investment is more than a function of the expected cash flows and capital appreciation. Since inflation erodes the value of money, it is important to consider the time value of money. The annual percentage return realized on an investment and adjusted for changes in prices on account of inflation or other external effects is known as the real rate of return.

Creation of Business Investment Opportunities

At the international level, the World Bank Group lends around $15-20 billion every year to finance developmental projects in the third world countries. The International Bank for Rural Development (IBRD), International Finance Corporation (IFC) and Multilateral Investment Guarantee Agency (MIGA) offer specific products, such as bonds, loans and guarantees, to potential investors for financing development in the emerging and underdeveloped economies. The IFC aids small and medium enterprises (SMEs) in the developing world by providing capital, equipment, technical assistance and guidance to fund these projects.

The European Bank for Reconstruction and Development (EBRD) and European Investment Bank (EIB) promote the basic and infrastructural sectors in Southeastern Europe in countries like Bosnia and Serbia. The Clean Development Mechanism (CDM) of the Kyoto Protocol, which has been put into operation by the United Nations Conference on Trade and Development (UNCTAD) in the developing countries, also promotes a greener and cleaner world for sustainable development.

Important Business Investment Destinations

Business investment opportunities have been on good ground in India, China, Vietnam, Singapore and the Gulf region. Also, a few African and Latin American countries have been doing well over the past few years. There exist huge business opportunities in Tanzania in Africa in the field of manufacturing, mining and agriculture.

In India, the state of Gujarat offers excellent business investment opportunities. The Indian government can be credited with the surge in investment opportunities in the country. Liberalization of the economy since 1991 has opened up sectors such as food processing, chemicals, automobiles, oil and natural gas and telecommunications. Besides, a slew of incentives are being offered to promote investments in the country, including the relaxation of norms for external borrowing, capital goods imports and customs duty reduction and tax deductions for certain sectors.

Investment opportunities in the infrastructural sector, such as roads, ports and civil aviation, are huge in countries like India, as is in the power, coal and renewable energy sectors. With the government allowing most of

the Foreign Direct Investment (FDI) via the automatic route in these sectors, business investment opportunities have emerged enabling foreign investors to garnering good returns. An FDI cap in the telecommunications sector has been raised to 100% in case of Internet service providers according to the latest investment policy followed by the Indian government.

The development of the non-oil sector in the Gulf countries entails attractive inward investments. Countries such as Bahrain have various sectors that are attractive for business investment. These include the finance industry, manufacturing and tourism. The government of Bahrain has been actively involved with the private sector for creating investment avenues for investors from across the world. Most of the GCC countries that attract business investment offer a tax-free environment. Investors are permitted to own 100% of the enterprise and there are no restrictions on the movement of capital.

Institutional Investor

An institutional investor is a nonbank person or organization that trades securities in large enough share quantities or dollar amounts that it qualifies for preferential treatment and lower commissions.

Institutional Investor

An institutional investor is an organization that invests on behalf of its members. Institutional investors face fewer protective regulations because it is assumed they are more knowledgeable and better able to protect themselves. There are generally six types of institutional investors: endowment funds, commercial banks, mutual funds, hedge funds, pension funds and insurance companies.

Resources of Institutional Investors

Institutional investors have the resources and specialized knowledge for extensively researching a variety of investment options not open to retail investors. Because institutions are the largest force behind supply and demand in securities markets, they perform the majority of trades on major exchanges and greatly influence the prices of securities. For this reason, retail investors often research institutional investors' regulatory filings with the Securities and Exchange Commission (SEC) to determine which securities the retail investors should buy personally. Retail investors typically do not invest in the same securities as institutional investors to avoid paying higher prices for the securities.

1.4 Investment and Speculation

"Speculation is an activity, quite contrary to its literal meaning, in which a person assumes high risks, often without regard for the safety of their invested principal, to achieve large capital gains." The time span in which the gain is sought to be made is usually very short.

Investment involves putting money into an asset which is not necessarily marketable in order to enjoy a series of returns. The investor sacrifices some money today in anticipation of a financial return in future. He indulges in a bit of speculation. There is an element of speculation involved in all investment decisions.

However, it does not mean that all investments are speculative by nature. Genuine investments are carefully thought out decisions. On the

other hand, speculative investment, are not carefully thought out decisions. They are based on tips, and rumors. Speculation has a special meaning when talking about money. The person who speculates is called a speculator. A speculator does not buy goods to own them, but to sell them later.

The reason is that speculator wants to profit from the changes of market prices. One tries to buy the goods when they are cheap and to sell them when they are expensive. Speculation includes the buying, holding, selling and short selling of stocks, bonds, commodities, currencies, real estate collectibles, derivatives or any valuable financial instrument. It is the opposite of buying because one wants to use them for daily life or to get income from them (as dividends or interest).

Speculation should not be considered purely a form of gambling, as speculators do make an informed decision before choosing to acquire the additional risks. Additionally, speculation cannot be categorized as a traditional investment because the acquired risk is higher than average. More sophisticated investors will also use a hedging strategy in combination with their speculative investment in order to limit potential losses.

DIFFERENCE BETWEEN INVESTOR AND SPECULATOR:

Investor Speculator planning horizon an investor has a relatively longer planning horizon. His holding period is usually at least 1 year. A speculator has a Very short planning horizon. His holding period may be a few days to a few months. Risk disposition an investor is normally not willing to assume more than moderate risk. Rarely does he knowingly assume high risk. A speculator is ordinarily willing to assume high risk. Return expectation an investor usually seeks a modest rate of return which is commensurate with the limited risk assumed by him/her.

A speculator looks for a high rate of return in exchange for the high risk borne by him/her. Basis for decisions and investor attaches greater significance to Fundamental factors and attempt a careful evaluation of the prospects of the firm. A speculator relies more on hearsay, tips, technical charts and market psychology. Leverage Typically an investor uses his own funds and eschews borrowed funds. A speculator normally resorts to borrowings, which can be very substantial, to supplement his personal resources.

Speculators and hedgers are different terms that describe traders and investors. Speculation involves trying to make a profit from a security's price change, whereas hedging attempts to reduce the amount of risk, or volatility, associated with a security's price change.

Hedging involves taking an offsetting position in a derivative in order to balance any gains and losses to the underlying asset. Hedging attempts to eliminate the volatility associated with the price of an asset by taking offsetting positions contrary to what the investor currently has. The main purpose of speculation, on the other hand, is to profit from betting on the direction in which an asset will be moving.

Hedging

Hedgers reduce their risk by taking an opposite position in the market to what they are trying to hedge. The ideal situation in hedging would be to cause one effect to cancel out another.

For example, assume that a company specializes in producing jewelry and it has a major contract due in six months, for which gold is one of the company's main inputs.

The company is worried about the volatility of the gold market and believes that gold prices may increase substantially in the near future. In order to protect itself from this uncertainty, the company could buy a six-month futures contract in gold. This way, if gold experiences a 10 percent price increase, the futures contract will lock in a price that will offset this gain.

As you can see, although hedgers are protected from any losses, they are also restricted from any gains. The portfolio is diversified but still exposed to systematic risk. Depending on a company's policies and the type of business it runs, it may choose to hedge against certain business operations to reduce fluctuations in its profit and protect itself from any downside risk.

To mitigate this risk, the investor hedges their portfolio by shorting futures contracts on the market and buying put options against the long positions in the portfolio. On the other hand, if a speculator notices this situation, they may look to short an exchange-traded fund (ETF) and a futures contract on the market to make a potential profit on a downside move.

Speculation

Speculators trade based on their educated guesses on where they believe the market is headed. For example, if a speculator believes that a stock is overpriced, he or she may short sell the stock and wait for the price of the stock to decline, at which point he or she will buy back the stock and receive a profit.

Speculators are vulnerable to both the downside and upside of the market; therefore, speculation can be extremely risky.

Hedgers try to reduce the risks associated with uncertainty, while speculators bet against the movements of the market to try to profit from fluctuations in the price of securities.

Hedging vs. Speculation Example

It's important to note that hedging is not the same as portfolio diversification. Diversification is a portfolio management strategy that investors use to smooth out specific risk in one investment, while hedging helps to decrease one's losses by taking an offsetting position. If an investor wants to reduce his overall risk, the investor shouldn't put all of his money into one investment. Investors can spread out their money into multiple investments to reduce risk.

For example, suppose an investor has $500,000 to invest. The investor can diversify and put money into multiple stocks in various sectors, real estate, and bonds. This technique helps to diversify unsystematic risk; in other words, it protects the investor from being affected by any individual event in an investment.

When an investor is worried about an adverse price decline in their investment, the investor can hedge their investment with an offsetting position to be protected. For example, suppose an investor is invested in 100 shares of stock in oil company XYZ and feels that the recent drop in oil prices will have an adverse effect on its earnings.

The investor does not have enough capital to diversify their position; instead, the investor decides to hedge their position by buying options for protection. The investor can purchase one put option to protect against a drop in the stock price, and pays a small premium for the option. If XYZ misses its earnings estimates and prices fall, the investor will lose money on their long position but will make money on the put option, which limits losses.

Speculation vs. Gambling: An Overview

Speculation and gambling are two different actions used to increase wealth under conditions of risk or uncertainty. However, these two terms are very different in the world of investing. Gambling refers to wagering money in an event that has an uncertain outcome in hopes of winning more money, whereas speculation involves taking a calculated risk in an uncertain outcome. Speculation involves some sort of positive expected return on investment—even though the end result may very well be a loss. While the expected return for gambling is negative for the player—even though some people may get lucky and win.

Speculation

Speculation involves calculating risk and conducting research before entering a financial transaction. A speculator buys or sells assets in hopes of having a bigger potential gain than the amount he risks. A speculator takes risks and knows that the more risk he assumes, in theory, the higher his potential gain. However, he also knows that he may lose more than his potential gain.

For example, an investor may speculate that a market index will increase due to strong economic numbers by buying one contract in one market futures contract. If his analysis is correct, he may be able to sell the futures contract for more than he paid, within a short- to medium-term period. However, if he is wrong, he can lose more than his expected risk.

Gambling

Converse to speculation, gambling involves a game of chance. Generally, the odds are stacked against gamblers. When gambling, the probability of losing an investment is usually higher than the probability of winning more than the investment. In comparison to speculation, gambling has a higher risk of losing the investment.

For example, a gambler opts to play a game of American roulette instead of speculating in the stock market. The gambler only places his bets on single numbers. However, the payout is only 35 to 1, while the odds against him winning are 37 to 1. So if he bets $2 on a single number, his potentialgambling income is $70 (35*$2) but the odds of him winning is approximately 1/37.

Key Differences

Although there may be some superficial similarities between the two concepts, a strict definition of both speculation and gambling reveals the principle differences between them.

A standard dictionary defines speculation as a risky type of investment, where investing means to put money to use, by purchase or expenditure, in something offering profitable returns, especially interest or income. The same dictionary defines gambling as follows: To play at any game of chance for stakes. To stake or risk money, or anything of value, on the outcome of something involving chance; bet; wager.

Speculation refers to the act of conducting a financial transaction that has a substantial risk of losing value but also holds the expectation of a significant gain or other major value. With speculation, the risk of loss is more than offset by the possibility of a substantial gain or other recompense. Some market pros view speculators as gamblers, but a healthy market is made up of not only hedgers and arbitrageurs, but also speculators. A hedger is a risk-averse investor who purchases positions contrary to others already owned. If a hedger owned 500 shares of Marathon Oil but was afraid that the price of oil may soon drop significantly in value, he or she may short sell the stock, purchase a put option, or use one of the many other hedging strategies.

While speculation is risky, it does often have a positive expected return, even though that return may never manifest. Gambling, on the other hand, always involves a negative expected return—the house always has the advantage. Gambling tendencies run far deeper than most people initially perceive and well beyond the standard definitions. Gambling can take the form of needing to socially prove one's self or acting in a way to be socially accepted, which results in taking action in a field one knows little about.

Gambling in the markets is often evident in people who do it mostly for the emotional high they receive from the excitement and action of the markets. Finally, relying on emotion or a must-win attitude to create profits rather than trading in a methodical and tested system indicates the person is gambling in the markets and is unlikely to succeed over the course of many trades.

ELEMENTS OF INVESTMENTS

The Elements of Investments are as follows: a) Return: Investors buy or sell financial instruments in order to earn return on them. The return on investment is the reward to the investors. The return includes both current income and capital gain or losses, which arises by the increase or decrease of the security price. b) Risk: Risk is the chance of loss due to variability of returns on an investment. In case of every investment, there is a chance of loss. It may be loss of interest, dividend or principal amount of investment. However, risk and return are inseparable. Return is a precise statistical term and it is measurable. But the risk is not precise statistical term. However, the risk can be quantified. The investment process should be considered in terms of both risk and return. c) Time: time is an important factor in investment. It offers several different courses of action.

Time period depends on the attitude of the investor who follows a 'buy and hold' policy.

As time moves on, analysis believes that conditions may change and investors may revaluate expected returns and risk for each investment. d) Liquidity: Liquidity is also important factor to be considered while making an investment. Liquidity refers to the ability of an investment to be converted into cash as and when required. The investor wants his money back any time. Therefore, the investment should provide liquidity to the investor. e) Tax Saving: The investors should get the benefit of tax exemption from the investments.

There are certain investments which provide tax exemption to the investor. The tax saving investments increases the return on investment. Therefore, the investors should also think of saving income tax and invest money in order to maximize the return on investment.

1.5 Portfolio Management –

Meaning and Important Concepts

It is essential for individuals to invest wisely for the rainy days and to make their future secure.A portfolio refers to a collection of investment tools such as stocks, shares, mutual funds, bonds, cash and so on depending on the investor's income, budget and convenient time frame.

Following are the two types of Portfolio:

1. Market Portfolio
2. Zero Investment Portfolio

What is Portfolio Management?

The art of selecting the right investment policy for the individuals in terms of minimum risk and maximum return is called as portfolio management.

Portfolio management refers to managing an individual's investments in the form of bonds, shares, cash, mutual funds etc so that he earns the maximum profits within the stipulated time frame.

Portfolio management refers to managing money of an individual under the expert guidance of portfolio managers.

In a layman's language, the art of managing an individual's investment is called as portfolio management.

Need for Portfolio Management

Portfolio management presents the **best investment plan** to the individuals as per their income, budget, age and ability to undertake risks.

Portfolio management **minimizes the risks** involved in investing and also increases the chance of making profits.

Portfolio managers understand the client's financial needs and suggest the best and unique investment policy for them with minimum risks involved.

Portfolio management enables the portfolio managers to **provide customized investment solutions** to clients as per their needs and requirements.

Types of Portfolio Management

Portfolio Management is further of the following types:

- **Active Portfolio Management:** As the name suggests, in an active portfolio management service, the portfolio managers are actively involved

in buying and selling of securities to ensure maximum profits to individuals.

- **Passive Portfolio Management:** In a passive portfolio management, the portfolio manager deals with a fixed portfolio designed to match the current market scenario.
- **Discretionary Portfolio management services:** In Discretionary portfolio management services, an individual authorizes a portfolio manager to take care of his financial needs on his behalf. The individual issues money to the portfolio manager who in turn takes care of all his investment needs, paper work, documentation, filing and so on. In discretionary portfolio management, the portfolio manager has full rights to take decisions on his client's behalf.
- **Non-Discretionary Portfolio management services:** In non discretionary portfolio management services, the portfolio manager can merely advise the client what is good and bad for him but the client reserves full right to take his own decisions.

Who is a Portfolio Manager ?

An individual who understands the client's financial needs and designs a suitable investment plan as per his income and risk taking abilities is called a portfolio manager. A portfolio manager is one who invests on behalf of the client.

A portfolio manager counsels the clients and advises him the best possible investment plan which would guarantee maximum returns to the individual.

A portfolio manager must understand the client's financial goals and objectives and offer a tailor made investment solution to him. No two clients can have the same financial needs

OBJECTIVES OF PORTFOLIO MANAGEMENT

When the portfolio manager builds a portfolio, he should keep the following objectives in mind based on an individual's expectation. The choice of one or more of these depends on the investor's personal preference.

1.Capital Growth
2.Security of Principal Amount Invested
3.Liquidity
4.Marketability of Securities Invested in
5.Diversification of Risk
6.Consistent Returns
7.Tax Planning

Investors hire portfolio managers and avail professional services for the management of portfolio by as paying a pre-decided fee for these services. Let us understanding who is a portfolio manager and tasks involved in the management of a portfolio.

1.6 Risks-Return Tradeoff?

The risk-return tradeoff states that the potential return rises with an increase in risk. Using this principle, individuals associate low levels of uncertainty with low potential returns, and high levels of uncertainty or risk with high potential returns. According to the risk-return tradeoff, invested

money can render higher profits only if the investor will accept a higher possibility of losses.

Understanding Risk-Return Tradeoff

The risk-return tradeoff is the trading principle that links high risk with high reward. The appropriate risk-return tradeoff depends on a variety of factors including an investor's risk tolerance, the investor's years to retirement and the potential to replace lost funds. Time also plays an essential role in determining a portfolio with the appropriate levels of risk and reward. For example, if an investor has the ability to invest in equities over the long term, that provides the investor with the potential to recover from the risks of bear markets and participate in bull markets, while if an investor can only invest in a short time frame, the same equities have a higher risk proposition.

Investors use the risk-return tradeoff as one of the essential components of each investment decision, as well as to assess their portfolios as a whole. At the portfolio level, the risk-return tradeoff can include assessments of the concentration or the diversity of holdings and whether the mix presents too much risk or a lower-than-desired potential for returns.

Special Considerations

Measuring Singular Risk in Context

When an investor considers high-risk-high-return investments, the investor can apply the risk-return tradeoff to the vehicle on a singular basis as well as within the context of the portfolio as a whole. Examples of high-risk-high return investments include options, penny stocks and leveraged exchange-traded funds (ETFs). Generally speaking, a diversified portfolio reduces the risks presented by individual investment positions. For example, a penny stock position may have a high risk on a singular basis, but if it is the only position of its kind in a larger portfolio, the risk incurred by holding the stock is minimal.

Risk-Return Tradeoff at the Portfolio Level

That said, the risk-return tradeoff also exists at the portfolio level. For example, a portfolio composed of all equities presents both higher risk and higher potential returns.

Within an all-equity portfolio, risk and reward can be increased by concentrating investments in specific sectors or by taking on single positions that represent a large percentage of holdings. For investors, assessing the cumulative risk-return tradeoff of all positions can provide insight on whether a portfolio assumes enough risk achieving long-term return objectives or if the risk levels are too high with the existing mix of holdings.

UNIT II: FINANCIAL INVESTMENT AVENUES

Structure

2.1 Financial investment Avenues

Investors are a heterogeneous group, they may be large or small, rich or poor, expert or lay man and not all investors need equal degree of protection (Mayya, 1996). An investor has three objectives while investing his money, namely safety of invested money, liquidity position of invested money and return on investment. The return on investment may further be divided into capital gain and the rate of return on investment as interest or dividend. Among all investment options available, securities are considered the most challenging as well as rewarding. Securities include shares, debentures, derivatives, units of mutual funds, Government securities etc. An investor may be an individual or corporate legal entity investing funds with a view to derive maximum economic advantage from investment such as rate of return, capital appreciation, marketability, tax advantage and convenience of investment.

The Capital market facilitates mobilization of savings of individuals and pools them into reservoir of capital which can be used for the economic development of a country. An efficient capital market is essential for raising capital by the corporate sector of the economy and for the protection of the interest of investors in corporate securities. There arises a need to strike a balance between rising of capital for economic development on one side and protection of investors on the other. Unless the interests of investors are protected, raising of capital, by corporate is not possible. Like, the primary objective of a senior citizen's asset allocation is the generation of regular income.

2.2 Fixed income and varying income securities

A fixed-income security is an investment that provides a return in the form of fixed periodic interest payments and the eventual return of principal at maturity. Unlike variable-income securities, where payments change based on some underlying measure such as short-term interest rates the payments of a fixed-income security are known in advance.

Fixed-Income Securities Explained

Fixed-Income securities are debt instruments that pay a fixed amount of interest—in the form of coupon payments—to investors. The interest payments are typically made semiannually while the principal invested returns to the investor at maturity. Bonds are the most common form of fixed-income securities. Companies raise capital by issuing fixed-income products to investors.

A bond is an investment product that is issued by corporations and governments to raise funds to finance projects and fund operations. Bonds are mostly comprised of corporate bonds and government bonds and can have various maturities and face value amounts. The face value is the amount the investor will receive when the bond matures. Corporate and government bonds trade on major exchanges and usually are listed with $1,000 face values, also known as the par value.

Credit Rating Fixed Income Securities**Not all bonds are created equal meaning they have different credit ratings assigned to them based on the financial viability of the issuer. Credit ratings are part of a grading system performed by credit-rating agencies. These agencies measure the creditworthiness of corporate and government bonds and the entities ability to repay these loans. Credit ratings are helpful to investors since they indicate the risks involved in investing.**

Bonds can either be investment grade on non-investment grade bonds. Investment grade bonds are issued by stable companies with a low risk of default and, therefore, have lower interest rates than non-investment grade bonds. Non-investment grade bonds, also known as junk bonds or high-yield bonds, have very low credit ratings due to a high probability of the corporate issuer defaulting on its interest payments.

As a result, investors typically require a higher rate of interest from junk bonds to compensate them for taking on the higher risk posed by these debt securities.

Types of Fixed-Income Securities

Although there are many types of fixed-income securities, below we've outlined a few of the most popular in addition to corporate bonds.

Treasury notes (T-notes) are issued by the U.S. Treasury and are intermediate-term bonds that mature in two, three, five, or 10 years. T-Notes usually have a face value of $1,000 and pay semiannual interest payments at fixed coupon rates or interest rates. The interest payment and principal repayment of all Treasurys are backed by the full faith and credit of the U.S. government, which issues these bonds to fund its debts.

Another type of fixed-income security from the U.S. Treasury is the Treasury bond (T-bond) which matures in 30 years. Treasury bonds typically have par values of $10,000 and are sold on auction on TreasuryDirect.

Short-term fixed-income securities include Treasury bills. The T-bill matures within one year from issuance and doesn't pay interest. Instead, investors can buy the security at a lower price than its face value, or a discount. When the bill matures, investors are paid the face value amount. The interest earned or return on the investment is the difference between the purchase price and the face value amount of the bill.

A municipal bond is a government bond issued by states, cities, and counties to fund capital projects, such as building roads, schools, and hospitals. The interest earned from these bonds is tax exempt from federal income tax. Also, the interest earned on a muni bond might be exempt from state and local taxes if the investor resides in the state where the bond is issued. The muni bond has several maturity dates in which a portion of

the principal comes due on a separate date until the entire principal is repaid. Munis are usually sold with a $5,000 face value.

A bank issues a certificate of deposit (CD). In return for depositing money with the bank for a predetermined period, the bank pays interest to the account holder. CDs have maturities of less than five years and typically pay lower rates than bonds, but higher rates than traditional savings accounts. A CD has Federal Deposit Insurance Corporation (FDIC) insurance up to $250,000 per account holder.

Companies issue preferred stocks that provide investors with a fixed dividend, set as a dollar amount or percentage of share value on a predetermined schedule. Interest rates and inflation influence the price of preferred shares, and these shares have higher yields than most bonds due to their longer duration.

Benefits of Fixed-Income Securities**Fixed-income securities provide steady interest income to investors throughout the life of the bond. Fixed-income securities can also reduce the overall risk in an investment portfolio and protect against volatility or wild fluctuations in the market. Equities are traditionally more volatile than bonds meaning their price movements can lead to bigger capital gains but also larger losses. As a result, many investors allocate a portion of their portfolios to bonds to reduce the risk of volatility that comes from stocks.**

It's important to note that the prices of bonds and fixed income securities can increase and decrease as well. Although the interest payments of fixed-income securities are steady, their prices are not guaranteed to remain stable throughout the life of the bonds.

For example, if investors sell their securities before maturity, there could be gains or losses due to the difference between the purchase price and sale price. Investors receive the face value of the bond if it's held to maturity, but if it's sold beforehand, the selling price will likely be different from the face value.

However, fixed income securities typically offer more stability of principal than other investments. Corporate bonds are more likely than other corporate investments to be repaid if a company declares bankruptcy. For example, if a company is facing bankruptcy and must liquidate its assets, bondholders will be repaid before common stockholders.

The U.S. Treasury guarantees government fixed-income securities and considered safe-haven investments in times of economic uncertainty. On the other hand, corporate bonds are backed by the financial viability of the company. In short, corporate bonds have a higher risk of default than government bonds. Default is the failure of a debt issuer to make good on their interest payments and principal payments to investors or bondholders.

Fixed-income securities are easily traded through a broker and are also available in mutual funds and exchange-traded funds. Mutual funds and ETFs contain a blend of many securities in their funds so that investors can buy into many types of bonds or equities.

Risks of Fixed-Income Securities

Although there are many benefits to fixed-income securities and are often considered safe and stable investments, there are some risks associated with them. Investors must way the pros and cons of before investing in fixed-income securities.

Investing in fixed-income securities usually results in low returns and slowcapital appreciation or price increases. The principal amount invested can be tied up for a long time, particularly in the case of long-term bonds with maturities greater than 10 years. As a result, investors don't have access to the cash and may take a loss if they need the money and cash in their bonds early. Also, since fixed-income products can often pay a lower return than equities, there's the opportunity of lost income.

Fixed-income securities have interest rate risk meaning the rate paid by the security could be lower than interest rates in the overall market. For example, an investor that purchased a bond paying 2% per year might lose out if interest rates rise over the years to 4%. Fixed-income securities provide a fixed interest payment regardless of where interest rates move during the life of the bond. If rates rise, existing bondholders might lose out on the higher rates.

Bonds issued by a high-risk company may not be repaid, resulting in loss of principal and interest. All bonds have credit risk or default risk associated with them since the securities are tied to the issuer's financial viability. If the company or government struggles financially, investors are at risk of default on the security. Investing in international bonds can increase the risk of default if the country is economically or politically unstable.

Inflation erodes the return on fixed-rate bonds. Inflation is an overall measure of rising prices in the economy. Since the interest rate paid on most bonds is fixed for the life of the bond, inflation risk can be an issue if prices rise by a faster rate than the interest rate on the bond. If a bond pays 2% and inflation is rising by 4%, the bondholder is losing money when factoring in the rise in prices of goods in the economy. Ideally, investors want fixed-income security that pays a high enough interest rate that the return beats out inflation.

Real World Examples of Fixed-Income Securities **As mentioned earlier, Treasury bonds are long-term bonds with a maturity of 30 years. T-Bonds provide semiannual interest payments and usually have $1,000 face values. The 30-year Treasury bond that was issued March 15, 2019, paid a rate of 3.00%. In other words, investors would be paid 3.00% or $30 on their $1,000 investment each year. The $1,000 principal would be paid back in 30 years.**

On the other hand, the 10-year Treasury note that was issued March 15, 2019, paid a rate of 2.625%. The bond also pays semiannual interest payments at fixed coupon rates and usually has a $1,000 face value. Each bond would pay $26.25 per year until maturity.

We can see that the shorter-term term bond pays a lower rate than the long-term bond because investors demand a higher rate if their money is going to be tied up longer in longer-term fixed-income security.

Variable income securities

Definition

The term variable-income security refers to investments that provide their owners with a rate of return that is dynamic and determined by market forces. Variable-income securities provide investors with both greater risks as well as rewards.

Explanation

Variable-income securities, also known as variable-rate securities, are typically valued by investors looking for higher returns than those offered by fixed-income securities. The classic example of a variable-income security is common stock, which can offer investors virtually unlimited up-side growth as well as the complete loss of principal. In exchange for this risk, investors in these securities demand higher returns than their fixed-income counterparts. In addition to common stocks, examples of variable-income securities include:

- **Variable Rate Demand Obligations (VRDO)**: municipal bonds that have long-term maturities that reset on a relatively short-term basis.
- **Floating Rate Notes (FRN)**: bonds that feature a variable rate coupon, typically indexed to a money market rate such as federal funds or LIBOR plus a margin spread. The rate of interest on FRNs will increase or decrease quarterly based on the auction rates of 13-week Treasury bills.

2.3 Factors influencing investment

Investment is expenditure on capital goods – for example, new machines, offices, new technology. Investment is a component of Aggregate Demand (AD) and also influences the capital stock and productive capacity of the economy (long-run aggregate supply)

Summary – Investment levels are influenced by:

1. Interest rates (the cost of borrowing)
2. Economic growth (changes in demand)
3. Confidence/expectations
4. Technological developments (productivity of capital)
5. Availability of finance from banks.
6. Others (depreciation, wage costs, inflation, government policy)

Main factors influencing investment by firms

1. Interest rates

Investment is financed either out of current savings or by borrowing. Therefore investment is strongly influenced by interest rates. High interest rates make it more expensive to borrow. High interest rates also give a better rate of return from keeping money in the bank. With higher interest rates, investment has a higher opportunity cost because you lose out the interest payments.

The marginal efficiency of capital states that for investment to be worthwhile, it needs to give a higher rate of return than the interest rate. If interest rates are 5%, an investment project needs to give a rate of return of at least 5% or more. As interest rates rise, fewer investment projects will be profitable. If interest rates are cut, then more investment projects will be worthwhile.

Evaluation

Time lags. If a firm has started an investment project, a rise in interest rates will be unlikely to change the decision. The firm will continue to finish the investment. However, it will make them think twice about future investment projects. Therefore changes in interest rates can take time to have an effect.

Other factors. Interest rates can be outweighed by economic conditions. For example, in 2009, interest rates were cut from 5% to 0.5% – but investment fell because of the deep recession and the unwillingness of the banks to lend. It was cheap to borrow, but in these circumstances, this wasn't enough to encourage investment.

2. Economic growth

Firms invest to meet future demand. If demand is falling, then firms will cut back on investment. If economic prospects improve, then firms will increase investment as they expect future demand to rise. There is strong empirical evidence that investment is cyclical. In a recession, investment falls, and recover with economic growth.

Accelerator theory The accelerator theory states that investment depends on the rate of change of economic growth. In other words, if the rate of economic growth increases from 1.5% a year to 2.5% a year, then this increase in the growth rate will cause an increase in investment spending as the economy is on an up-turn. The accelerator theory states that investment is dependent on economic cycle

3. Confidence

Investment is riskier than saving. Firms will only invest if they are confident about future costs, demand and economic prospects. Keynes referred to the 'animal spirits' of businessmen as a key determinant of investment. Keynes noted that confidence that wasn't always rational. Confidence will be affected by economic growth and interest rates, but also the general economic and political climate. If there is uncertainty (e.g. political turmoil) then firms may cut back on investment decisions as they wait to see how event unfold.

Evaluation – Confidence is often driven by economic growth and changes in the rate of economic growth. It is another factor that makes investment cyclical in nature.

4. Inflation

In the long-term, inflation rates can have an influence on investment. High and variable inflation tends to create more uncertainty and confusion, with uncertainties over the cost of investment. If inflation is high and volatile, firms will be uncertain at the final cost of the investment, they may also fear high inflation could lead to economic uncertainty and future downturn. Countries with a prolonged period of low and stable inflation have often experienced higher rates of investment.

Evaluation – if low inflation is caused by a fall in demand and economic growth – then this low inflation will not, of itself, be sufficient to boost investment. The ideal is low inflationary and sustainable growth.

5. Productivity of capital

Long-term changes in technology can influence the attractiveness of investment. In the late nineteenth century, new technology such as Bessemer steel and improved steam engines meant firms had a strong incentive to invest in this new technology because it was much more efficient than previous technology. If there is a slowdown in the rate of technological progress, firms will cut back investment as there are lower returns on the investment.

6. Availability of finance

In the credit crunch of 2008, many banks were short of liquidity so had to cut back lending. Banks were very reluctant to lend to firms for investment. Therefore despite record low-interest rates, firms were unable to borrow for investment – despite firms wishing to do that.

Another factor that can influence investment in the long-term is the level of savings. A high level of savings enables more resources to be used for investment. With high deposits – banks are able to lend more out. If the level of savings in the economy falls, then it limits the amounts of funds that can be channelled into investment.

7. Wage costs

If wage costs are rising rapidly, it may create an incentive for a firm to try and boost labour productivity, through investing in capital stock. In a period of low wage growth, firms may be more inclined to use more labour intensive production methods.

8. Depreciation

Not all investment is driven by the economic cycle. Some investment is necessary to replace worn out or outdated equipment. Also, investment may be required for the standard growth of a firm. In a recession, investment will fall sharply, but not completely – firms may continue with projects already started, and after a time, they may have to invest on less ambitious projects. Also, even in recessions, some firms may wish to invest or startup.

9. Public sector investment

The majority of investment is driven by the private sector. But, investment also includes public sector investment – government spending on infrastructure, schools, hospitals and transport.

10. Government policies

Some government regulations can make investment more difficult. For example, strict planning legislation can discourage investment. On the other hand, government subsidies/tax breaks can encourage investment. In China and Korea, the government has often implicitly guaranteed – supported the cost of investment. This has led to greater investment – though it can also affect the quality of investment as there is less incentive to make sure the investment has a strong rate of return.

2.4 Investment media

Social Media consists of a myriad of means in which the interactions among people using web-based tools and platforms creates online virtual communities centred on user input and the sharing of information.[1] Social media features anything from content-sharing to collaboration, and can take the form of platforms such asmicroblogging, forums, bookmarking

sites, social networks and wikis. Prominent examples of social media include websitessuch as Facebook, Twitter, LinkedIn,YouTube and Reddit.

Social media is not only used for personal uses but is now playing a growing role in business and organisations; with entrepreneurs increasingly looking towards social media platforms to market their businesses. It is evidently becoming the case that investment in social media "is a necessity, not a luxury", it is a fundamental instrument which should be used in any marketing plan.

However, it is clear that business owners encounter various challenges with respect to **investing in social media;** they may face lack of time and knowledge on how to determine the **return on investment (ROI)** as an example; this is a recognised measurement to evaluate the efficiency and financial consequences of an investment and to ultimately assess the profitability of a business.[4]

Return on Investment (ROI)[edit]

ROI refers to the money that a business or a corporation earns as a percentage of the full value of their assets which have been invested. The method to calculate this is:

Return on investment *= (Income - Cost) / Cost*.[5]

ROI is the most common profitability ratio that establishes the efficiency of an investment. In this context, ROI will measure the returns from a social media investment. However, it is commonly argued that calculating ROI is difficult and also depends on the applied returns and costs. There is no universal way of measuring the ROI of the social media commitments (Kelly, 2012). As such, some business owners tend to count how many Facebook fans and Twitter followers they have or how many retweets and likes they enjoy.[6] However, this may not be an effective measure of ROI. We can measure ROI using metric tools that foster conversion measurement and optimized CPM, which enables Facebook ads to reach the target audience (Burg, 2013). This enables the investor to know who clicked through their ads thus enhancing future business planning. In addition, we can measure ROI by analyzing interactions, calculated by multiplying the number of received likes by the number of friends of those likes witnessed the action. This defines how far the advert went; moreover, we can analyze traffic to determine the ROI in social media efforts (Harden & Heyman, 2011).

Indeed, different social media understand the business owners need to evaluate their ROI in social media and thus there is a provision for built-in analytics tools for following engagement, likes, and shares (Burg, 2013). This helps the marketers to determine how often people find the marketer's page through the social sites. For example, on Facebook, one can analyze the comment to like a ratio of posts while on Twitter, one can analyze the retweets to tweet ratio. Notably, the higher the ratios, the higher the ROI is.

Benefits of investing in social media[edit]

Building brand recognition and loyalty[edit]

Initially, business owners may choose to invest in social media as a means of building their brand recognition. Through social media, businesses can simultaneously draw in new consumers whilst making existing customers

more familiar with the brand. For example, through the use of the microblogging site Twitter; brands can promote their products with a simple "tweet", and any regular Twitter user could potentially stumble across their products and services via their newsfeed, whilst existing customers may become extra accustomed to the brand after seeing positive responses; following the current consumer's fashions. Companies can effectively use social media to enforce their company history, values and advantages in a way that will appeal to, and attract, many consumers.[7]

It is statistically proven that businesses who engage in social media experience higher brand loyalty from their customers, hence we've seen not only an increase in investments, but also in the ROI; with over "72% of marketers now using social media to develop loyal fans", and of those who have been engaging in social media platforms for at least 1 year, "69% found it useful for building a loyal fan base".[8]

2.5 Features of investment programme

Essential features of an Investment Programme

A good investment programme is one which is consistent with the objectives of the investor, i.e., it should have all the advantages of fruitful investment. The following are the essential ingredients of a good investment programme.

ESSENTIAL FEATURES OF AN INVESTMENT PROGRAMME

1. Safety of principal

Safety of funds invested is one of the essential ingredients of a good investment programme. Safety of principal signifies protection against any possible loss under the changing conditions. Safety of principal can be achieved through a careful review of economic and industrial trends before choosing the type of investment. It is clear that no one can make a forecast of future economic conditions with utmost precision. To safeguard against certain errors that may creep in while making an investment decision, extensive diversification is suggested.

The main objective of diversification is the reduction of risk in the loss of capital and income. A diversified portfolio is less risky than holding a single portfolio.

Diversification refers to an assorted approach to investment commitments. Diversification may be of two types, namely,

i. Vertical diversification; and
ii. Horizontal diversification.

Under **vertical diversification**, securities of various companies engaged in different stages of production (from raw material to finished products) are chosen for investment.

On the contrary,

horizontal diversification means making investment in those securities of the companies that are engaged in the same stage of production.

Apart from the above classification, securities may be classified into bonds and shares which may in turn be reclassified according to their types. Further, securities can also be classified according to due date of interest, etc. However, the simplest diversification is holding different types of securities with reasonable concentration in each.

2. Liquidity and Collateral value

A liquid investment is one which can be converted into cash immediately without monetary loss. Liquid investments help investors meet emergencies. Stocks are easily marketable only when they provide adequate return through dividends and capital appreciation. **Portfolio of liquid investments** enables the investors to raise funds through the sale of liquid securities or borrowing by offering them as collateral security. The investor invests in high grade and readily saleable investments in order to ensure their liquidity and collateral value.

3. Stable income

Investors invest their funds in such assets that provide stable income. Regularity of income is consistent with a good investment programme. The income should not only be stable but also adequate as well.

4. Capital growth

One of the important principles of investment is capital appreciation. A company flourishes when the industry to which it belongs is sound. So, the investors, by recognizing the connection between industry growth and capital appreciation should invest in growth stocks. In short, right issue in the right industry should be bought at the right time.

5. Tax implications

While planning an investment programme, the tax implications related to it must be seriously considered. In particular, the amount of income an investment provides and the burden of income tax on that income should be given a serious thought. Investors in small income brackets intend to maximize the cash returns on their investments and hence they are hesitant to take excessive risks. On the contrary, investors who are not particular about cash income do not consider tax implications seriously.

6. Stability of Purchasing Power

Investment is the employment of funds with the objective of earning income or capital appreciation. In other words, current funds are sacrificed with the aim of receiving larger amounts of future funds. So, the investor should consider the purchasing power of future funds. In order to maintain the stability of purchasing power, the investor should analyze the expected price level inflation and the possibilities of gains and losses in the investment available to them.

7. Legality

The investor should invest only in such assets which are approved by law. Illegal securities will land the investor in trouble. Apart from being satisfied with the legality of investment, the investor should be free from management of securities. In case of investments in Unit Trust of India and mutual funds of Life Insurance Corporation, the management of funds is left to the care of a competent body. It will diversify the pooled funds according to the principles of safety, liquidity and stability.

2.6 Investment process

Investment process four main steps involved in investment process. The steps are:

1. Investment Policy.

2. Investment Analysis.

3. Valuation of Securities.

4. Portfolio Construction.

Investment Process: Step # 1. Investment Policy:

The first stage determines and involves personal financial affairs and objectives before making investments. It may also be called preparation of the investment policy stage.

The investor has to see that he should be able to create an emergency fund, an element of liquidity and quick convertibility of securities into cash. This stage may, therefore; be considered appropriate for identifying investment assets and considering the various features of investments.

Investment Process: Step # 2. Investment Analysis:

When a individual has arranged a logical order of the types of investments that he requires on his portfolio, the next step is to analyse the securities available for investment. He must make a comparative analysis of the type of industry, kind of security and fixed vs. variable securities. The primary concerns at this stage would be to form beliefs regarding future behaviour or prices and stocks, the expected returns and associated risk.

Investment Process: Step # 3. Valuation of Securities:

The third step is perhaps the most important consideration of the valuation of investments. Investment value, in general, is taken to be the present worth to the owners of future benefits from investments. The investor has to bear in mind the value of these investments.

An appropriate set of weights have to be applied with the use of forecasted benefits to estimate the value of the investment assets. Comparison of the value with the current market price of the asset allows a determination of the relative attractiveness of the asset. Each asset must be valued on its individual merit. Finally, the portfolio should be constructed.

Investment Process: Step # 4. Portfolio Construction:

Under features of an investment programme, portfolio construction requires a knowledge of the different aspects of securities. These are briefly recapitulated here, consisting of safety and growth of principal, liquidity of assets after taking into account the stage involving investment timing, selection of investment, allocation of savings to different investments and feedback of portfolio as given in Table

Table 1.5

THE PROCESS OF INVESTING

Investment Policy Determination of investible wealth Determination of portfolio objectives Identification of potential investment assets Consideration of attributes of investment assets Allocation of wealth to asset categories		
Investment Valuation Valuation of stocks	Valuation of debentures and bonds	Valuation of other assets
Investment Analysis Equity Stock Analysis	Debentures and bond analysis	Other asset analysis
Analysis of the Economy Screening of Industries	Analysis of yield structure	Qualitative analysis
Analysis of Industries	Consideration of debentures	Quantitative analysis
Quantitative analysis of Stocks	Quantitative analysis of debentures	
Portfolio Construction Determination of diversification level Consideration of investment timing Selection of investment assets Allocation of investible wealth to investment assets Evaluation of portfolio for feedback		

While evaluating securities, the investor should realize that investments are made under conditions of uncertainty. These cannot be a magic formula which will always work. The investor should be concerned with concepts and applications that will satisfy his investment objectives and constantly evaluate the performance of his investments. If need be, the investor may consider switching over to alternate proposals.

2.7 Development of Financial system in India

Evolution of Financial System in India In the 1950s and 1960s, Gurley and Shaw (195512, 196013) and Goldsmith (1969)14 discussed the stages in the evolution of financial systems. According to them, there is a link between per capita income and the development of a financial system.

At low levels of development, most investment is self-financed and financial intermediaries do not exist, as the costs of financial intermediation are relatively high compared to benefits. As countries develop and per capita income increases, bilateral borrowing and lending take place, leading to the birth of financial intermediaries. The number of financial intermediaries grows with further increases in per capita income.

Among the financial intermediaries, banks tend to become larger and prominent in financial investment. As countries expand economically, non-bank financial intermediaries and stock markets grow in size and tend to become more active and efficient compared to banks. There is a general tendency for a financial system to become more market-oriented as countries become richer. The evolution of the Indian financial system from somewhat of a constricted and an undersized one to a more open, deregulated and market oriented one and its interface with the growth process is due to the turning points in its history. The 12 Gurley John G and Edward Stone Shaw (1955), "Financial Aspects of Economic Development", The American Economic Review, Volume XLV, No. 4,

September, (pp 515-538). 13 Gurley John G and Edward Stone Shaw (1960), Money in a Theory of Finance, Washington D.C., Brookings Institution. 14 Goldsmith W Raymond (1969), Financial Structure and Development, Yale University Press, Princeton N.J, p.7. 89 evolution of financial system in India owes much to its locational advantage providing geopolitical and commercial avenues.

During the colonial days too, it served as an entrepot for regions and for the flourishment of trade. The process of financial development in independent India hinged effectively on the development of commercial banking, with the impetus given to industrialisation based on the initiatives provided in the five year plans. Financing of emerging trade and industrial activities during the 'fifties' and the 'sixties' reflected the dominance of banking as the critical source. The First Five Year Plan Document15 emphasised that as part of price policy, both financial and physical controls were necessary. It also recognised the importance of the creation of financial infrastructure by the central bank in the development process.

The First five Year Plan Document stated that "Central banking in a planned economy can hardly be confined to the regulation of overall supply of credit or to a somewhat negative regulation of the flow of bank credit. It would have to take on a direct and active role, firstly in creating or helping to create the machinery needed for financing developmental activities all over the country and secondly ensuring that the finance available flows in the direction intended"16 .

In 1954, the Parliament of India declared "socialistic pattern of society" as the basic objective of economic policy wherein the "basic criterion for determining lines of advance must not be private profit, but social gain and that the pattern of development and the structure of socio-economic relatives should be so planned that they result not only in appreciable increase in national income and employment but also in greater equality in incomes and wealth. Major decisions regarding production, distribution, consumption and investment - and in fact all significant social economic relationships - must be made by agencies informed by Social Purpose.17 However, the turning point was the nationalisation of Reserve Bank of India and the enactment of the Banking Regulation Act in 1949. The number of banks and branches had gone up, notwithstanding the consolidation of small banks, and the support given to co-operative credit movement. Functionally, banks catered to the needs of the organised industrial and trading sectors.

The primary sector consisting of 'agriculture, forestry and fishing', which formed more than 50 per cent of GDP during 15 Government of India, First Five Year Plan Document (1950), Planning Commission, p. 37 16 Ibid, First Five Year Plan (1950), p. 38. 17 Government of India, Second Five Year Plan (1956), Planning Commission, p. 21. 90 this period had to depend largely on self financing and on sources outside the commercial banks like money lenders and indigenous bankers. It is against this backdrop that the process of financial development was given impetus with the adoption of the policy of social control over banks in 1967, further reinforced in 1969 by the nationalisation of 14 major scheduled

commercial banks. Since then, the banking system has formed the core of the Indian Financial system.

Driven largely by public sector initiative and policy activism, commercial banks have a dominant share in the total financial assets and are the main source of finance for the private corporate sector. They also channel a sizeable share of household savings to the public sector. Besides, in recent years, they have been performing most of the payment system functions. With increased diversification in recent years, banks in both public and private sectors have been providing a wide range of financial services. In the three decades following the first wave of bank nationalisation (the second wave consisted of six commercial banks in 1980), the number of scheduled commercial banks has quadrupled and the number of bank branches has increased eight-fold. Aggregate deposits of scheduled commercial banks have also increased. The financial system outside the banks has also exhibited considerable dynamism. The system today is varied, with a well-diversified structure of financial institutions, financial companies and mutual funds. The setting up of some specialised financial institutions and refinance institutions during last three decades and the onset of reforms from about the early nineties, provided depth to financial intermediation outside the banking sector. These developments, coupled with increased financial market liberalisation, have enhanced competition. Financial development is also reflected in the growing importance of mutual funds. Capital markets themselves have become an important source of financing corporatized investments.

Financial development in the banking and non-banking financial sector has supported saving and investment in the economy and contributed to economic growth. By pooling risks, reaping economies of scale and scope, and by providing maturity transformation, financial intermediation supports economic activity of the nonfinancial sectors. 91 3.5: Structure of Indian Financial System Financial structure refers to shape, components and their order in the financial system. A well-structured financial system is a precondition to economic growth. The structure of the financial system becomes important in determining the nature of growth. The Indian financial system has made rapid strides in facilitating intermediation, innovation of new instruments and institutions. The structure of Indian Financial System is depicted in (Chart-3.(iii)).

It can be broadly classified into the formal (organised) financial system and the Informal (unorganised) financial system. The formal financial system comes under the purview of the Ministry of Finance (MoF), the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI) and other regulatory bodies. The informal financial system consists of: Individual moneylenders such as neighbours, relatives, landlords, traders, and

♣ storeowners. Groups of persons operating as 'funds' or 'associations'.

These groups function

♣ under a system of their own rules and use names such as 'fixed fund', 'association', and 'saving club'. Partnership firms consisting of local brokers, pawnbrokers, and non-bank

♣ financial intermediaries such as finance, investment, and chit-fund companies. 92 Chart-3.(iii): STRUCTURE OF INDIAN FINANCIAL SYSTEM I. Formal or Organized Financial System II. Informal or Unorganized Financial System 1. Financial Institutions and Financial Intermediaries 2. Financial Markets 3. Financial Instruments 4. Financial Services Money Lenders Pawn Brokers Traders Land Lords Local Banks (i) Banking Institutions (ii) Non-Banking Institutions (iii) Mutual Funds (iv) Insurance & Housing Finance Companies Public Sector Private Sector Scheduled Commercial Banks Scheduled Cooperative Banks NBFC's Development Financial Institutions Public Sector Banks Private Sector Banks Foreign Banks in India RRB's All India Financial Institutions: IFCI, IDBI, SIDBI, IDFC, NABARD, EXIM BANK, NHB State Level F.I's: SFC's, SIDC's Other F.I's ECGC, DICGC (a) Capital Market (b) Money Market Equity Market Debt Market Treasury Bills Call Money Market Commercial Bills Commercial Papers Certificates of Deposit Term Money Primary Market Secondary Market Derivatives Market Public Issues Private Placement Domestic Market International Market NSE BSE ISE Regional Stock Exchanges Exchanges Traded futures and Options Index Stock Private Corporate Debt PSU Bond Market Government Securities Market Primary Secondary Secondary Segment Primary Segment Depositories Custodial Credit Rating Factoring Merchant Banking Leasing Hire Purchase Portfolio Management Underwriting Term Type Time Deposits Mutual Fund Units Insurance Policies Equity Preference Debt and Various combinations Secondary Securities Primary Securities Short Medium Long RBI : Reserve Bank of India IRDA : Insurance Regulatory & Development Authority MoF : Ministry of Finance SEBI : Securities and Exchange Board of India NBFCs : Non-Banking Financial Companies RRBs : Regional Rural Banks IFCI : Industrial Finance Corporation of India IDBI : Industrial Development Bank of India SIDBI : Small Industries Development Bank of India IDFC :Infrastructure Development Finance Company NABARD :National Bank for Agriculture & Rural Development EXIM BANK :Export Import Bank of India NHB :National Housing Bank SFCs :State Financial Corporation SIDCs :State Industrial Development Corporation ECGC :Export Credit Guarantee Corporation of India Limited DICGC :Deposit Insurance and Credit Guarantee Corporation. NSE :National Security Exchange BSE :Bombay Security Exchange ISE :International Stock Exchange PSU : Public Sector Units Indian Financial System Source: Pathak, Bharti V, (2009) The Indian Financial System, p.4 92 93 3.5.(i): Financial Institutions The formal financial system in India consists of four components i.e., (i) Financial Institutions, (ii) Financial Markets, (iii) Financial Instruments and (iv) Financial Services. The Institutional structure of the Indian financial system is shown in Chart 3.(iv) Chart-3.(iv): Institutional Structure of Indian Financial System Source: Chart-3.(iii).

Financial Institutions are intermediaries that mobilize savings and facilitate the allocation of funds in an efficient manner. Financial institutions can be classified as banking and non-banking financial institutions. Banking institutions are creators and purveyors of credit while non-banking financial institutions are purveyors of credit. While the

liabilities of banks are part of the money supply, this may not be true of Indian Financial System I. Financial Institutions and Financial Intermediaries Banking Institutions Non-Banking Institutions Mutual Funds Public Sector Private Sector Insurance & Housing Finance Companies Scheduled Commercial Banks Scheduled Cooperative Banks Non-Bank Financial Companies Development Financial Institutions Public Sector Banks Private Sector Banks Foreign Banks in India Regional Rural Banks All India F.I.s: IFCI, IDBI, SIDBI, IDFC, NABARD, EXIM BANK, NHB State Level F.I's: SFC's, SIDC's Other F.I's ECGC, DICGC 94 non-banking financial institutions. In India, non-banking financial institutions, namely, the Developmental Financial Institutions (DFIs), and Non-Banking Financial Companies (NBFCs) as well as Housing Finance Companies (HFCs) are the major institutional purveyors of credit.

RECENT DEVELOPMENT OF INDIAN FINANCIAL SYSTEM

India has a financial system that is controlled by self-governing regulators in the sectors of banking, insurance, capital markets, opposition and various services sectors. In a number of sectors Government plays the role of regulator. Ministry of Finance, Government of India looks after financial sector in India. Finance Ministry every year presents annual economical on February 28 in the Parliament. The annual budget proposes changes in taxes, changes in government policy in almost all the sectors and budgetary and other allocations for all the Ministries of Government of India. Indian financial system was characterised by:

- ♣ absence of organised capital market
- ♣ Dependence of industries and other users on internal sources
- ♣ Rare cases of public issues of capital for expansion and modernization
- ♣ Few financial institutions and players in the market
- ♣ Very strict conditions for loan assistance to companies

The top 5 developments in Indian financial system in 2016.

Below are our picks:

1. Withdrawal of legal tender status for Rs 500 and Rs 1000 notes
2) Setting up of the monetary policy committee
3) Passage of the goods and services tax bill
4) Passage of the insolvency and bankruptcy code
5) Thrust towards digitisation of government payments

(1)Withdrawal of legal tender status for Rs 500 and Rs 1000 notes

"To break the grip of corruption and black money, we have decided that the five hundred rupee and thousand rupee currency notes presently in use will no longer be legal tender from midnight tonight that is 8th November 2016…."With these words the Indian Prime Minister in one stroke announced the withdrawal of what constituted 86% of Indian currency in circulation at that point in time. The announcement initially came with a list of caveats for exchange and withdrawal that have since seen frequent additions/revisions by the day and accompanied by stories of unprecedented disruptions to the daily life of citizens and businesses in the aftermath of the ban.

(2)Setting up of the monetary policy committee

October 4th, 2016 marked the first time that a committee, rather than one person, until then the RBI Governor, would decide the policy interest rates in the economy. Entrusted with the task of fixing the benchmark policy rate (repo rate) required to contain inflation within the specified target level, the Monetary Policy Committee was set-up with six members – three nominated from the Central Government and three from the Reserve Bank of India, with the RBI Governor getting the casting vote in case of a tie.

(3)Passage of the goods and services tax bill Aimed at doing away with a host of Central and State taxes and ushering in a one tax regime for the entire country, both the Houses of Parliament passed the Goods & Services Tax Bill in August 2016, with the President giving his assent in September. Including most of the Central and State taxes such as the Value Added Tax (VAT), excise duty, service tax, central sales tax, additional customs duty and special additional duty of customs, GST would lead to a uniform consumption-based tax structure across the land for almost all goods and services and the government has set a deadline of April 1, 2017 to roll this out. GST implementation would integrate the economy and provide for a common national market that enables businesses to leverage a simplified tax regime

(4)Passage of the insolvency and bankruptcy code In May 2016, both Houses of the Parliament passed the Insolvency and Bankruptcy Code that set in motion a national bankruptcy law to deal with insolvencies. The new law, which does away with at least 12 different rules, some of which are centuries old, is expected to usher in an effective bankruptcy resolution system that improves the ease of doing business in India. The Central Government in December notified the final regulations related to the insolvency resolution process under the Liquidation and Bankruptcy Code 2016, paving way for the operationalization of the 10-member Liquidation and Bankruptcy Board (IBBI).

(5)Thrust towards digitization of government payments 2016 saw extensive measures to incentivize greater implementation of digital payments with an all-round push by different Ministries and controllers. For instance, the Ministry of Electronics and Information Technology laid out Procedures for Acceptance of Electronic Payments and Receipts in November 2016 that covers a time bound process for the integration of digital payments and receipts connecting all Government divisions. It has set an ambitious deadline of 31 December 2016 by which 90% of outflows and receipts of all Government Divisions are to be made online.

IX. MEDIATORS IN INDIAN FINANCIAL SYSTEM

Insurance companies⎫
Profitable Banks (Commercial banks)⎫
Improvement banks⎫ Co-operative⎫
Regional rural banks⎫
Non-Banking financial companies⎫
Mutual fund companies⎫

NOTES

UNIT III: INVESTMENT ANALYSIS

Structure

3.1 Investment Analysis

Meaning

Investment analysis means the process of judging an investment for income, risk, and resale value. It is important to anyone who is considering an investment, regardless of type. *Investment analysis methods* generally evaluate 3 factors: risk, cash flows, and resale value.

The word "investment" can be defined in many ways according to different theories and principles. It is a term that can be used in a number of contexts. However, the different meanings of "investment" are more alike than dissimilar. Generally, investment is the application of money for earning more money. Investment also means savings or savings made through delayed consumption. According to economics, investment is the utilization of resources in order to increase income or production output in the future.

An amount deposited into a bank or machinery that is purchased in anticipation of earning income in the long run is both examples of investments. Although there is a general broad definition to the term investment, it carries slightly different meanings to different industrial sectors.

According to economists, investment refers to any physical or tangible asset, for example, a building or machinery and equipment. On the other hand, finance professionals define an investment as money utilized for buying financial assets, for example stocks, bonds, bullion, real properties, and precious items.

Definition

Investment analysis is defined as the process of evaluating an investment forprofitability and risk. It ultimately has the purpose of measuring how the giveninvestment is a good fit for a portfolio. Furthermore, it can range from a single bondin a personal portfolio, to the investment of a startup business, and even large scale corporate projects.

According to finance, the practice of investment refers to the buying of a financial product or any valued item with anticipation that positive returns will be received in the future. The most important feature of financial investments is that they carry high market liquidity. The method used for evaluating the value of a financial investment is known as valuation. According to business theories, investment is that activity in which a manufacturer buys a physical asset, for example, stock or production equipment, in expectation that this will help the business to prosper in the long run.

Types of Investment in Security Analysis and Portfolio ManagementInvestments may be classified as financial investments or economic investments.In Finance investment is putting money into something with the expectation of gain that upon thorough analysis has a high degree of security for the principal amount, as well as security of return, within an expected period of time. In contrast putting money into something with an expectation of gain without thorough analysis, without security of principal, and without security of return is speculation or gambling. Investment is related to saving or deferring consumption. Investment is involved in many areas of the economy, such as business management and finance whether for households, firms, or governments.

Economic investments are undertaken with an expectation of increasing the current economy's capital stock that consists of goods and services. Capital stock is used in the production of other goods and services desired by the society. Investment in this sense implies the expectation of formation of new and productive capital in the form of new constructions, plant and machinery, inventories, and so on. Such investments generate physical assets and also industrial activity. These activities are undertaken by corporate entities that participate in the capital market.

Financial investments and economic investments are, however, related and dependent. The money invested in financial investments is ultimately converted into physical assets. Thus, all investments result in the acquisition of some asset, either financial or physical. In this sense, markets are also closely related to each other. Hence, the perfect financial market should reflect the progress pattern of the real market since, in reality, financial markets exist only as a support to the real market.

Characteristics and Objectives of Investment Management

Characteristics of investment

The features of economic and financial investments can be summarized as return, risk, safety, and liquidity.

1. **Return**

- All investments are characterized by the expectation of a return. In fact, investments are made with the primary objective of deriving a return.
- The return may be received in the form of yield plus capital appreciation.
- The difference between the sale price and the purchase price is capital appreciation.
- The dividend or interest received from the investment is theyield.
- The return from an investment depends upon the nature of the investment, the maturity period and a host of other factors.

Return = Capital Gain + Yield (interest, dividend etc.)

2. Risk

Risk refers to the loss of principal amount of an investment. It is one of the major characteristics of an investment.

The risk depends on the following factors:

- The investment maturity period is longer; in this case, investor will take larger risk.

- Government or Semi Government bodies are issuing securities which have less risk.
- In the case of the debt instrument or fixed deposit, the risk of above investment is less due to their secured and fixed interest payable on them. For instance debentures.
- In the case of ownership instrument like equity or preference shares, the risk is more due to their unsecured nature and variability of their return and ownership character.
- The risk of degree of variability of returns is more in the case of ownership capital compare to debt capital.
- The tax provisions would influence the return of risk.

Safety:

Safety refers to the protection of investor principal amount and expected rate of return.

- Safety is also one of the essential and crucial elements of investment. Investor prefers safety about his capital. Capital is the certainty of return without loss of money or it will take time to retain it. If investor prefers less risk securities, he chooses Government bonds. In the case, investor prefers high rate of return investor will choose private Securities and Safety of these securities is low.

Liquidity:

Liquidity refers to an investment ready to convert into cash position. In other words, it is available immediately in cash form. Liquidity means that investment is easily realizable, saleable or marketable. When the liquidity is high, then the return may be low. For example, UTI units. An investor generally prefers liquidity for his investments, safety of funds through a minimum risk and maximization of return from an investment.

3.2 Aspects of analysis

3.3 Return analysis:

A return, also known as a financial return, in its simplest terms, is the money made or lost on an investment over some period of time.

A return can be expressed nominally as the change in dollar value of an investment over time. A return can also be expressed as a percentage derived from the ratio of profit to investment. Returns can also be presented as net results (after fees, taxes, and inflation) or gross returns that do not account for anything but the price change.

Understanding Returns

Prudent investors know that a precise definition of return is situational and dependent on the financial data input to measure it. An omnibus term like profit could mean gross, operating or net, before tax or after tax revenues or income. An omnibus term like investment could mean selected, average or total assets, debt or equity.

Below are definitions of return variations common to finance lexicon. The financial metrics underlying each return must be evaluated on a case-by-case basis to truly understand the meaning of a particular return.

A holding period return is an investment's return over the time it is owned by a particular investor. Holding period return may be expressed nominally or as a percentage. When expressed as a percentage, the term often used is rate of return (RoR).

For example, the return earned during the periodic interval of a month is a monthly return and of a year is an annual return. Often, people are interested in the annual return of an investment, or year-on-year (YoY) return which calculates the price change from today to that of the same date one year ago.

Returns over periodic internals of different lengths can only be compared when they have been converted to same length intervals. It is customary to compare returns earned during year long intervals. The process of converting shorter or longer return intervals to annual returns is called annualization.

Nominal Return

A nominal return is the net profit or loss of an investment expressed in nominal terms. It can be calculated by figuring the change in value of the investment over a stated time period plus any distributions minus any outlays. Distributions received by an investor depend on the type of investment or venture but may include dividends, interest, rents, rights, benefits or other cash-flows received by an investor. Outlays paid by an investor depend on the type of investment or venture but may include taxes, costs, fees, or expenditures paid by an investor to acquire, maintain and sell an investment.

Real Return

A real rate of return is adjusted for changes in prices due to inflation or other external factors. This method expresses the nominal rate of return in real terms, which keeps the purchasing power of a given level of capital constant over time. Adjusting the nominal return to compensate for factors such as inflation allows you to determine how much of your nominal return is real return. Knowing the real rate of return of an investment is very important before investing your money. That's because inflation can reduce the value as time goes on, just as taxes also chip away at it.

Investors should also consider whether the risk involved with a certain investment is something they can tolerate given the real rate of return. Expressing rates of return in real values rather than nominal values, particularly during periods of high inflation, offers a clearer picture of an investment's value.

Returns Ratios

Returns ratios are a subset of financial ratios that measure how effectively an investment is being managed. They help to evaluate if the highest possible return is being generated on an investment. In general, returns ratios compare the tools available to generate profit, such as the investment in assets or equity, to net income, the actual profit generated.

Returns ratios make this comparison by dividing selected or total assets or equity into net income. The result is a percentage of return per dollar invested that can be used to evaluate the strength of the investment by comparing it to benchmarks like the returns ratios of similar investments, companies, industries, or markets. For instance, return of capital(ROC) means the recovery of the original investment.

Return on Investment (ROI)

A percentage return is a return expressed as a percentage. It is known as theReturn on Investment (ROI). ROI is the return per dollar invested. ROI is calculated by dividing the dollar return by the dollar initial investment. This ratio is multiplied by 100 to get a percentage. Assuming a $200 return on a $1,000 investment, the percentage return or ROI = ($200 / $1,000) x 100 = 20%.

Return on Equity

Return on Equity (ROE) is a profitability ratio figured as net income divided by average shareholder's equity that measures how much net income is generated per dollar of stock investment. If a company makes $10,000 in net income for the year and the average equity capital of the company over the same time period is $100,000, the ROE is 10%.

Return on Assets

Return on Assets (ROA) is a profitability ratio figured as net income divided by average total assets that measures how much net profit is generated for each dollar invested in assets. It determines financial leverage and whether enough is earned from asset use to cover the cost of capital. Net income divided by average total assets equals ROA.

UNIT IV: CAPITAL MARKET

4.1 Capital market
4.2 New Issues Market (NIM) and Stock Exchange in India.
4.3 Bombay stock exchange (B.S.E)
4.4 National Stock Exchange of India Limited (NSE)
4.5 Over The Counter Exchange of India (OTCEI)
4.6 Kinds of Trading activity
4.7 Listing of Securities
4.8 SEBI and its Role and Guidelines.

4.1 Capital market

Capital marketare venues where savings and investments are channeled between the suppliers who have capital and those who are in need of capital. The entities who have capital include retail and institutional investors while those who seek capital are businesses, governments, and people.

Capital markets are composed of primary and secondary markets. The most common capital markets are the stock market and the bond market.

Capital markets seek to improve transactional efficiencies. These markets bring those who hold capital and those seeking capital together and provide a place where entities can exchange securities.

Understanding Capital Markets

The term capital market broadly defines the place where various entities trade different financial instruments. These venues may include the stock market, the bond market, and the currency and foreign exchange markets. Most markets are concentrated in major financial centers including New York, London, Singapore, and Hong Kong.

Capital markets are composed of the suppliers and users of funds. Suppliers include households and the institutions serving them—pension funds, life insurance companies, charitable foundations, and non-financial companies—that generate cash beyond their needs for investment. Users of funds include home and motor vehicle purchasers, non-financial companies, and governments financing infrastructure investment and operating expenses.

Capital markets are used to sell financial products such as equities and debt securities. Equities are stocks, which are ownership shares in a company. Debt securities, such as bonds, are interest-bearing IOUs.

These markets are divided into two different categories: primary markets—where new equity stock and bond issues are sold to investors—andsecondary markets, which trade existing securities. Capital markets are a crucial part of a functioning modern economy because they move money from the people who have it to those who need it for productive use.

Primary Versus Secondary Capital Markets

Capital markets are composed of primary and secondary markets. The majority of modern primary and secondary markets are computer-based electronic platforms.

Primary markets are open to specific investors who buy securities directly from the issuing company. These securities are considered primary offerings or initial public offerings (IPOs). When a company goes public, it sells its stocks and bonds to large-scale and institutional investors such as hedge funds and mutual funds.

The secondary market, on the other hand, includes venues overseen by a regulatory body like the Securities and Exchange Commission (SEC) where existing or already-issued securities are traded between investors. Issuing companies do not have a part in the secondary market. The New York Stock Exchange (NYSE) and Nasdaq are examples of the secondary market.

The secondary market serves an important purpose in capital markets because it creates liquidity, giving investors the confidence to purchase securities.

Capital Markets Expanded

Capital markets can refer to markets in a broad sense for any financial asset.

Corporate Finance

In this realm, the capital market is where investable capital for non-financial companies is available. Investable capital includes the external funds included in a weighted average cost of capital calculation—common and preferred equity, public bonds, and private debt—that are also used in a return on invested capital calculation. Capital markets in corporate finance may also refer to equity funding, excluding debt.

Financial Services

Financial companies involved in private rather than public markets are part of the capital market. They include investment banks, private equity, and venture capital firms in contrast to broker-dealers and public exchanges.

Public Markets

Operated by a regulated exchange, capital markets can refer to equity markets in contrast to debt, bond, fixed income, money, derivatives, and commodities markets. Mirroring the corporate finance context, capital markets can also mean equity as well as debt, bond, or fixed income markets.

Capital markets may also refer to investments that receive capital gains taxtreatment. While short-term gains—assets held under a year—are taxed as income according to a tax bracket, there are different rates for long-term gains. These rates are often related to transactions arranged privately through investment banks or private funds such as private equity or venture capital.

4.2 New Issues Market (NIM) and Stock Exchange in India.

Sale of Securities:

The New Issue Market deals with 'new securities' issued for the first time to the public and the stock exchange deals with those securities which have already been issued once to the public. Even though their functions differ, their roles are complementary in nature. The NIM, functions as a 'direct' link between the companies which require a provision for funds and the investing public.

The Stock Exchange provides capital to firms 'indirectly'. The transactions relating to purchase and sale of securities provide both liquidity and marketability. The stock exchange is, thus, an important medium of transfer of resources for those shares which have already been issued.

It also plays a role in the transfer of securities with the companies whose shares are being dealt with as the process of registration of shares must be conducted when they are transferred.

Infrastructural Facilities:

The second factor that makes the role of the NIM and Stock Exchange complementary to each other is the infrastructural facilities provided for 'sale and purchase' of securities.

The NIM does not have a physical existence but the service as is provided in India is taken up entirely by the brokers and commercial banks. The New Issue Shares, in the private corporate sector are subscribed to go through the application forms supplied by the brokers before the date of commencement of the issue.

On the opening day of the issue, these forms can also be collected from the authorized banks. The authorized bankers also undertake the function of collection of forms and receiving the amount on application.

The NIM, thus, does not have a physical form or existence but there are agencies which provide the facilities which are conducive to the sale of the new issues. The stock exchange unlike the NIM provides all the facilities in the form of a market.

It is a well-established organization with professional brokers, financial literature, information about companies and the daily stock exchange lists are supplied for information to investors. The Bombay Stock Exchange and National Stock Exchange are well organized with proper electronic gadgets to receive information about stock prices from other parts of the country. They also give the daily changes in prices of stocks.

Public Confidence:

Another related factor between the NIM and Stock Exchange is the relative strength and public confidence in their joint participation in the sale, purchase and transfer of securities. In India, the NIM and stock exchange are connected to each other even at the time of the New Issue.

The usual practice by the firms issuing securities is to register themselves on a stock exchange by applying for listing of shares. Listing of shares provides the firm with an added prestige and the investing public is encouraged with this service.

The advantage of listing on a recognized stock exchange is that it widens the market for the investor. It provides the investor with the facility of sale of his shares thus offering him a 'market' for immediate liquidity of funds.

Secondly, the working of the stock exchange and NIM provides a greater protection for the investing public as the companies applying for stock exchange registration are bound by the statutory rules and regulations of the market.

Sensitivity:

Further, the securities markets are closely connected to each other because of the sensitive nature of the movements of stock prices. Stock

prices are to a great extent affected by environmental conditions such as political stability, economic and social conditions, industrial pattern, monetary and fiscal policies of the government.

The long-term and short-term changes in these factors have an effect on the day-to-day changes in prices of stocks.

The NIM depends on the stock exchange to find out these price movements and the general economic outlook to forecast the climate for investing and the success of new issues floated in the NIM.

Thus, the prices of shares in the NIM are sensitive to changes in the stock market and act and react accordingly and in the same direction and the general outlook in the market will show an 'upswing' and 'downswing' in trading activity of securities.

4.3 Bombay stock exchange (B.S.E)

The Bombay stock exchange was founded by Premchand Roychand,[6] an influential businessmen in 19th-century Bombay. He made a fortune in the stockbroking business and came to be known as the Cotton King, the Bullion King or just the Big Bull. He was also the founder of the Native Share and Stock Brokers Association, an institution that is now known as the BSE.

While BSE Ltd is now synonymous with Dalal Street, it was not always so. The first venue of the earliest stock broker meetings in the 1850s was in rather natural environs—under banyan trees—in front of the Town Hall, where Horniman Circle is now situated. A decade later, the brokers moved their venue to another set of foliage, this time under banyan trees at the junction of Meadows Street and what is now called Mahatma Gandhi Road. As the number of brokers increased, they had to shift from place to place, but they always overflowed to the streets. At last, in 1874, the brokers found a permanent place, and one that they could, quite literally, call their own. The new place was, aptly, called Dalal Street (Brokers' Street).

The Bombay Stock Exchange is the oldest stock exchange in Asia.[8] Its history dates back to 1855, when 22 stockbrokers[9] would gather under banyan trees in front of Mumbai's Town Hall. The location of these meetings changed many times to accommodate an increasing number of brokers. The group eventually moved to Dalal Street in 1874 and became an official organization known as "The Native Share & Stock Brokers Association" in 1875.

On August 31, 1957, the BSE became the first stock exchange to be recognized by the Indian Government under the Securities Contracts Regulation Act. In 1980, the exchange moved to the Phiroze Jeejeebhoy Towers at Dalal Street, Fort area. In 1986, it developed the S&P BSE SENSEX index, giving the BSE a means to measure the overall performance of the exchange. In 2000, the BSE used this index to open its derivatives market, trading S&P BSE SENSEX futures contracts. The development of S&P BSE SENSEX options along with equity derivatives followed in 2001 and 2002, expanding the BSE's trading platform.

4.4 National Stock Exchange of India Limited (NSE)

NSE is mainly set up in the early 1990s to bring in transparency in the markets. Instead of trading membership being confined to a group of brokers, NSE ensured that anyone who was qualified, experienced and met minimum financial requirements was allowed to trade.[9] In this context, NSE was ahead of its times when it separated ownership and management in the exchange under SEBI's supervision. The price information which could earlier be accessed only by a handful of people could now be seen by a client in a remote location with the same ease. The paper-based settlement was replaced by electronic depository-based accounts and settlement of trades was always done on time. One of the most critical changes was that a robust risk management system was set in place, so that settlement guarantees could protect investors against broker defaults.

NSE was set up by a group of leading Indian financial institutions at the behest of the government of India to bring transparency to the Indian capital market. Based on the recommendations laid out by the Pherwani committee, NSE has been established with a diversified shareholding comprising domestic and global investors. The key domestic investors include Life Insurance Corporation of India, State Bank of India, IFCI Limited, IDFC Limited and Stock Holding Corporation of India Limited. And the key global investors are Gagil FDI Limited, GS Strategic Investments Limited, SAIF II SE Investments Mauritius Limited, Aranda Investments (Mauritius) Pte Limited and PI Opportunities Fund I.[10]

The exchange was incorporated in 1992 as a tax-paying company and was recognized as a stock exchange in 1993 under the Securities Contracts (Regulation) Act, 1956, when P. V. Narasimha Rao was the Prime Minister of India and Manmohan Singh was the Finance Minister. NSE commenced operations in the Wholesale Debt Market (WDM) segment in June 1994. The capital market (equities) segment of the NSE commenced operations in November 1994, while operations in the derivatives segment commenced in June 2000. NSE offers trading, clearing and settlement services in equity, equity derivatives, debt, commodity derivatives and currency derivatives segments. It was the first exchange in India to introduce electronic trading facility thus connecting together the investor base of the entire country. NSE has 2500 VSATs and 3000 leased lines spread over more than 2000 cities across India.

NSE was also instrumental in creating the National Securities Depository Limited (NSDL) which allows investors to securely hold and transfer their shares and bonds electronically. It also allows investors to hold and trade in as few as one share or bond. This not only made holding financial instruments convenient but more importantly, eliminated the need for paper certificates and greatly reduced the incidents of forged or fake certificates and fraudulent transactions that had plagued the Indian stock market. The NSDL's security, combined with the transparency, lower transaction prices and efficiency that NSE offered, greatly increased the attractiveness of the Indian stock market to domestic and international investors.

NSE offers trading and investment in the following segments

Equity

- Equities
- Indices
- Mutual Funds
- Exchange Traded Funds
- Initial Public Offerings
- Security Lending and Borrowing Scheme etc.

Derivatives

- Equity Derivatives (including Global Indices like CNX 500, Dow Jones and FTSE)
- Currency Derivatives
- Commodity Derivatives
- Interest Rate Futures

Debt

- Corporate Bonds

Equity Derivatives

The National Stock Exchange of India Limited (NSE) commenced trading in derivatives with the launch of index futures on 12 June 2000. The futures and options segment of NSE has made a global mark. In the Futures and Options segment, trading in NIFTY 50 Index, NIFTY IT index, NIFTY Bank Index, NIFTY Next 50 index and single stock futures are available. Trading in Mini Nifty Futures & Options and Long term Options on NIFTY 50 are also available. The average daily turnover in the F&O Segment of the Exchange during the financial year April 2013 to March 2014 stood at ₹1.52236 trillion (US$22 billion).

On 29 August 2011, National Stock Exchange launched derivative contracts on the world's most followed equity indices, the S&P 500 and the Dow Jones Industrial Average. NSE is the first Indian exchange to launch global indices. This is also the first time in the world that futures contracts on the S&P 500 index were introduced and listed on an exchange outside of their home country, USA. The new contracts include futures on both the DJIA and the S&P 500, and options on the S&P 500.

On 3 May 2012, the National Stock exchange launched derivative contracts (futures and options) on FTSE 100, the widely tracked index of the UK equity stock market. This was the first of its kind of an index of the UK equity stock market launched in India. FTSE 100 includes 100 largest UK listed blue chip companies and has given returns of 17.8 per cent on investment over three years. The index constitutes 85.6 per cent of UK's equity market cap.[11]

On 10 January 2013, the National Stock Exchange signed a letter of intent with the Japan Exchange Group, Inc. (JPX) on preparing for the launch of NIFTY 50 Index futures, a representative stock price index of India, on the Osaka Securities Exchange Co., Ltd. (OSE), a subsidiary of JPX.[12]

Moving forward, both parties will make preparations for the listing of yen-denominated NIFTY 50[13] Index futures by March 2014, the integration date of the derivatives markets of OSE and Tokyo Stock Exchange, Inc. (TSE), a subsidiary of JPX. This is the first time that retail and institutional investors in Japan will be able to take a view on the Indian markets, in addition to current ETFs, in their own currency and in their

own time zone. Investors will therefore not face any currency risk, because they will not have to invest in dollar denominated or rupee denominated contracts.

In August 2008, currency derivatives were introduced in India with the launch of Currency Futures in USD–INR by NSE. It also added currency futures in Euros, Pounds and Yen. The average daily turnover in the F&O Segment of the Exchange on 20 June 2013 stood at ₹419.2616 billion (US$6.1 billion) in futures and₹273.977 billion (US$4.0 billion) in options, respectively.

Interest Rate Futures

In December 2013, exchanges in India received approval from market regulator SEBI for launching interest rate futures (IRFs) on a single GOI bond or a basket of bonds that will be cash settled. Market participants have been in favour of the product being cash settled and being available on a single bond. NSE will launch the NSE Bond Futures on 21 January on highly liquid 7.16 percent and 8.83 percent 10-year GOI bonds. Interest Rate Futures were introduced for the first time in India by NSE on 31 August 2009, exactly one year after the launch of Currency Futures. NSE became the first stock exchange to get an approval for interest-rate futures, as recommended by the SEBI-RBI committee.

Debt Market

On 13 May 2013, NSE launched India's first dedicated debt platform to provide a liquid and transparent trading platform for debt related products.[14]

The Debt segment provides an opportunity to retail investors to invest in corporate bonds on a liquid and transparent exchange platform. It also helps institutions who are holders of corporate bonds. It is an ideal platform to buy and sell at optimum prices and help Corporates to get adequate demand, when they are issuing the bonds.

4.5 Over the Counter Exchange of India (OTCEI)

DEFINITION OF OTCEI

Over The Counter Exchange of India (OTCEI) can be defined as a stock exchange without a proper trading floor. All stock exchange have a specific place for trading their securities through counters. But the OTCEI is connected through a computer network and the transactions are taking place through computer operations. Thus, the development in information technology has given scope for starting this type of stock exchange.

OTCEI is recognized under the Securities Contract (Regulation) Act and so all the stocks listed in this exchange enjoy the same benefits as other listed securities enjoy. NEED FOR STARTING OTCEI:

Many small companies in India are finding it difficult to raise adequate capital through Stock Exchanges as the conditions stipulated by them could not be fulfilled. The companies must have run for minimum three years and they must have earned profit and the minimum capital requirement for listing is also quite high. Hence by promoting a new Stock exchange with flexible conditions, the small and medium companies in India will be able to raise sufficient capital. Once these companies enlarge their resources, they can list themselves in the regular stock exchanges.

PROMOTION OF OTCEI:

OTCEI has been incorporated under Section 25 of the Companies Act. As a result of which the word 'Limited' need not be used since it is promoted for a common cause of promoting the interest of small and medium companies. This privilege has been given to the company by the Central Government.

This company was promoted by a group of financial institutions owned by the Government of India, consisting of UTI, ICICI, IDBI, SBI Capital Market, IFCI, LIC, GIC; and Can Bank Financial Services (which is a subsidiary of Canara Bank).

SPECIAL FEATURES OF OTCEI:

1. **Use of Modern technology:** Unlike other stock market, OTCEI does not have any special counters and it is an electronically operated stock exchange.
2. **Restrictions for other stocks:** Stocks and shares listed in other stock exchanges will not be listed in the OTCEI and similarly, stocks listed in OTCEI will not be listed in other stock exchanges.
3. **Minimum issued capital requirements:** Minimum issued equity capital should be Rs. 30 Lakhs, out of which minimum public offer should be Rs. 20 Lakhs.
4. **Restrictions for large companies:** No company with the issued equity share capital of more than Rs. 25 Crores is permitted for listing.
5. **Base Capital requirement for members:** Members will be required to maintain a minimum base capital of Rs. 4 Lakhs to trade on the permitted or on listed segment.
6. **All India Network:** The network of counters links OTCEI members, located in different parts of the country.
7. **Satellite facility**: The satellite required for OTCEI for its operations is jointly held with Press Trust of India (PTI) and hence, PTI-OTCEI scan displays the prices of OTCEI's scripts.
8. **Computerization of transactions:** Computers at each counter enable to dealers to enter various transactions or queries or quotes through a central OTCEI computer, using telecommunications links.

Due to the above features, OTCEI has an edge over other stock exchanges in the country.

CONSTITUENTS OF OTCEI

OTCEI commenced its operations in 1992. In OTCEI, we have the following parties taking part in various transactions. They are

- Companies
- Dealers
- Members
- Investors
- Custodian or Settlers
- Transfer agents
- OTCEI
- Government and
- SEBI.

HOW ARE TRANSACTIONS DONE IN OTCEI?

The members of the OTCEI will invite companies to list on the exchange for raising capital. There are dealers who perform the dual role of a broker and market maker. A broker acts on behalf of buyer or seller, while a market maker has a responsibility to make available toe particular share in the maker for transactions and to maintain reasonable price through supply and demand forces.

Example: The market makers will prevent abnormal fluctuations in the price of securities by regulating the supply and demand forces of securities in such a manner than acute scarcity or abundant supply of any security will be avoided.

If 1000 shares are demanded among different categories so that the price will not fluctuate abnormally.

The custodian or a settler is one who validates the trading documents, stores the trading documents and also arranges for the clearing of daily transaction. It is the settler who gives the net monetary position of each member with regard to the market as a whole. The registrar and transfer agents ensure share transfers and allotments of shares and also inform the developments of various companies in the market.

WHAT ARE THE LISTING REQUIREMENTS IN OTCEI?

For any company to list its shares in OTCEI, it requires sponsorship by members of the OTCEI and it must also have two market makers. The OTCEI has also laid down rules regarding listing requirements.

- Once a company lists its securities in the market, it cannot delist its securities for a minimum period of 3 years.
- There are certain norms to be fulfilled by companies for sale of equity shares or any other securities under bought out deal (i.e., a company at its early stage may issue shares with an understanding that it will buy back after 5 years at the market price from out of its profits.)
- 20% of the issued capital should be retained by the promoters for a period of not less than 3 years.
- There should be two market makers as per the guidelines of OTCEI.

4.6 Kinds of Trading activity

Fundamental trading is a method where a trader focuses on company-specific events to determine which stock to buy and when to buy it. Trading on fundamentals is more closely associated with a buy-and-hold strategy rather than short-term trading. There are, however, specific instances where trading on fundamentals can generate substantial profits in a short period.

the seven main types of trading activity done in stock exchange. The types are: 1. Options 2. Spread 3. Call 4. Writing Options 5. Wash Sales 6. Rigging the Market 7. Cornering.

Trading Activity: Type # 1. Options:

An 'Option' is a contract which involves the right to buy or sell securities (usually 100 shares) at specified prices within a stated time. There are various types of such contract, of which 'puts' and 'calls' are most important. A 'put' is a negotiable contract which gives the holder the right to sell a certain number of shares at a specified price within a limited time. A 'call' is the right to buy under a negotiable contract.

Example:

Mr. X is an investor holding 100 shares of a certain stock selling at Rs. 60 per share. He wishes to hold the stock but fears a decline in the price. He may purchase a 'put' which gives him the right to sell stock at Rs. 45 a share to the seller of the option.

Similarly, another investor may purchase a 'call' if he wishes to buy 100 shares at the market price of Rs. 60. He may buy if he gets the right to buy the stock of Rs. 55 a share from the seller of the option. That investor may purchase this call who knows that the time is not opportune/appropriate but fears that the price may rise suddenly when he is waiting.

The purchase of an option runs the risk of losing his entire investment in a short period of time. If the market price of the security fails to rise above the required price, the option will become worthless on its expiry. Sometimes, these option transactions are combined.

These are called options and are exercised through the following strategies:

Trading Activity: Type # 2. Spread:

A spread involves the simultaneous purchase and sale of different options of the same security. A vertical spread is the purchase of two options with the same expiry date but different striking prices. In a horizontal spread, the striking price is the same but the expiry date differs.

Trading Activity: Type # 3. Call:

Buyers of call look for option profits from some probable advance in the price of specified stock with a relatively small investment compared with buying the stock outright. The maximum that can be lost is the cost of the option itself.

Trading Activity: Type # 4. Writing Options:

A written option may be 'covered' or 'uncovered'. A covered option is written against an owned stock position. An uncovered or 'naked' option is written without owning the security. A covered option is very conservative. The income derived from the sale of a covered option offsets the decline in the value of the specified security.

Trading Activity: Type # 5. Wash Sales:

A wash sale is a fictitious transaction in which the speculators sells the security and then buys it a higher price through another broker. This gives a misleading and incorrect position about the value of the security in the market.

The price of the security in the market rises in such a misleading situation and the broker makes a profit by 'selling' or 'unloading' his security to the public. This kind of trading is considered undesirable by the stock exchange regulations and a penalty is charged for such sales.

Trading Activity: Type # 6. Rigging the Market:

This is a technique through which the market value of securities is artificially forced up in the stock exchange. The demands of the buyers force up the price. The brokers holding large chunks of securities buy and sell to be able to widen and improve the market and gradually unload their securities. This activity interferes with the normal interplay of demand and supply functions in the stock market.

Trading Activity: Type # 7. Cornering:

Sometimes brokers create a condition where the entire supply of particular securities is purchased by a small group of individuals. In this situation, brokers with 'short sales' will be 'squeezed'. They will not be able to make their deliveries in time. The buyers assume superior position and dictate terms to short sellers. This is also an unhealthy technique of trading in stock exchange.

4.7 LISTING OF SECURITIES

Listing means the admission of securities of a company to trading on a stock exchange. Listing is not compulsory under the Companies Act. It becomes necessary when a public limited company desires to issue shares or debentures to the public. When securities are listed in a stock exchange, the company has to comply with the requirements of the exchange.

Objectives of Listing

The major objectives of listing are

1. To provide ready marketability and liquidity of a company's securities.
2. To provide free negotiability to stocks.
3. To protect shareholders and investors interests.
4. To provide a mechanism for effective control and supervision of trading.

Listing requirements

A company which desires to list its shares in a stock exchange has to comply with the following requirements:

1. Permission for listing should have been provided for in theMemorandum of Association and Articles of Association.
2. The company should have issued for public subscription at least the minimum prescribed percentage of its share capital (49 percent).
3. The prospectus should contain necessary information with regard to the opening of subscription list, receipt of share application etc.
4. Allotment of shares should be done in a fair and reasonable manner. In case of over subscription, the basis of allotment should be decided by the company in consultation with the recognized stock exchange where the shares are proposed to be listed.
5. The company must enter into a listing agreement with the stock exchange. The listing agreement contains the terms and conditions of listing. It also contains the disclosures that have to be made by the company on a continuous basis.

Minimum Public Offer

A company which desires to list its securities in a stock exchange, should offer at least sixty percent of its issued capital for public subscription. Out of this sixty percent, a maximum of eleven percent in the aggregate may be reserved for the Central government, State government, their investment agencies and public financial institutions.

The public offer should be made through a prospectus and through newspaper advertisements. The promoters might choose to take up the remaining forty percent for themselves, or allot a part of it to their associates.

Fair allotment

Allotment of shares should be made in a fair and transparent manner. In case of over subscription, allotment should be made in an equitable manner

in consultation with the stock exchange where the shares are proposed to be listed.

In case, the company proposes to list its shares in more than one exchange, the basis of allotment should be decided in consultation with the stock exchange which is located in the place in which the company's registered office is located.

Listing Procedure

The following are the steps to be followed in listing of a company's securities in a stock exchange:

1. The promoters should first decide on the stock exchange or exchanges where they want the shares to be listed.
2. They should contact the authorities to the respective stock exchange/ exchanges where they propose to list.
3. They should discuss with the stock exchange authorities the requirements and eligibility for listing.
4. The proposed Memorandum of Association, Articles of Association and Prospectus should be submitted for necessary examination to the stock exchange authorities
5. The company then finalizes the Memorandum, Articles and Prospectus
6. Securities are issued and allotted.
7. The company enters into a listing agreement by paying the prescribed fees and submitting the necessary documents and particulars.
8. Shares are then and are available for trading.

4.8 SEBI and its Role and guidelines

SEBI plays an important role in regulating all the players operating in the Indian capital markets. It attempts to protect the interest of investors and aims at developing the capital markets by enforcing various rules and regulations.

1. What is SEBI?

Securities and Exchange Board of India (SEBI) is a regulatory body of the Government of India. It controls the securities market. It was established on April 12, 1992 under the SEBI Act, 1992. SEBI is headquartered at the Bandra Kurla Complex in Mumbai, India. It has regional offices in major cities of India such as New Delhi, Kolkata, Chennai, and Ahmedabad. These cover the North, South, East, and West regions of India. Besides, it has a network of local branch offices in prominent Indian cities.

2. Structure of SEBI

SEBI has a corporate framework comprising of various departments each managed by a department head. There are about 20+ departments under SEBI. Some of these departments are corporation finance, economic and policy analysis, debt and hybrid securities, enforcement, human resources, investment management, commodity derivatives market regulation, legal affairs, and more.

The hierarchical structure of SEBI consists of the following members:

- The chairman of SEBI is nominated by the Union Government of India.
- Two officers from the Union Finance Ministry will be a part of this structure.
- One member will be appointed from the Reserve Bank of India.

- Five other members will be nominated by the Union Government of India.

3. Functions of SEBI

- SEBI is primarily set up to protect the interests of investors in the securities market.
- It promotes the development of the securities market and regulates the business.
- SEBI provides a platform for stockbrokers, sub-brokers, portfolio managers, investment advisers, share transfer agents, bankers, merchant bankers, trustees of trust deeds, registrars, underwriters, and other associated people to register and regulate work.
- It regulates the operations of depositories, participants, custodians of securities, foreign portfolio investors, and credit rating agencies.
- It prohibits inner trades in securities, i.e. fraudulent and unfair trade practices related to the securities market.
- It ensures that investors are educated on the intermediaries of securities markets.
- It monitors substantial acquisitions of shares and take-over of companies.
- SEBI takes care of research and development to ensure the securities market is efficient at all times.

4. Authority and Power of SEBI

The SEBI board has three main powers:

i. Quasi-Judicial: SEBI has the authority to deliver judgements related to fraud and other unethical practices in terms of the securities market. This helps to ensure fairness, transparency, and accountability in the securities market.

ii. Quasi-Executive: SEBI is empowered to implement the regulations and judgements made and to take legal action against the violators. It is also authorised to inspect Books of accounts and other documents if it comes across any violation of the regulations.

iii. Quasi-Legislative: SEBI reserves the right to frame rules and regulations to protect the interests of the investors. Some of its regulations consist of insider trading regulations, listing obligation, and disclosure requirements. These have been formulated to keep malpractices at bay.

Despite the powers, the results of SEBI's functions still have to go through the Securities Appellate Tribunal and the Supreme Court of India.

5. Mutual Fund Regulations by SEBI

Some of the regulations for mutual funds laid down by SEBI are:

1. A sponsor of a mutual fund, an associate or a group company which includes the asset management company of a fund, through the schemes of the mutual fund in any form cannot hold:
   (a) 10% or more of the shareholding and voting rights in the asset management company or any other mutual fund.
   (b) An asset management company cannot have representation on a board of any other mutual fund.
2. A shareholder cannot hold 10% or more of the shareholding directly or indirectly in the asset management company of a mutual fund.
3. No single stock can have more than 35% weight in the index for a sectoral or thematic index; the cap is 25% for other indices.

4. The cumulative weightage of the top three constituents of the index cannot exceed 65%.
5. An individual constituent of the index should have a trading frequency of a minimum of 80%.
6. Funds must evaluate and ensure compliance to the norms at the end of every calendar quarter. The constituents of the indices must be made public by publishing it on their website.
7. New funds must submit their compliance status to SEBI before being launched.
8. All liquid schemes must hold a minimum of 20% in liquid assets such as government securities (G-Secs), repo on G-Secs, cash, and treasury bills.
9. A debt mutual fund can invest up to only 20% of its assets in one sector; previously the cap was 25%. The additional exposure to housing finance companies (HFCs) is updated to 15% from 10% and a 5% exposure on securitised debt based on retail housing loan and affordable housing loan portfolios.
10. Based on the regulator's recommendation, the valuation methodology for debt and money market instruments is updated to mark-to-market; it is not amortisation entirely.
11. An exit penalty will be levied on investors of liquid schemes who exit the scheme within a period of seven days.
12. Mutual funds schemes must invest only in the listed non-convertible debentures (NCD). Any fresh investment in commercial papers (CPs) and equity shares are allowed in listed securities as per the guidelines issued by the regulator.
13. Liquid and overnight schemes are no longer allowed to invest in short-term deposits, debt, and money market instruments that have structured obligations or credit enhancements.
14. When investing in debt securities having credit enhancements, a minimum of four times security cover is mandatory for investing in mutual funds schemes. A prudential limit of 10% is prescribed on total investment by such schemes in debt and money market instruments.

6. SEBI Notifications

Date	Title
August 2, 2019	Streamlining issuance of SCORES Authentication for SEBI registered intermediaries
August 1, 2019	Database for Distinctive Number (DN) of Shares – Action against non-compliant companies
August 1, 2019	Rationalisation of the imposition of fines for false/incorrect reporting of margins or non-reporting of margins by Trading Member/Clearing Member in all segments
July 26, 2019	Streamlining the Process of Public Issue of Equity Shares and convertibles- Implementation of Phase II of Unified Payments

	Interface with Application Supported by Block Amount
July 26, 2019	Staggered Delivery Period in Commodity futures contracts
Jul 26, 2019	Guidelines for Liquidity Enhancement Scheme (LES) in Commodity Derivatives Contracts

7. Mutual Funds and SEBI

In order to govern mutual funds, a set of regulations were implemented in India known as Securities and Exchange Board of India (Mutual Funds) Regulations, 1996. According to these guidelines, mutual funds must register as trusts under the Trusts Act, 1882.

That is, a firm must be established as a separate Asset Management Company (AMC) to offer mutual funds. The net worth of such parent firm or AMC must be Rs.50,000,000. Mutual funds dealing exclusively with money markets must register with the Reserve Bank of India (RBI); all other mutual funds must register with SEBI. Recently, a self-regulation agency for mutual funds has been set up called Association of Mutual Funds of India (AMFI).

The AMFI is focused on developing the Indian mutual fund industry with professional and ethical qualities. The AMFI aims to enhance the operational standards in all areas with a view to protect and promote mutual funds and its stakeholders.

Till date, there are 44 Asset Management Companies that are registered with SEBI, are members of AMFI. Some of them are Aditya Birla Sun Life AMC Limited, BNP Paribas Asset Management India Private Limited, Edelweiss Asset Management Limited, and Quant Money Managers Limited.

8. SEBI Guidelines on Mutual Funds Reclassification

- Funds must be named based on the core intent of the fund and asset mix. It should specify the risk associated clearly.
- SEBI has suggested 16 for debt funds, 10 classifications for equity funds, 6 classifications for hybrid, 2 for solution funds, and 2 for index funds.
- SEBI has reclassified large-cap, mid-cap, and small-cap based on market cap relative rankings rather than absolute market cap cut-offs.
- The debt fund classification is prescribed based on the duration of the fund and the asset quality mix.
- All categories except index funds can only have 1 fund per classification, i.e. an AMC can have a maximum of 34 funds other than index funds.

UNIT V: RISK ANALYSIS

Structure

5.1 Risk Analysis

Risk analysis is the process of assessing the likelihood of an adverse event occurring within the corporate, government, or environmental sector. Risk analysis is the study of the underlying uncertainty of a given course of action and refers to the uncertainty of forecasted cash flow streams, the variance of portfolio/stock returns, the probability of a project's success or failure, and possible future economic states. Risk analysts often work in tandem with forecasting professionals to minimize future negative unforeseen effects.

Understanding Risk Analysis

A risk analyst starts by identifying what could go wrong. The negative events that could occur are then weighed against a probability metric to measure the likelihood of the event occurring. Finally, risk analysis attempts to estimate the extent of the impact that will be made if the event happens.

Quantitative Risk Analysis

Risk analysis can be quantitative or qualitative. Under quantitative risk analysis, a risk model is built using simulation or deterministic statistics to assign numerical values to risk. Inputs that are mostly assumptions andrandom variables are fed into a risk model.

For any given range of input, the model generates a range of output or outcome. The model is analyzed using graphs, scenario analysis, and/or sensitivity analysis by risk managers to make decisions to mitigate and deal with the risks.

A Monte Carlo simulation can be used to generate a range of possible outcomes of a decision made or action taken. The simulation is a quantitative technique that calculates results for the random input variables repeatedly, using a different set of input values each time. The resulting outcome from each input is recorded, and the final result of the model is a probability distribution of all possible outcomes. The outcomes can be summarized on a distribution graph showing some measures of central tendency such as the mean and median, and assessing the variability of the data through standard deviation and variance.

The outcomes can also be assessed using risk management tools such as scenario analysis and sensitivity tables. A scenario analysis shows the best, middle, and worst outcome of any event. Separating the different outcomes from best to worst provides a reasonable spread of insight for a risk manager.

For example, an American Company that operates on a global scale might want to know how its bottom line would fare if the exchange rate of select countries strengthens. A sensitivity table shows how outcomes vary when one or more random variables or assumptions are changed. A portfolio manager might use a sensitivity table to assess how changes to the different values of each security in a portfolio will impact the variance of the portfolio. Other types of risk management tools include decision trees and break-even analysis.

Qualitative Risk Analysis

Qualitative risk analysis is an analytical method that does not identify and evaluate risks with numerical and quantitative ratings. Qualitative analysis involves a written definition of the uncertainties, an evaluation of the extent of impact if the risk ensues, and countermeasure plans in the case of a negative event occurring.

Examples of qualitative risk tools include SWOT Analysis, Cause and Effect diagrams, Decision Matrix, Game Theory, etc. A firm that wants to measure the impact of a security breach on its servers may use a qualitative risk technique to help prepare it for any lost income that may occur from a data breach.

Almost all sorts of large businesses require a minimum sort of risk analysis. For example, commercial banks need to properly hedge foreign exchange exposure of overseas loans while large department stores must factor in the possibility of reduced revenues due to a global recession. It is important to know that risk analysis allows professionals to identify and mitigate risks, but not avoid them completely.

Example of Risk Analysis: Value at Risk (VaR)

Value at risk (VaR) is a statistic that measures and quantifies the level of financial risk within a firm, portfolio, or position over a specific time frame. This metric is most commonly used by investment and commercial banks to determine the extent and occurrence ratio of potential losses in their institutional portfolios. Risk managers use VaR to measure and control the level of risk exposure. One can apply VaR calculations to specific positions or whole portfolios or to measure firm-wide risk exposure.

VaR is calculated by shifting historical returns from worst to best with the assumption that returns will be repeated, especially where it concerns risk. As a historical example, let's look at the Nasdaq 100 ETF, which trades under the symbol QQQ (sometimes called the "cubes") and which started trading in March of 1999. If we calculate each daily return, we produce a rich data set of more than 1,400 points.

Now let's put these in a histogram that compares the frequency of return "buckets." For example, at the highest point of the histogram (the highest bar), there were more than 250 days when the daily return was between 0% and 1%. At the far right, you can barely see a tiny bar at 13%; it represents the one single day (in Jan 2000) within a period of five-plus years when the daily return for the QQQ was a stunning 12.4%.

Notice the red bars that compose the "left tail" of the histogram. These are the lowest 5% of daily returns (since the returns are ordered from left to right, the worst are always the "left tail"). The red bars run from daily

losses of 4% to 8%. Because these are the worst 5% of all daily returns, we can say with 95% confidence that the worst daily loss will not exceed 4%. Put another way, we expect with 95% confidence that our gain will exceed -4%. That is VAR in a nutshell. Let's re-phrase the statistic into both percentage and dollar terms:

- With 95% confidence, we expect that our worst daily loss will not exceed 4%.
- If we invest $100, we are 95% confident that our worst daily loss will not exceed $4 ($100 x -4%).

You can see that VaR indeed allows for an outcome that is worse than a return of -4%. It does not express absolute certainty but instead makes a probabilistic estimate. If we want to increase our confidence, we need only to "move to the left" on the same histogram, to where the first two red bars, at -8% and -7% represent the worst 1% of daily returns:

- With 99% confidence, we expect that the worst daily loss will not exceed 7%.
- Or, if we invest $100, we are 99% confident that our worst daily loss will not exceed $7.

5.2 Limitations of Risk Analysis

Risk is a probabilistic measure and so can never tell you for sure what your precise risk exposure is at a given time, only what the distribution of possible losses are likely to be if and when they occur. There are also no standard methods for calculating and analyzing risk, and even VaR can have several different ways of approaching the task. Risk is often assumed to occur using normal distribution probabilities, which in reality rarely occur and cannot account for extreme or 'black swan' events.

The financial crisis of 2008 that exposed these problems as relatively benign VaR calculations understated the potential occurrence of risk events posed by portfolios of subprime mortgages. Risk magnitude was also underestimated, which resulted in extreme leverage ratios within subprime portfolios. As a result, the underestimations of occurrence and risk magnitude left institutions unable to cover billions of dollars in losses as subprime mortgage values collapsed.

5.3 Valuation Analysis

Valuation analysis is a process to estimate the approximate value or worth of an asset, whether a business, equity or fixed income security, commodity, real estate, or other asset. The analyst may use different approaches to valuation analysis for different types of assets, but the common thread will be looking at the underlying fundamentals of the asset.

Valuation Analysis Explained

Valuation analysis is mostly science (number crunching), but there is also a bit of art involved because the analyst is forced to make assumptions for model inputs. The value of an asset is basically the present value (PV) of all future cash flows that the asset is forecasted to produce. Inherent in the estimation model for a company, for example, is a myriad of assumptions regarding sales growth, margins, financing choices, capital expenditures, tax rates, discount rate for the PV formula, etc.

Once the model is set up, the analyst can play with the variables to see how valuation changes with these different assumptions. There is no one-size-fits-all model for assorted asset classes. Whereas a valuation for a manufacturing company may be amenable to a multi-year DCF model, and a real estate company would be best modeled with current net operating income (NOI) and capitalization rate (cap rate), commodities such as iron ore, copper, or silver would be subject to a model centered around global supply and demand forecasts.

Valuation of bonds and shares

The valuation of any asset, real finance is equivalent to the current value of cash flows estimated from it.

5.4 Bond:

A bond is defined as a long-term debt tool that pays the bondholder a specified amount of periodic interest over a specified period of time. In financial area, a bond is an instrument of obligation of the bond issuer to the holders. It is a debt security, under which the issuer owes the holders a debt and, depending on the terms of the bond, is obliged to pay them interest and/or to recompense the principal at a later date, called the maturity date. Interest is generally payable at fixed intervals such as semi-annual, annual, and monthly. Sometimes, the bond is negotiable, i.e. the ownership of the instrument can be relocated in the secondary market. This means that once the transfer agents at the bank medallion stamp the bond, it is highly liquid on the second market.

It can be established that Bonds signify loans extended by investors to companies and/or the government. Bonds are issued by the debtor, and acquired by the lender. The legal contract underlying the loan is called a bond indenture.

Normally, bonds are issued by public establishments, credit institutions, companies and supranational institutions in the major markets. Simple process for issuing bonds is through countersigning. When a bond issue is underwritten, one or more securities firms or banks, forming a syndicate, buy the whole issue of bonds from the issuer and re-sell them to investors. The security firm takes the risk of being unable to sell on the issue to end investors. Primary issuance is organized by book runners who arrange the bond issue, have direct contact with depositors and act as consultants to the bond issuer in terms of timing and price of the bond issue. The book runner is listed first among all underwriters participating in the issuance in the tombstone ads commonly used to announce bonds to the public. The book-runners' willingness to underwrite must be discussed prior to any decision on the terms of the bond issue as there may be limited demand for the bonds.

On the contrary, government bonds are generally issued in an auction. In some cases both members of the public and banks may bid for bonds. In other cases, only market makers may bid for bonds. The overall rate of return on the bond depends on both the terms of the bond and the price paid. The terms of the bond, such as the coupon, are fixed in advance and the price is determined by the market.

Key Features of Bonds:

1. The par (or face or maturity) value is the amount repaid (excluding interest) by the borrower to the lender (bondholder) at the end of the bond's life.
2. The coupon rate decides the “interest” payments. Total annual amount = coupon rate x par value.
3. A bond's maturity is its remaining life, which drops over time. Original maturity is its maturity when it is issued. The firm promises to repay the par value at the end of the bond’s maturity.
4. A sinking fund involves principle repayments (buying bonds) prior to the issue's maturity.
5. Exchangeable bonds can be converted into a pre-specified number of shares of stock. Characteristically, these are shares of the issuer's common stock.
6. The call provision permits the issuer to buy the bonds (repay the loan) prior to maturity for the call price. Calling may not be allowed in the first few years.

5.5 Bond valuation:

Valuation of a bond needs an estimate of predictable cash flows and a required rate of return specified by the investor for whom the bond is being valued. If it is being valued for the market, the markets expected rate of return is to be determined or estimated. The bond’s fair value is the present value of the promised future coupon and principal payments. At the time of issue, the coupon rate is set such that the fair value of the bonds is very close to its par value. Afterwards, as market conditions change, the fair value may differ from the par value.

At the time of issue of the bond, the interest rate and other conditions of the bond would have been impacted by numerous factors, such as current market interest rates, the length of the term and the creditworthiness of the issuer. These factors are likely to change with time, so the market price of a bond will diverge after it is issued. The market price is expressed as a percentage of nominal value. Bonds are not necessarily issued at par (100% of face value, corresponding to a price of 100), but bond prices will move towards par as they approach maturity (if the market expects the maturity payment to be made in full and on time) as this is the price the issuer will pay to redeem the bond. This is termed as "Pull to Par". At other times, prices can be above par (bond is priced at greater than 100), which is called trading at a premium, or below par (bond is priced at less than 100), which is called trading at a discount.

The market price of a bond is the present value of all expected future interest and principal payments of the bond discounted at the bond's yield to maturity, or rate of return. That relationship is the definition of the redemption yield on the bond, which is expected to be close to the current market interest rate for other bonds with similar characteristics. The yield and price of a bond are inversely related so that when market interest rates rise, bond prices fall and vice versa. The market price of a bond may be cited including the accumulated interest since the last coupon date. The price including accrued interest is known as the "full" or "dirty price". The price excluding accrued interest is known as the "flat" or "clean price".

The interest rate divided by the current price of the bond is termed as current yield. This is the nominal yield multiplied by the par value and divided by the price. There are other yield measures that exist such as the yield to first call, yield to worst, yield to first par call, yield to put, cash flow yield and yield to maturity.

The link between yield and term to maturity for otherwise identical bonds is called a yield curve. The yield curve is a graph plotting this relationship. Bond markets, dissimilar to stock or share markets, sometimes do not have a centralized exchange or trading system. Reasonably, in developed bond markets such as the U.S., Japan and Western Europe, bonds trade in decentralized, dealer-based over-the-counter markets. In such a market, market liquidity is offered by dealers and other market contributors committing risk capital to trading activity.

In the bond market, when an investor buys or sells a bond, the counterparty to the trade is almost always a bank or securities firm which act as a dealer. In some cases, when a dealer buys a bond from an investor, the dealer carries the bond "in inventory", i.e. holds it for his own account. The dealer is then subject to risks of price fluctuation. In other cases, the dealer instantly resells the bond to another investor.

Bond markets can also diverge from stock markets in respect that in some markets, investors sometimes do not pay brokerage commissions to dealers with whom they buy or sell bonds. Rather, the dealers earn income through the spread, or difference, between the prices at which the dealer buys a bond from one investor the "bid" price and the price at which he or she sells the same bond to another investor the "ask" or "offer" price. The bid/offer spread signifies the total transaction cost associated with transferring a bond from one investor to another.

5.6 Share:

In financial markets, a share is described as a unit of account for different investments. It is also explained as the stock of a company, but is also used for collective investments such as mutual funds, limited partnerships, and real estate investment trusts. The phrase 'share' is delineated by section 2(46) of the Companies Act 1956 as "share means a share in the share capital of a company includes stock except where a distinction between stock and share is expressed or implied".

Companies issue shares which are accessible for sale to increase share capital. The owner of shares in the company is a shareholder (or stockholder) of the corporation. A share is an indivisible unit of capital, expressing the ownership affiliation between the company and the shareholder. The denominated value of a share is its face value, and the total of the face value of issued shares represent the capital of a company, which may not reflect the market value of those shares. The revenue generated from the ownership of shares is a dividend. The process of purchasing and selling shares often involves going through a stockbroker as a middle man.

5.7 Share valuation:

Shares valuation is done according to numerous principles in different markets, but a basic standard is that a share is worth price at

which a transaction would be expected to occur to sell the shares. The liquidity of markets is a major consideration as to whether a share is able to be sold at any given time. An actual sale transaction of shares between buyer and seller is usually considered to provide the best prima facie market indicator as to the "true value" of shares at that specific time.

Shares are often promised as security for raising loans. When one company acquires majority of the shares of another company, it is required to value such shares. The survivors of deceased person who get some shares of company made by will. When shares are held by the associates mutually in a company and dissolution takes place, it is important to value the shares for proper distribution of partnership property among the partners.

Shares of private companies are not listed on the stock exchange. If such shares are appraisable by the shareholders or if such shares are to be sold, the value of such shares will have to be determined. When shares are received as a gift, to determine the Gift Tax & Wealth Tax, the value of such shares will have to be ascertained.

Values of shares:

1. Face Value: A Company may divide its capital into shares of @10 or @50 or @100 etc. Company's share capital is presented as per Face Value of Shares. Face Value of Share = Share Capital / Total No of Share. This Face Value is printed on the share certificate. Share may be issued at less (or discount) or more (or premium) of face value.
2. Book Value: Book value is the value of an asset according to its balance sheet account balance. For assets, the value is based on the original cost of the asset less any devaluation, amortization or impairment costs made against the asset.
3. Cost Value: Cost value is represented as price on which the shares are purchased with purchase expenses such as brokerage, commission.
4. Market Value: This values is signified as price on which the shares are purchased or sold. This value may be more or less or equal than face value.
5. Capitalised Value:

$$\text{Capitalised Value of share} = \frac{\text{Capitalised Value of profit}}{\text{Total no. of shares}}$$

6. Fair Value: This value is the price of a share which agreed in an open and unrestricted market between well-informed and willing parties dealing at arm's length who are fully informed and are not under any compulsion to transact.
7. Yield Value: This value of a share is also called Capitalised value of Earning Capacity. Normal rate of return in the industry and actual or expected rate of return of the firm are taken into consideration to find out yield value of a share.

Need for Valuation:

1. When two or more companies merge
2. When absorption of a company takes place.

3. When some shareholders do not give their approval for reconstruction of the company, there shares are valued for the purpose of acquisition.
4. When shares are held by the associates jointly in a company and dissolution takes place, it becomes essential to value the shares for proper distribution of partnership property among the partners.
5. When a loan is advanced on the security of shares.
6. When shares of one type are converted in to shares of another type.
7. When some company is taken over by the government, compensation is paid to the shareholders of such company and in such circumstances, valuation of shares is made.
1. When a portion of shares is to be given by a member of proprietary company to another member, fair price of these shares has to be made by an auditor or accountant.

Methods of valuation:

1. Net Assets Value (NAV) Method: This method is called intrinsic value method or breakup value method (Naseem Ahmed, 2007). It aims to find out the possible value of share in at the time of liquidation of the company. It starts with calculation of market value of the company. Then amount pay off to debenture holders, preference shareholders, creditors and other liabilities are deducted from the realized amount of assets. The remaining amount is available for equity shareholders. Under this method, the net value of assets of the company are divided by the number of shares to arrive at the value of each share. For the determination of net value of assets, it is necessary to estimate the worth of the assets and liabilities. The goodwill as well as non-trading assets should also be included in total assets. The following points should be considered while valuing of shares according to this method:

- Goodwill must be properly valued
- The fictitious assets such as preliminary expenses, discount on issue of shares and debentures, accumulated losses etc. should be eliminated.
- The fixed assets should be taken at their realizable value.
- Provision for bad debts, depreciation etc. must be considered.
- All unrecorded assets and liabilities (if any) should be considered.
- Floating assets should be taken at market value.
- The external liabilities such as sundry creditors, bills payable, loan, debentures etc. should be deducted from the value of assets for the determination of net value.

The net value of assets, determined so has to be divided by number of equity shares for finding out the value of share. Thus the value per share can be determined by using the following formula:

Value Per Share= (Net Assets-Preference Share Capital)/Number Of Equity Shares

Net asset method is useful in case of amalgamation, merger, acquisition, or any other form of liquidation of a company. This method determines the rights of various types of shares in an efficient manner. Since all the assets and liabilities are values properly including ambiguous and intangibles, this method creates no problem for valuation of preference or equity share. However it is difficult to make proper valuation of good will and estimate net realisation value of various other assets of the company. Such estimates

are likely to be influenced by personal factors of valuers. This method is suitable in case of companies likely to be liquidated in near future or future maintainable profits cannot be estimated properly or where valuation of shares by this method is required statutorily (Naseem Ahmed, 2007).

2. Yield-Basis Method: Yield is the effective rate of return on investments which is invested by the investors. It is always expressed in terms of percentage. Since the valuation of shares is made on the basis of Yield, it is termed as Yield-Basis Method.

Yield may be calculated as under:

$$\textbf{Yield} = \frac{\textbf{Normal profit}}{\textbf{Capital Employed}} \times \textbf{100}$$

Under Yield-Basis method, valuation of shares is made on;

I. Profit Basis: Under this method, profit should be determined on the basis of past average profit; subsequently, capitalized value of profit is to be determined on the basis of normal rate of return, and, the same (capitalized value of profit) is divided by the number of shares in order to find out the value of each share.

Following procedure is adopted:

$$\textbf{Capitalised value of profit} = \frac{\textbf{Profit}}{\textbf{Normal rate of return}} \times \textbf{100}$$

$$\textbf{Value of each equity share} = \frac{\textbf{Capitalised value of profit}}{\textbf{Number of shares}}$$

$$\textbf{Or, Value of each equity share} = \frac{\textbf{Profit}}{\textbf{Normal rate of return X Number of equity shares}} \times \textbf{100}$$

II. Dividend Basis: In this type of valuation, shares are valued on the basis of expected dividend and normal rate of return. The value per share is calculated through following formula:

Expected rate of dividend = (profit available for dividend/paid up equity share capital) X 100

Value per share = (Expected rate of dividend/normal rate of return) X 100

Valuation of shares may be made either (a) on the basis of total amount of dividend, or (b) on the basis of percentage or rate of dividend

3. Earning Capacity (Capitalisation) Method: In this valuation procedure, the value per share is calculated on the basis of disposable profit of the company. The disposable profit is found out by deducting reserves and taxes from net profit (Naseem Ahmed, 2007). The following steps are applied for the determination of value per share under earning capacity:

Step 1: To find out the profit available for dividend

Step 2: To find out the capitalized value

Capitalized Value = (Profit available for equity dividend/Normal rate of return) X 100

Step 3: To find out value per share

Value per share = Capitalized Value/Number of Shares

In this method, profit available for equity shareholders, as calculated under capitalization method, are capitalized on the basis of normal rate of return. Then the value of equity share is ascertained by dividing the capitalized profit by number of equity share as shown under (Naseem Ahmed, 2007):

Appraisal of Earning Capacity: This method is suited only when maintainable profit and normal rate of return (NRR) can be ascertained clearly. It is possible when market information is easily available. However, while calculating NRR, risk factors must be taken into consideration (Naseem Ahmed, 2007).

4. Average (Fair Value) Method: In order to overcome the inadequacy of any single method of valuation of shares, Fair Value Method of shares is considered as the most appropriate process. It is simply an average of intrinsic value and yield value or earning capacity method. For valuing shares of investment companies for wealth tax purposes, Fair Value Method of shares is recognized by government. It is well suited to manufacturing and other companies. The fair value can be calculated by following formula (Naseem Ahmed, 2007):

To summarize, bonds and their alternatives such as loan notes, debentures and loan stock, are IOUs issued by governments and companies in order to increase finance. They are often called fixed income or fixed interest securities, to differentiate them from equities, in that they often make known returns for the investors (the bond holders) at regular intervals. These interest payments, paid as bond coupons, are fixed, unlike dividends paid on equities, which can be variable. Most corporate bonds are redeemable after a specified period of time. Valuation of share involves the use of financial and accounting data. It depends on valuer's judgement experience and knowledge.

5.8 Price Earnings Analysis.

The price earnings ratio, often called the P/E ratio or price to earnings ratio, is a market prospect ratio that calculates the market value of a stock relative to its earnings by comparing the market price per share by the earnings per share. In other words, the price earnings ratio shows what the market is willing to pay for a stock based on its current earnings.

Investors often use this ratio to evaluate what a stock's fair market value should be by predicting future earnings per share. Companies with higher future earnings are usually expected to issue higher dividends or have appreciating stock in the future.

Obviously, fair market value of a stock is based on more than just predicted future earnings. Investor speculation and demand also help increase a share's price over time.

The PE ratio helps investors analyze how much they should pay for a stock based on its current earnings. This is why the price to earnings ratio is often called a price multiple or earnings multiple. Investors use this ratio to decide what multiple of earnings a share is worth. In other words, how many times earnings they are willing to pay.

This ratio can be calculated at the end of each quarter when quarterly financial statements are issued. It is most often calculated at the end of each year with the annual financial statements. In either case, the fair market value equals the trading value of the stock at the end of the current period.

The earnings per share ratio is also calculated at the end of the period for each share outstanding. A trailing PE ratio occurs when the earnings per share is based on previous period. A leading PE ratios occurs when the EPS calculation is based on future predicted numbers. A justified PE ratio is calculated by using the dividend discount analysis.

Analysis

The price to earnings ratio indicates the expected price of a share based on its earnings. As a company's earnings per share being to rise, so does their market value per share. A company with a high P/E ratio usually indicated positive future performance and investors are willing to pay more for this company's shares.

A company with a lower ratio, on the other hand, is usually an indication of poor current and future performance. This could prove to be a poor investment.

In general a higher ratio means that investors anticipate higher performance and growth in the future. It also means that companies with losses have poor PE ratios.

An important thing to remember is that this ratio is only useful in comparing like companies in the same industry. Since this ratio is based on the earnings per share calculation, management can easily manipulate it with specific accounting techniques.

Example

The Island Corporation stock is currently trading at $50 a share and its earnings per share for the year are 5 dollars. Island's P/E ratio would be calculated like this:

As you can see, the Island's ratio is 10 times. This means that investors are willing to pay 10 dollars for every dollar of earnings. In other words, this stock is trading at a multiple of ten.

Since the current EPS was used in this calculation, this ratio would be considered a trailing price earnings ratio. If a future predicted EPS was used, it would be considered a leading price to earnings ratio.

BLOCK II: FUNDAMENTAL OF TECHNICAL ANALYSIS AND DERIVATIVES

UNIT VI: INVESTMENT ALTERNATIVES.

Structure

6.1 Investment Alternatives

An alternative investment is a financial asset that does not fall into one of the conventional investment categories. Conventional categories include stocks, bonds, and cash. Most alternative investment assets are held by institutional investors or accredited, high-net-worth individuals because of their complex nature, lack of regulation, and degree of risk.

Alternative investments include private equity or venture capital, hedge funds, managed futures, art and antiques, commodities, and derivatives contracts. Real estate is also often classified as an alternative investment.

The Basics of an Alternative Investment

Many alternative investments have high minimum investments and fee structures, especially when compared to mutual funds and exchange-traded funds (ETFs). These investments also have less opportunity to publish verifiable performance data and advertise to potential investors. Although alternative assets may have high initial minimums and upfront investment fees, transaction costs are typically lower than those of conventional assets, due to lower levels of turnover.

Most alternative assets are fairly illiquid, especially compared to their conventional counterparts. For example, investors are likely to find it considerably more difficult to sell an 80-year old bottle of wine compared to 1,000 shares of Apple Inc., due to a limited number of buyers. Investors may have difficulty even valuing alternative investments, since the assets, and transactions involving them, are often rare. For example, a seller of a 1933 Saint-Gaudens Double Eagle $20 gold coin may have difficulty determining its value, as there are only 13 known to exist as of 2018.

Regulation of Alternative Investments

Even when they don't involve unique items like coins or art, alternative investments are prone to investment scams and fraud due to their unregulated nature.

Alternative investments are often subject to a less clear legal structure than conventional investments. They do fall under the purview of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and their practices are subject to examination by the Securities and Exchange Commission (SEC). However, they usually don't have to register with the

SEC. As such, they are not overseen or regulated by the SEC or the Financial Services Regulatory Commission as are mutual funds and ETFs.

So, it is essential that investors conduct extensive due diligence when considering alternative investments. Often, only those deemed as accredited investors have access to alternative investment offerings. Accredited investors are those with a net worth exceeding $1 million—not counting their residence—or with a personal income of at least $200,000.

Strategy for Alternative Investments

Alternative investments typically have a low correlation with those of standard asset classes. This low correlation means they often move counter—or the opposite—to the stock and bond markets. This feature makes them a suitable tool for portfolio diversification. Investments in hard assets, such as gold, oil, and real property, also provide an effective hedge against inflation, which hurts the purchasing power of paper money.

Because of this, many large institutional funds such as pension funds and private endowments often allocate a small portion of their portfolios—typically less than 10%—to alternative investments such as hedge funds.

The non-accredited retail investor also has access to alternative investments. Alternative mutual funds and exchange-traded funds—aka alt funds or liquid alts—are now available. These alt funds provide ample opportunity to invest in alternative asset categories, previously difficult and costly for the average individual to access. Because they are publicly traded, alt funds *are* SEC-registered and -regulated, specifically by the Investment Company Act of 1940.

Equity investments

An **equity investment** generally refers to the buying and holding of **shares** of stock on a stock market by individuals and firms in anticipation of income from dividends and **capital** gains.

In a company form of organisation, the total capital of the business is divided into smaller units known as equity share. When an investor subscribes to the equity share of a company, contributes to the total capital of the business and he becomes a shareholder. For the company, such a contribution is like a liability on which it needs to give returns to the shareholder. Investors earn returns in equity investing by way of dividends and capital appreciation. Along with monetary benefits, the holders of such shares also get voting rights in critical matters of the company. Basically, they are treated as owners of the company wherein the ownership is limited to the extent of the shares held by them.

A business issues shares primarily when it is in need of funds for growth and expansion. It approaches the investors by means of an Initial Public Offering (IPO). IPO is treated as a primary market wherein the equity shares of the company are offered to the general public for subscription for the first time. Afterwards, the shares get listed on a particular stock exchange and exchange hands through frequent trading. You can subscribe to the IPO and these shares can be sold on a stock exchange like NSE once you are allotted shares. After you subscribe to shares of the company, the record is maintained at depositories like NSDL and CDSL. When the company needs to distribute dividends or bonus shares, it will get the

shareholders' list from these depositories and credit the dividends directly into your bank account.

6.2 Investments of Equity shares, Preference Shares

Preference Shares

Companies issue preference shares to raise capital. Preference shares carry many of the benefits of both debt and equity capital and are considered to be a hybrid security. A benefit for investors who hold preference shares is that they receivedividend payments before common stock shareholders. A drawback is that they have no voting rights as common shareholders typically do.

Companies that issue preferred stock also face a number of pros and cons.

6.3 Advantages of Preference Shares

The advantages of preference shares for investors include:

Dividends paid first

As mentioned, the chief benefit for shareholders is that preference shares have a fixed dividend that must be paid before any dividends can be paid tocommon shareholders. While dividends are only paid if the company turns a profit, some types of preference shares (called cumulative shares) allow for the accumulation of unpaid dividends. Once the business is back in the black, all unpaid dividends must be remitted to prefer shareholders before any dividends can be paid to common shareholders.

Higher claim on company assets

In addition, in the event of bankruptcy and liquidation, preferred shareholders have a higher claim on company assets than common shareholders do. This makes preference shares particularly enticing to investors with low risk tolerance. The company guarantees a dividend each year, but if it fails to turn a profit and must shut down, preference shareholders are compensated for their investments sooner.

Additional investor benefits

Other types of preference shares carry additional benefits. Convertible sharesallow the shareholder to trade in preference shares for a fixed number of common shares. This can be a lucrative option if the value of common shares begins to climb. Participating shares offer the shareholder the opportunity to enjoy additional dividends above the fixed rate if the company meets certain predetermined profit targets. The variety of preference shares available and their attendant benefits means that this type of investment can be a relatively low-risk way to generate long-term income.

Preference shares also have a number of advantages for the issuing company, including:

Lack of shareholder voting rights

The lack of shareholder voting rights that may seem like a drawback to investors is beneficial to the business because it means ownership is not diluted by selling preference shares the way it is when ordinary shares are issued. The lower risk to investors also means the cost of raising capital for issuing preference shares is lower than that of issuing common shares.

Right to repurchase shares

Companies can also issue callable preference shares, which afford them the right to repurchase shares at their discretion. This means that if callable shares are issued with a 6% dividend but interest rates fall to 4%, the company can purchase any outstanding shares at the market price and then reissue shares with a lower dividend rate, thereby reducing the cost of capital. Of course, this same flexibility is a disadvantage to shareholders.

Disadvantages of Preference Shares

Preferred shares also present disadvantages for investors and shareholders.

Investors can't vote

From the investor's perspective, the main disadvantage of preference shares is that preferred shareholders do not have the same ownership rights in the company as common shareholders. The lack of voting rights means the company is not beholden to preferred shareholders the way it is to equity shareholders, though the guaranteed return on investment largely makes up for this shortcoming. However, if interest rates rise, the fixed dividend that seemed so lucrative can quickly look like less of a bargain as other fixed-income securities emerge with higher rates.

A government bond is a debt security issued by a government to support government spending. Government bonds can pay periodic interest payments called coupon payments. Government bonds are considered low-riskinvestments since the issuing government backs them.

Government Bonds Explained

Government bonds are issued by governments to raise money to finance projects or day-to-day operations. The U.S. Treasury Department sells the issued bonds during auctions throughout the year. Some Treasury bondstrade in the secondary market. Individual investors, working with a financial institution or broker, can buy and sell previously issued bonds through this marketplace. Treasuries are widely available for purchase through the U.S. Treasury, brokers as well as exchange-traded funds, which contain a basket of securities.

The Uses of Government Bonds

Government bonds assist in funding deficits in the federal budget and are used to raise capital for various projects such as infrastructure spending. However, government bonds are also used by the Federal Reserve Bank to control the nation's money supply.

When the Federal Reserve repurchases U.S. government bonds, the money supply increases throughout the economy as sellers receive funds to spend or invest in the market. Any funds deposited into banks are, in turn, used by those financial institutions to loan to companies and individuals, further boosting economic activity.

Pros and Cons of Government Bonds

As with all investments, government bonds provide both benefits and disadvantages to the bondholder. On the upside, these debt securities tend to return a steady stream of interest income. However, this return is usually lower than other products on the market due to the reduced level of risk involved in their investments.

The market for U.S. government bonds is very liquid, allowing the holder to resell them on the secondary bond market easily. There are even ETFs and mutual funds that focus their investment on Treasury bonds.

Fixed rate bonds may fall behind during periods of increasing inflation or rising market interest rates. Also, foreign bonds are exposed to sovereign or governmental risk, changes in currency rates, and have a higher risk of default.

Examples of U.S. Government Bonds

There are various types of bonds offered by the U.S. Treasury that has various maturities. Also, some return regular interest payments, while some do not.

Savings Bonds

The U.S. Treasury offers series EE bonds and series I savings bonds. Bonds sell at face value and have a fixed rate of interest. Bonds held for 20 years will reach their face value and effectively double. Series I bonds receive a semi-annually calculated secondary rate tied to an inflation rate.

Treasury Notes

Treasury notes (T-notes) are intermediate-term bonds maturing in two, three, five, or 10 years that provide fixed coupon returns. T-Notes typically have a $1,000 face value. However, two- or three-year maturities have a $5,000 face value. Although yields change daily, the 10-year yield closed at 2.406% March 31, 2019, and at that time had a 52-week range of 2.341% to 3.263%.

Treasury Bonds

Treasury bonds (T-Bonds) are long-term bonds having a maturity between 10 to 30 years. T-Bonds give interest or coupon payments semi-annually and have $1,000 face values. The bonds help to offset shortfalls in the federal budget. Also, they help to regulate the nation’s money supply and execute U.S. monetary policy. The 30-year Treasury bond yield closed at 2.817% March 31, 2019.

6.4 Treasury Inflation-Protected Securities (TIPS)

Treasury inflation-protected securities (TIPS) is a Treasury security indexed to inflation. They protect investors from the adverse effects of rising prices. The par value—principal—increases with inflation and decreases with deflation, following the Consumer Price Index. TIPS pay a fixed rate interest—determined on the bond's auction—on a six months basis. However, interest payment amounts vary since the rate applies to the adjusted principal value of the bond. TIPS have maturities of five, 10, and 30 years. March 29, 2019, the 10-year was auctioned with an interest rate of 0.875%.

UNIT VII: MUTUAL FUNDS

Structure

7.1 Mutual Funds

A mutual fund is a type of financial vehicle made up of a pool of money collected from many investors to invest in securities like stocks, bonds, money market instruments, and other assets. Mutual funds are operated by professional money managers, who allocate the fund's assets and attempt to produce capital gains or income for the fund's investors. A mutual fund's portfolio is structured and maintained to match the investment objectives stated in its prospectus.

Mutual funds give small or individual investors access to professionally managed portfolios of equities, bonds and other securities. Each shareholder, therefore, participates proportionally in the gains or losses of the fund. Mutual funds invest in a vast number of securities, and performance is usually tracked as the change in the total market cap of the fund—derived by the aggregating performance of the underlying investments.

Understanding Mutual Funds

Mutual funds pool money from the investing public and use that money to buy other securities, usually stocks and bonds. The value of the mutual fund company depends on the performance of the securities it decides to buy. So, when you buy a unit or share of a mutual fund, you are buying the performance of its portfolio or, more precisely, a part of the portfolio's value. Investing in a share of a mutual fund is different from investing in shares of stock. Unlike stock, mutual fund shares do not give its holders any voting rights. A share of a mutual fund represents investments in many different stocks (or other securities) instead of just one holding.

That's why the price of a mutual fund share is referred to as the net asset value (NAV) per share, sometimes expressed as NAVPS. A fund's NAV is derived by dividing the total value of the securities in the portfolio by the total amount of shares outstanding. Outstanding shares are those held by all shareholders, institutional investors, and company officers or insiders. Mutual fund shares can typically be purchased or redeemed as needed at the fund's current NAV, which—unlike a stock price—doesn't fluctuate during market hours, but is settled at the end of each trading day.

The average mutual fund holds hundreds of different securities, which means mutual fund shareholders gain important diversification at a low price. Consider an investor who buys only Google stock before the company has a bad quarter. He stands to lose a great deal of value because all of his dollars are tied to one company. On the other hand, a different investor may buy shares of a mutual fund that happens to own some

Google stock. When Google has a bad quarter, she loses significantly less because Google is just a small part of the fund's portfolio.

How Mutual Funds Work

A mutual fund is both an investment and an actual company. This dual nature may seem strange, but it is no different from how a share of AAPL is a representation of Apple Inc. When an investor buys Apple stock, he is buying partial ownership of the company and its assets. Similarly, a mutual fund investor is buying partial ownership of the mutual fund company and its assets. The difference is that Apple is in the business of making smartphones and tablets, while a mutual fund company is in the business of making investments.

Investors typically earn a return from a mutual fund in three ways:

1. Income is earned from dividends on stocks and interest on bonds held in the fund’s portfolio. A fund pays out nearly all of the income it receives over the year to fund owners in the form of a distribution. Funds often give investors a choice either to receive a check for distributions or to reinvest the earnings and get more shares.
2. If the fund sells securities that have increased in price, the fund has acapital gain. Most funds also pass on these gains to investors in a distribution.
3. If fund holdings increase in price but are not sold by the fund manager, the fund's shares increase in price. You can then sell your mutual fund shares for a profit in the market.

If a mutual fund is construed as a virtual company, its CEO is the fund manager, sometimes called its investment adviser. The fund manager is hired by a board of directors and is legally obligated to work in the best interest of mutual fund shareholders. Most fund managers are also owners of the fund. There are very few other employees in a mutual fund company. The investment adviser or fund manager may employ some analysts to help pick investments or perform market research. A fund accountant is kept on staff to calculate the fund's NAV, the daily value of the portfolio that determines if share prices go up or down. Mutual funds need to have a compliance officeror two, and probably an attorney, to keep up with government regulations.

Most mutual funds are part of a much larger investment company; the biggest have hundreds of separate mutual funds. Some of these fund companies are names familiar to the general public, such as Fidelity Investments, The Vanguard Group, T. Rowe Price, and Oppenheimer Funds.

Types of Mutual Funds

Mutual funds are divided into several kinds of categories, representing the kinds of securities they have targeted for their portfolios and the type of returns they seek. There is a fund for nearly every type of investor or investment approach. Other common types of mutual funds include money market funds, sector funds, alternative funds, smart-beta funds, target-date funds, and even funds-of-funds, or mutual funds that buy shares of other mutual funds.

Equity Funds

The largest category is that of equity or stock funds. As the name implies, this sort of fund invests principally in stocks. Within this group are various

sub-categories. Some equity funds are named for the size of the companies they invest in: small-, mid- or large-cap. Others are named by their investment approach: aggressive growth, income-oriented, value, and others. Equity funds are also categorized by whether they invest in domestic (U.S.) stocks or foreign equities. There are so many different types of equity funds because there are many different types of equities. A great way to understand the universe of equity funds is to use a style box, an example of which is below.

The idea here is to classify funds based on both the size of the companies invested in (their market caps) and the growth prospects of the invested stocks. The term value fund refers to a style of investing that looks for high-quality, low-growth companies that are out of favor with the market. These companies are characterized by low price-to-earnings (P/E) ratios, low price-to-book (P/B) ratios, and high dividend yields. On the other side of the style, spectrum are growth funds, which look to companies that have had (and are expected to have) strong growth in earnings, sales, and cash flows. These companies typically have high P/E ratios and do not pay dividends. A compromise between strict value and growth investment is a "blend," which simply refers to companies that are neither value nor growth stocks and are classified as being somewhere in the middle.

Fixed-Income Funds

Another big group is the fixed income category. A fixed income mutual fund focuses on investments that pay a set rate of return, such as government bonds, corporate bonds, or other debt instruments. The idea is that the fund portfolio generates interest income, which then passes on to shareholders.

Sometimes referred to as bond funds, these funds are often actively managedand seek to buy relatively undervalued bonds in order to sell them at a profit. These mutual funds are likely to pay higher returns than certificates of deposit and money market investments, but bond funds aren't without risk. Because there are many different types of bonds, bond funds can vary dramatically depending on where they invest. For example, a fund specializing in high-yield junk bonds is much riskier than a fund that invests in government securities. Furthermore, nearly all bond funds are subject tointerest rate risk, which means that if rates go up, the value of the fund goes down.

Index Funds

Another group, which has become extremely popular in the last few years, falls under the moniker "index funds." Their investment strategy is based on the belief that it is very hard, and often expensive, to try to beat the market consistently. So, the index fund manager buys stocks that correspond with a major market index such as the S&P 500 or the Dow Jones Industrial Average (DJIA). This strategy requires less research from analysts and advisors, so there are fewer expenses to eat up returns before they are passed on to shareholders. These funds are often designed with cost-sensitive investors in mind.

Balanced Funds

Balanced funds invest in both stocks and bonds to reduce the risk of exposure to one asset class or another. Another name for this type of

mutual fund is "asset allocation fund." An investor may expect to find the allocation of these funds among asset classes relatively unchanging, though it will differ among funds. This fund's goal is asset appreciation with lower risk. However, these funds carry the same risk and can be as subject to fluctuation as other classifications of funds.

A similar type of fund is known as an asset allocation fund. Objectives are similar to those of a balanced fund, but these kinds of funds typically do not have to hold a specified percentage of any asset class. The portfolio manager is therefore given freedom to switch the ratio of asset classes as the economy moves through the business cycle.

Money Market Funds

The money market consists of safe (risk-free), short-term debt instruments, mostly government Treasury bills. This is a safe place to park your money. You won't get substantial returns, but you won't have to worry about losing your principal. A typical return is a little more than the amount you would earn in a regular checking or savings account and a little less than the averagecertificate of deposit (CD). While money market funds invest in ultra-safe assets, during the 2008 financial crisis, some money market funds did experience losses after the share price of these funds, typically pegged at $1, fell below that level and broke the buck.

Income Funds

Income funds are named for their purpose: to provide current income on a steady basis. These funds invest primarily in government and high-quality corporate debt, holding these bonds until maturity in order to provide interest streams. While fund holdings may appreciate in value, the primary objective of these funds is to provide steady cash flow to investors. As such, the audience for these funds consists of conservative investors and retirees. Because they produce regular income, tax-conscious investors may want to avoid these funds.

International/Global Funds

An international fund (or foreign fund) invests only in assets located outside your home country. Global funds, meanwhile, can invest anywhere around the world, including within your home country. It's tough to classify these funds as either riskier or safer than domestic investments, but they have tended to be more volatile and have unique country and political risks. On the flip side, they can, as part of a well-balanced portfolio, actually reduce risk by increasing diversification, since the returns in foreign countries may be uncorrelated with returns at home. Although the world's economies are becoming more interrelated, it is still likely that another economy somewhere is outperforming the economy of your home country.

Specialty Funds

This classification of mutual funds is more of an all-encompassing category that consists of funds that have proved to be popular but don't necessarily belong to the more rigid categories we've described so far. These types of mutual funds forgo broad diversification to concentrate on a certain segment of the economy or a targeted strategy. Sector funds are targeted strategy funds aimed at specific sectors of the economy such as financial, technology, health, and so on. Sector funds can, therefore, be

extremely volatile since the stocks in a given sector tend to be highly correlated with each other. There is a greater possibility for large gains, but also a sector may collapse (for example, the financial sector in 2008 and 2009).

Regional funds make it easier to focus on a specific geographic area of the world. This can mean focusing on a broader region (say Latin America) or an individual country (for example, only Brazil). An advantage of these funds is that they make it easier to buy stock in foreign countries, which can otherwise be difficult and expensive. Just like for sector funds, you have to accept the high risk of loss, which occurs if the region goes into a bad recession.

Socially-responsible funds (or ethical funds) invest only in companies that meet the criteria of certain guidelines or beliefs. For example, some socially-responsible funds do not invest in "sin" industries such as tobacco, alcoholic beverages, weapons, or nuclear power. The idea is to get competitive performance while still maintaining a healthy conscience. Other such funds invest primarily in green technology, such as solar and wind power or recycling.

Exchange Traded Funds (ETFs)

A twist on the mutual fund is the exchange traded fund (ETF). These ever more popular investment vehicles pool investments and employ strategies consistent with mutual funds, but they are structured as investment trusts that are traded on stock exchanges and have the added benefits of the features of stocks. For example, ETFs can be bought and sold at any point throughout the trading day. ETFs can also be sold short or purchased onmargin. ETFs also typically carry lower fees than the equivalent mutual fund. Many ETFs also benefit from active options markets, where investors canhedge or leverage their positions. ETFs also enjoy tax advantages from mutual funds. The popularity of ETFs speaks to their versatility and convenience.

Mutual Fund Fees

A mutual fund will classify expenses into either annual operating fees or shareholder fees. Annual fund operating fees are an annual percentage of the funds under management, usually ranging from 1–3%. Annual operating fees are collectively known as the expense ratio. A fund's expense ratio is the summation of the advisory or management fee and its administrative costs.

Shareholder fees, which come in the form of sales charges, commissions, and redemption fees, are paid directly by investors when purchasing or selling the funds. Sales charges or commissions are known as "the load" of a mutual fund. When a mutual fund has a front-end load, fees are assessed when shares are purchased. For a back-end load, mutual fund fees are assessed when an investor sells his shares.

Sometimes, however, an investment company offers a no-load mutual fund, which doesn't carry any commission or sales charge. These funds are distributed directly by an investment company, rather than through a secondary party.

Some funds also charge fees and penalties for early withdrawals or selling the holding before a specific time has elapsed. Also, the rise of exchange-

traded funds, which have much lower fees thanks to their passive management structure, have been giving mutual funds considerable competition for investors' dollars. Articles from financial media outlets regarding how fund expense ratios and loads can eat into rates of return have also stirred negative feelings about mutual funds.

Classes of Mutual Fund Shares

Mutual fund shares come in several classes. Their differences reflect the number and size of fees associated with them.

Currently, most individual investors purchase mutual funds with A sharesthrough a broker. This purchase includes a front-end load of up to 5% or more, plus management fees and ongoing fees for distributions, also known as 12b-1 fees. To top it off, loads on A shares vary quite a bit, which can create a conflict of interest. Financial advisors selling these products may encourage clients to buy higher-load offerings to bring in bigger commissions for themselves. With front-end funds, the investor pays these expenses as they buy into the fund.

To remedy these problems and meet fiduciary-rule standards, investment companies have started designating new share classes, including "level load"C shares, which generally don’t have a front-end load but carry a 1% 12b-1 annual distribution fee.

Funds that charge management and other fees when an investor sell their holdings are classified as Class B shares.

A New Class of Fund Shares

The newest share class, developed in 2016, consists of clean shares. Clean shares do not have front-end sales loads or annual 12b-1 fees for fund services. American Funds, Janus, and MFS are all fund companies currently offering clean shares.

By standardizing fees and loads, the new classes enhance transparency for mutual fund investors and, of course, save them money. For example, an investor who rolls $10,000 into an individual retirement account (IRA) with a clean-share fund could earn nearly $1,800 more over a 30-year period as compared to an average A-share fund, according to an April 2017 Morningstar report co-written by Aron Szapiro, Morningstar director of policy research, and Paul Ellenbogen, head of global regulatory solutions.

Advantages of Mutual Funds

There are a variety of reasons that mutual funds have been the retail investor's vehicle of choice for decades. The overwhelming majority of money in employer-sponsored retirement plans goes into mutual funds.

Diversification

Diversification, or the mixing of investments and assets within a portfolio to reduce risk, is one of the advantages of investing in mutual funds. Experts advocate diversification as a way of enhancing a portfolio's returns, while reducing its risk. Buying individual company stocks and offsetting them with industrial sector stocks, for example, offers some diversification. However, a truly diversified portfolio has securities with different capitalizations and industries and bonds with varying maturities and issuers. Buying a mutual fund can achieve diversification cheaper and faster than by buying individual securities. Large mutual funds typically own hundreds of different stocks in many different industries. It wouldn't

be practical for an investor to build this kind of a portfolio with a small amount of money.

Easy Access

Trading on the major stock exchanges, mutual funds can be bought and sold with relative ease, making them highly liquid investments. Also, when it comes to certain types of assets, like foreign equities or exotic commodities, mutual funds are often the most feasible way—in fact, sometimes the only way—for individual investors to participate.

Economies of Scale

Mutual funds also provide economies of scale. Buying one spares the investor of the numerous commission charges needed to create a diversified portfolio. Buying only one security at a time leads to large transaction fees, which will eat up a good chunk of the investment. Also, the $100 to $200 an individual investor might be able to afford is usually not enough to buy a round lot of the stock, but it will purchase many mutual fund shares. The smaller denominations of mutual funds allow investors to take advantage of dollar cost averaging.

Professional Management

A primary advantage of mutual funds is not having to pick stocks and manage investments. Instead, a professional investment manager takes care of all of this using careful research and skillful trading. Investors purchase funds because they often do not have the time or the expertise to manage their own portfolios, or they don't have access to the same kind of information that a professional fund has. A mutual fund is a relatively inexpensive way for a small investor to get a full-time manager to make and monitor investments. Most private, non-institutional money managers deal only with high-net-worth individuals—people with at least six figures to invest. However, mutual funds, as noted above, require much lower investment minimums. So, these funds provide a low-cost way for individual investors to experience and hopefully benefit from professional money management.

Economies of Scale

Because a mutual fund buys and sells large amounts of securities at a time, its transaction costs are lower than what an individual would pay for securities transactions. Moreover, a mutual fund, since it pools money from many smaller investors, can invest in certain assets or take larger positions than a smaller investor could. For example, the fund may have access to IPO placements or certain structured products only available to institutional investors.

Variety and Freedom of Choice

Investors have the freedom to research and select from managers with a variety of styles and management goals. For instance, a fund manager may focus on value investing, growth investing, developed markets, emerging markets, income or macroeconomic investing, among many other styles. One manager may also oversee funds that employ several different styles. This variety allows investors to gain exposure to not only stocks and bonds but also commodities, foreign assets, and real estate through specialized mutual funds. Some mutual funds are even structured to profit from a falling market (known as bear funds). Mutual funds provide

opportunities for foreign and domestic investment that may not otherwise be directly accessible to ordinary investors.

Disadvantages of Mutual Funds

Liquidity, diversification, and professional management all make mutual funds attractive options for younger, novice, and other individual investors who don't want to actively manage their money. However, no asset is perfect, and mutual funds have drawbacks too.

Fluctuating Returns

Like many other investments without a guaranteed return, there is always the possibility that the value of your mutual fund will depreciate. Equity mutual funds experience price fluctuations, along with the stocks that make up the fund. The Federal Deposit Insurance Corporation (FDIC) does not back up mutual fund investments, and there is no guarantee of performance with any fund. Of course, almost every investment carries risk. It is especially important for investors in money market funds to know that, unlike their bank counterparts, these will not be insured by the FDIC.

Cash Drag

Mutual funds pool money from thousands of investors, so every day people are putting money into the fund, as well as withdrawing it. To maintain the capacity to accommodate withdrawals, funds typically have to keep a large portion of their portfolios in cash. Having ample cash is excellent for liquidity, but money that is sitting around as cash and not working for you is not very advantageous. Mutual funds require a significant amount of their portfolios to be held in cash in order to satisfy share redemptions each day. To maintainliquidity and the capacity to accommodate withdrawals, funds typically have to keep a larger portion of their portfolio as cash than a typical investor might. Because cash earns no return, it is often referred to as a "cash drag."

High Costs

Mutual funds provide investors with professional management, but it comes at a cost—those expense ratios mentioned earlier. These fees reduce the fund's overall payout, and they're assessed to mutual fund investors regardless of the performance of the fund. As you can imagine, in years when the fund doesn't make money, these fees only magnify losses. Creating, distributing, and running a mutual fund is an expensive undertaking. Everything from the portfolio manager's salary to the investors' quarterly statements cost money. Those expenses are passed on to the investors. Since fees vary widely from fund to fund, failing to pay attention to the fees can have negative long-term consequences. Actively managed funds incur transaction costs that accumulate over each year. Remember, every dollar spent on fees is a dollar that is not invested to grow over time.

"Diworsification" and Dilution

"Diworsification"—a play on words—is an investment or portfolio strategy that implies too much complexity can lead to worse results. Many mutual fund investors tend to overcomplicate matters. That is, they acquire too many funds that are highly related and, as a result, don't get the risk-reducing benefits of diversification. These investors may have made their portfolio more exposed; a syndrome called diworsification. At the other

extreme, just because you own mutual funds doesn't mean you are automatically diversified. For example, a fund that invests only in a particular industry sector or region is still relatively risky.

In other words, it's possible to have poor returns due to too much diversification. Because mutual funds can have small holdings in many different companies, high returns from a few investments often don't make much difference on the overall return. Dilution is also the result of a successful fund growing too big. When new money pours into funds that have had strong track records, the manager often has trouble finding suitable investments for all the new capital to be put to good use.

One thing that can lead to diworsification is the fact that a fund's purpose or makeup isn't always clear. Fund advertisements can guide investors down the wrong path. The Securities and Exchange Commission (SEC) requires that funds have at least 80% of assets in the particular type of investment implied in their names. How the remaining assets are invested is up to the fund manager. However, the different categories that qualify for the required 80% of the assets may be vague and wide-ranging. A fund can, therefore, manipulate prospective investors via its title. A fund that focuses narrowly on Congolese stocks, for example, could be sold with a far-ranging title like "International High-Tech Fund."

Active Fund Management

Many investors debate whether or not the professionals are any better than you or I at picking stocks. Management is by no means infallible, and, even if the fund loses money, the manager still gets paid. Actively managed funds incur higher fees, but increasingly passive index funds have gained popularity. These funds track an index such as the S&P 500 and are much less costly to hold. Actively managed funds over several time periods have failed to outperform their benchmark indices, especially after accounting for taxes and fees.

Lack of Liquidity

A mutual fund allows you to request that your shares be converted into cash at any time, however, unlike stock that trades throughout the day, many mutual fund redemptions take place only at the end of each trading day.

Taxes

When a fund manager sells a security, a capital-gains tax is triggered. Investors who are concerned about the impact of taxes need to keep those concerns in mind when investing in mutual funds. Taxes can be mitigated by investing in tax-sensitive funds or by holding non-tax sensitive mutual fund in a tax-deferred account, such as a 401(k) or IRA.

Evaluating Funds

Researching and comparing funds can be difficult. Unlike stocks, mutual funds do not offer investors the opportunity to juxtapose the price to earnings (P/E) ratio, sales growth, earnings per share (EPS), or other important data. A mutual fund's net asset value can offer some basis for comparison, but given the diversity of portfolios, comparing the proverbial apples to apples can be difficult, even among funds with similar names or stated objectives. Only index funds tracking the same markets tend to be genuinely comparable.

Real Estate –

A real estate mutual fund (REMFs) is a type of investment which is made up of securities including stocks of real estate companies. A large part of these funds goes into investment in commercial and corporate properties, residential complexes and agricultural land. REMFs can invest in property,directly or indirectly via Real Estate Investment Trusts (REITS)

Who can invest in Real Estate Mutual Funds?

Real Estate Mutual Funds are favourable to small investors who are not able to invest in real estate directly. Such investors can participate in the sector through smaller amounts and can be rewarded with good returns as these funds are managed by professionals and experts.

Real estate funds also allow them to diversify across properties whereas direct real estate investments will allow the purchase of one or two properties only.

It is important to note that the overall returns of this investment is dependent on factors like real estate market conditions, interest rates, supply and demand of residential and commercial spaces etc.

Advantages of Investing in Real Estate Mutual Funds

Here are some of the reasons investing in real estate mutual funds could prove fruitful:-

- **Flexibility to Invest:**
  They offer great flexibility to investors as they have the choice to invest depending on their financial goals and the amount of income available to invest
- **Alternative to Purchasing Property:**
  Real estate mutual funds allows a small investor an alternative to purchase investment property and also lower the involvement in management of the fund.
- **Diversification of Portfolio:**
  These funds allow investors, who have only a limited amount of capital available, to invest in focused or diversified real estate investments where the investment required is low. Residential, commercial and rental projects are part of the investment portfolio.
- **High Liquidity:**
  Investment in real estate offers low liquidity since reselling a property might not be very easy. On the other hand investing in real estate mutual funds can help you get higher gains when the market is up and you can liquidate your funds whenever you want.
- **Portfolio Stability:**
  This fund balances out the high-risk investments in the portfolio . Although the real estate prices may fluctuate at times this does not affect real estate funds to a large extent.
- **Protection Against Inflation:**
  During inflation prices of property and rent increase which can lead to a rise in the value of real estate as well , which in turn can increase the value of real estate mutual fund units.

Risks Associated with Real Estate Mutual Funds

Like every investment, real estate mutual funds are not immune to risks. Two major risks are associated with investment in the real estate mutual funds:-

- **Market Risk:**
  In a rising market the real estate funds will perform well but a crisis in real estate sector will affect the real estate mutual fund as well.
- **Interest Rate Risk:**
  Rising interest rates affect the overall returns of the real estate mutual funds

One disadvantage associated with this investment is that the investors do not have rights to decide how the fund should be run or in which company their funds should be invested in. Investors which own stocks in a company have a say in issues of this sort but the same does not hold true for real estate fund investors.

7.2 Real Estate Mutual Funds in India

1. Aditya Birla Sun Life Global Real Estate Fund – REtail (G)
2.Kotak Asset Allocator Fund
3. Sundaram Hybrid Sr
4. HSBC Managed Solution Growth (G)
5. HDFC Property Fund
6. Aditya Birla Real Estate Fund

Real Estate Mutual funds are low involvement – high liquidity investments fetching steady returns over a period of time. With minimal effort and steady fund management by experts, these funds have become popular among investors who don't want to invest directly and have low budget for investment. Therefore, an investor who is aware of the real estate sector and the overall growth of the economy can benefit a lot out of real estate mutual funds.

7.3 Gold – Silver –

The best way to invest in silver is to gain exposure the price of this precious metal through mutual funds, exchange-traded funds (ETFs) or exchange-traded notes (ETNs). But before investing in silver funds, investors should learn the benefits and strategies of buying precious metals?

How to Invest in Silver

Silver as an investment has similar purposes as gold. There are industrial uses for silver, such as jewelry, but the price is driven primarily by supply and demand and investor speculation. Typically, precious metals, such as gold and silver, are in higher demand when there is widespread uncertainty about currencies, especially with that of the US dollar. Therefore silver is often used as a hedge against currency fluctuation or as a store for cash during times of economic uncertainty and unrest.

The silver market is much smaller than the gold market, which makes for higher volatility (fluctuations) in price. Therefore investing in silver can be risky for most investors, which is why investing relatively small portions, such as 5% or less of an investor's total portfolio, may be appropriate for

diversification purposes. Some investors prefer to buy precious metals, such as gold, silver, platinum and copper, in the physical form of bullion coins. Others prefer to buy shares of mining company stocks or mutual funds, ETFs and ETNs.

Silver Investing With Mutual Funds, ETFs & ETNs

Most mutual funds do not hold silver as a physical asset. Investors can get indirect exposure to silver in mutual funds by holding equity precious metals funds, such asVanguard Precious Metals & Mining (VGPMX) and USAA Precious Metals & Minerals (USAGX) but these will typically have more exposure to stocks of gold mining companies than to silver and silver mining companies.

If you want the most direct exposure to silver, you will need to use a silver Exchange Traded Fund (ETF), such as iShares Silver Trust (SLV). Investors can also use an Exchange Traded Note (ETN), such as UBS E-TRACS CMCI TR Silver ETN (USV), as an alternative. However, it is important to note that ETNs are debt instruments, like bonds, that do not invest in any asset. Although linked to the performance of a market benchmark, ETNs are not equities or index funds.

Bottom Line on Investing in Silver Funds

Generally, the best way to invest in silver is through ETFs or ETNs, not mutual funds. The reason for this is that most investors typically want exposure to the price of silver, rather than stocks of companies associated with silver mining and manufacturing. ETFs and ETNs often track the price of silver. However, most precious metals mutual funds do not.

As always, investors should use caution with all investment securities, especially those that they do not completely understand. Also, because of the speculative nature of silver and other precious metals funds in the market, investors should avoid short-term market timing strategies. Precious metals funds can be best used as long-term diversification tools and should allocate small percentages, such as 5-10% of the portfolio, to such securities.

7.4 Provident fund

It was replaced by the **Employees' Provident Funds** Act, 1952. The **Employees' Provident Funds** Bill was introduced in the Parliament as Bill Number 15 of the year 1952 as a Bill to provide for the institution of **provident funds** for employees in factories and other establishments.

Provident fund is another name for pension fund. Its purpose is to provide employees with lump sum payments at the time of exit from their place of employment. This differs from pension funds, which have elements of both lump sum as well as monthly pension payments. As far as differences between gratuity and provident funds are concerned, although both types involve lump sum payments at the end of employment, the former operates as a defined contribution plan, while the latter is a defined benefit plan.

Specific provident funds include:

- Employees' Provident Fund Organisation, India's retirement plan

- Mandatory Provident Fund (Hong Kong), Hong Kong's retirement plan
- Central Provident Fund (Singapore), Singapore's retirement plan
- Employees Provident Fund (Malaysia), Malaysia's retirement plan
- Employees Provident Fund Nepal, Nepal's retirement Plan
- Central Provident Fund (South Africa), a retirement trust
- Instituto del Fondo Nacional de la Vivienda para los Trabajadores, Mexico's public pension fund and largest mortgage lender
- National Social Security Fund (Kenya)

7.5 National Saving Scheme

The **National Savings Certificate** is a fixed income investment scheme that you can open with any post office. A Government of India initiative, it is a savings bond that encourages subscribers – mainly small to mid-income investors – to invest while saving on income tax.

The National Savings Certificate is a fixed income investment scheme that you can open with any post office. A Government of India initiative, it is a savings bond that encourages subscribers – mainly small to mid-income investors – to invest while saving on income tax. A fixed income instrument like Public Provident Fund and Post Office FDs, this scheme too is a secure and low-risk product. You can buy it from the nearest post office in your name, for a minor or with another adult as a joint account. They come with two fixed maturity periods – 5 years and 10 years. There is no maximum limit on the purchase of NSCs, but only investments of up to Rs 1.5 lakh can earn you a tax break under Section 80C of the Income Tax Act. The certificates earn a fixed interest, which is currently at a rate of 8% per annum.

Anyone looking for a safe investment avenue to save taxes while earning a steady income can opt for this scheme. The NSC offers guaranteed interest and complete capital protection. However, like most fixed income schemes, they cannot deliver inflation-beating returns like tax-saving mutual funds and National Pension System. The government has made NSC easily accessible for prospective investors by making it available in post offices.The government has made NSC easily accessible for prospective investors by making it available in post offices. Basically, the Government has promoted National Savings Certificate as a savings scheme for individuals. Hence, Hindu Undivided Families (HUFs) and trusts cannot invest in it. Furthermore, even non-resident Indians (NRI) cannot purchase NSC certificates. The scheme is open only for Indian individual citizens.

Features & Benefits of NSC

a. **Fixed income:**Presently, you get guaranteed returns (8% annual interest) and can enjoy a regular income.
b. **Types:** The scheme originally had two types of certificates – NSC VIII Issue and NSC IX Issue. The Government

discontinued NSC IX Issue in December 2015. So, only the NSC VIII Issue is open for subscription currently.

c. **Tax saver:** As a government-backed tax-saving scheme, you can invest for up to Rs 1.5 lakh to claim the benefits of 80C deductions.
d. **Start small:** You can invest as small as Rs. 100 (or multiples of 100) as an initial investment, and increase the amount when feasible.
e. **Interest rate:**Currently, the rate of interest is 8%, which the government revises every quarter. It gets compounded annually, but will be payable at maturity.
f. **Maturity period:** There are two maturity periods to choose from – one for 5 years and the other for 10 years.
g. **Access:** You can purchase this scheme from any post office by submitting the necessary documents and doing the KYC process. It is easy to transfer the certificate from one PO to another too.
h. **Loan collateral:** Banks and NBFCs accept NSC as a collateral or security for secured loans. To do this, the concerned post master should put a transfer stamp to the certificate and transfer it to the bank.
i. **Power of compounding:** Interest you earn on your investment gets compounded and reinvested by default, though the returns do not beat inflation.
j. **Nomination:** Investor can nominate a family member (even a minor) so that they can inherit it in the unfortunate event of the investor's demise.
k. **Corpus after maturity:** Upon maturity, you will receive the entire maturity value. Since there is no TDS on NSC payouts, the subscriber should pay the applicable tax on it.
l. **Premature withdrawal:** Generally, one cannot exit the scheme early. However, they accept it in exceptional cases like the death of investor or if there is a court order for it.

4. Tax benefits of NSC investment

Investments of up to Rs 1.5 lakh in the National Savings Certificate can earn the subscriber atax rebate under Section 80C. Furthermore, the interest earned on the certificates are also added back to the initial investment and qualify for a tax break as well. For instance, if you purchase certificates worth Rs. 1000, you are eligible for a tax respite on that initial investment amount in the first year. But in the second year, you can claim a tax deduction on the NSC investment(s) that year as well as the interest earned in the first year. This is because the interest is added to the original investment and compounded annually.

7.6 LIC

Life Insurance Corporation, popularly known as **LIC** is Indian state-owned insurance group and Investment Company. Buy Life Insurance Plans and Policies

Life Insurance Corporation of India (**LIC**) is an Indian State owned insurance group and investment corporation owned by the GovernmentofIndia.

The Life Insurance Corporation of India was founded in 1956 when the Parliament of India passed the Life Insurance of India Act that nationalized the insurance industry in India. Over 245 insurance companies and provident societies were merged to create the state owned Life Insurance Corporation.

Founding organisations

The Oriental Life Insurance Company, the first company in India offering life insurance coverage, was established in Kolkatain 1818. Its primary target market was the Europeans based in India, and it charged Indians heftier premiums.[3]Surendranath Tagore had founded Hindusthan Insurance Society, which later became Life Insurance Corporation.[4]

The Bombay Mutual Life Assurance Society, formed in 1870, was the first native insurance provider. Other insurance companies established in the pre-independence era included

- Postal Life Insurance (PLI) was introduced on 1 February 1884
- Bharat Insurance Company (1896)
- United India (1906)
- National Indian (1906)
- National Insurance (1906)
- Co-operative Assurance (1906)
- Hindustan Co-operatives (1907)
- Indian Mercantile
- General Assurance
- Swadeshi Life (later Bombay Life)
- Sahyadri Insurance (Merged into LIC, 1986)

The first 150 years were marked mostly by turbulent economic conditions. It witnessed India's First War of Independence, adverse effects of the World War I andWorld War II on the economy of India, and in between them the period of worldwide economic crises triggered by the Great depression. The first half of the 20th century saw a heightened struggle for India's independence. The aggregate effect of these events led to a high rate of and liquidation of life insurance companies in India. This had adversely affected the faith of the general in the utility of obtaining life cover.

Nationalisation in 1956

LIC Zonal Office, at Connaught Place, New Delhi, designed by Charles Correa, 1991.

LIC Building at Chennai, was the tallest building in India when it was inaugurated in 1959

In 1955, parliamentarian Feroze Gandhi raised the matter of insurance fraud by owners of private insurance agencies. In the ensuing investigations, one of India's wealthiest businessmen, Ramkrishna Dalmia, owner of the *Times of India* newspaper, was sent to prison for two years.

The Parliament of India passed the Life Insurance of India Act on 19 June 1956 creating the Life Insurance Corporation of India, which started operating in September of that year. It consolidated the business of 245 private life insurers and other entities offering life insurance services; this consisted of 154 life insurance companies, 16 foreign companies and 75 provident companies. The nationalization of the life insurance business in India was a result of the Industrial Policy Resolution of 1956, which had created a policy framework for extending state control over at least 17 sectors of the economy, including life insurance.

UNIT VIII: APPROACHES TO INVESTMENT ANALYSIS

Structure

8.1 Approaches to Investment Analysis
8.2 Fundamental Analysis
8.3 Basic Components
8.4 Advanced Components
8.5 Tools of economy, industry and company analysis.

8.1 Approaches to Investment Analysis

Investment analysis is a broad term encompassing many different aspects of evaluating financial assets, sectors, and trends. It can include analyzing past returns to predict future performance, selecting the type of investment instrument that best suits an investor's needs, or evaluating securities such as stocks and bonds, or a category of securities, for risk, yield potential or price movements.

Investment analysis is key to any sound portfolio management strategy.

How Investment Analysis Works

Investment analysis can help determine how an investment is likely to perform and how suitable it is for a given investor. Key factors in investment analysis include entry price, expected time horizon for holding an investment, and the role the investment will play in the portfolio.

In conducting an investment analysis of a mutual fund, for example, an investor looks at factors such as how the fund performed compared to itsbenchmark or peers. Peer fund comparison includes investigating the differences in performance, expense ratios, management stability, sector weighting, investment style, and asset allocation.

In investing, one size does not always fit all. Just as there are many different types of investors with varying goals, time horizons, and incomes, there are also securities that match best within those individual perimeters. An older investor may be more risk-averse than a young one who is just beginning to save for retirement.

Investment analysis can also involve evaluating an overall investment strategy, in terms of the thought process that went into making it, needs and financial situation at the time, how decisions affected a portfolio's performance and the need for correction or adjustment if any.

Investors who are not comfortable doing their investment analysis can seek advice from an investment advisor or another financial professional.

What are the Approaches to Investment Decisionmaking? We have seen above that stock market is thronged by investors pursuing diverse investment strategies. These may be subsumed nder four broad approaches: 1. Fundamental Approach The basic tenets of the fundamental approach, which is perhaps most commonly advocated by investment professionals, are as follows: · There is an intrinsic value of a security and this depends upon underlying economic (fundamental) factors. The intrinsic value can be established by a penetrating analysis of the fundamental factors relating to the company, industry, and economy. · At any given point of time, there

are some securities for which the prevailing market price would differ from the intrinsic value. Sooner or later, of course, the market price would fall in line with the intrinsic value. · Superior returns can be earned by buying under-valued securities (securities whose intrinsic value exceeds the market price) and selling over-valued securities (securities whose intrinsic value is less than the market price). 2. Psychological Approach The psychological approach is based on the premise that stock prices are guided by emotion, rather than reason. Stock prices are believed to be influenced by the psychological mood of the investors. When greed and euphoria sweep the market, prices rise to dizzy heights. On the other hand, when fear and despair envelop the market, prices fall to abysmally low levels. Since psychic values appear to be more important than intrinsic values, the psychological approach suggests that it is more profitable to analyse how investors tend to behave as the market is swept by waves of optimism and pessimism which seem to alternate. The psychological approach has been described vividly as the 'castlesin-their' theory by Burton G. Malkiel. Those who subscribe to the psychological approach or the' castles-in-the-air' theory generally use some form of technical analysis which is concerned with a study of internal market data, with a view to developing trading rules aimed at profit-making. The basic premise of technical analysis is that there are certain persistent and recurring patterns of price movements, which can be discerned by analysing market data. Technical analysts use a variety of tools like bar chart, point and figure chart, moving average analysis, breadth of market analysis, etc. 3. Academic Approach Over the last five decades or so, the academic community has studied various aspects of the capital market, particularly in the advanced countries, with the help of fairly sophisticated methods of investigation. While there are many unresolved issues and controversies stemming from studies pointing in different directions, there appears to be substantial support for the following tenets. Stock markets are reasonably efficient in reacting quickly and rationally to the flow of information. Hence, stock prices reflect intrinsic value fairly well. Put differently: Market price = Intrinsic value Stock price behaviour corresponds to a random walk. This means that successive price changes are independent. As a result, past price behaviour cannot be used to predict future price behaviour. In the capital market, there is a positive relationship between risk and return. More specifically, the expected return from a security is linearly related to its systematic risk. Stock price behaviour corresponds to a random walk. This means that successive price changes are independent. As a result, past price behaviour cannot be used to predict future price behaviour. In the capital market, there is a positive relationship between risk and return. More specifically, the expected return from a security is linearly related to its systematic risk 4. Eclectic Approach The eclectic approach draws on all the three different approaches discussed above. The basic premises of the eclectic approach are as follows: · Fundamental analysis is helpful in establishing basic standards and benchmarks. However, since there are uncertainties associated with fundamental analysis, exclusive reliance on fundamental analysis should be avoided. Equally important, excessive refinement and complexity in fundamental analysis must be viewed with

caution. · Technical analysis is useful in broadly gauging the prevailing mood of investors and the relative strengths of supply and demand forces. However, since the mood of investors can vary unpredictably excessive reliance on technical indicators can be hazardous. More important, complicated technical systems should ordinarily be regarded as suspect because they often represent figments of imagination rather than tools of proven usefulness. · The market is neither as well ordered as the academic approach suggests, nor as speculative as the psychological approach indicates. While it is characterised by some inefficiencies and imperfections, it seems to react reasonably efficiently and rationally to the flow of information. Likewise, despite many instances of mispriced securities, there appears to be a fairly strong correlation between risk and return. The operational implications of the eclectic approach are as follows:

8.2 Fundamental Analysis

Conduct **fundamental analysis** to establish certain value 'anchors'.

Types of Investment Analysis

While there are countless individual ways to analyze securities, sectors, and the markets, investment analysis can be divided into a few different categories.

Top-down vs Bottom-up

When making investment decisions, investors can use a bottom-up investment analysis approach or top-down approach. Bottom-up investment analysis entails analyzing individual stocks for their merits, such as valuation, management competence, pricing power, and other unique characteristics of the stock and underlying company. Bottom-up investment analysis does not focus on economic cycles or market cycles firsthand for capital allocation decisions. Instead, it aims to find the best companies and stocks regardless of the overarching economic, market, or particular industry macro trends. In essence, bottom-up investing takes more of a microeconomic—small scale economic—approach to investing rather than a large scale, national economy or global—macroeconomics—approach.

The macroeconomic approach is a hallmark of top-down investment analysis. It emphasizes economic, market, and industry trends before making a more granular investment decision to allocate capital to specific companies. An example of a top-down approach is an investor evaluating different company sectors and finding that financials will likely perform better than industrials. As a result, the investor decides the investment portfolio will be overweight financials and underweight industrials. They then proceed to find the best stocks in the financial sector. On the contrary, a bottom-up investor may have found that an industrial company made for a compelling investment and allocated a significant amount of capital to it even though the outlook for its broader industry was negative.

Fundamental vs Technical Analysis

Other investment analysis methods include fundamental analysis andtechnical analysis. The fundamental analysis stresses evaluating the financial health of companies as well as economic outlooks. Practitioners of fundamental analysis seek stocks they believe the market has mispriced—trading at a price lower than that warranted by their

companies' intrinsic value. Often encompassing bottom-up analysis, these investors will evaluate a company's financial soundness, future business prospects, dividend potential, and economic moat to determine whether they will make satisfactory investments. Proponents of this style include Warren Buffett and his mentor, Benjamin Graham.

The technical analysis stresses evaluating patterns of stock prices and statistical parameters, via computer-calculated charts and graphs. Unlike fundamental analysts, who attempt to evaluate a security's intrinsic value, technical analysts focus on patterns of price movements, trading signals, and various other analytical charting tools to evaluate a security's strength or weakness. Day traders make frequent use of technical analysis in devising their strategies and timing their positions' entrances and exits.

Introduction

IC Imaging Control is an API that covers all aspects of DirectShow that are related to managing, controlling and accessing imaging devices and image data. It simplifies the usage of DirectShow by maintaining hardware independence. The abstraction implemented by IC Imaging Control addresses all programmers who are familiar with frame grabbers. In other words: IC Imaging Control lets DirectShow look like a frame grabber.

8.3 Basic Components

Because the idea behind IC Imaging Control is to build something similar to a frame grabber, the main component IC Imaging Control provides methods to control the inputs, video formats, and the grabbing process which are typical for frame grabber APIs. In contrast to most frame grabber APIs, IC Imaging Control provides:

- A sink concept for creating image stream files (Media Stream Sink, Media Stream Container) including software compression (AviCompressor)
- A sink concept for handling image buffers (Frame Handler Sink) with ring buffer management (Image Buffers, Image Buffer) including buffer locking and image data access through callbacks (Image Available event).
- Advanced display capabilities including scrolling and zooming that can be controlled using properties and methods of the main component IC Imaging Control.

The image data is generated by the video capture device as consecutive frames that build an image stream running from the device to the sink. If the display is activated, the image stream is split, feeding the sink and the display. In this case, the image stream is a graph that looks like a "Y" and consists of the following segments:

- Device Path: Segment between the device and the split point
- Display Path: Segment between the split point and the display
- Sink Path: Segment between the split point and the sinke the figure above illustrates the flow of image data, the next figure shows the relationship between the image stream and the classes.

8.4 Advanced Components

IC Imaging Control provides generic access to device properties, multiple overlays and filter chains at different locations of the image stream:

- Generic device properties: Although DirectShow allows device independent code to be written, by using the two defined sets of properties Video Proc Amp and Camera Control, this concept suffers from serious limitations. On the one hand, a lot of video capture devices provide more properties, than defined by DirectShow. On the other hand, the values that may be specified for a property do not have a meaning. With VCD Properties, IC Imaging Control provides a totally generic and extendable way to handle unknown properties and add a meaning to property values.
- Multiple Overlays: The class Overlay Bitmap implements an overlay that can be rendered on the image stream at three locations: device path, display path and sink path. Methods for drawing text and graphical elements, such as rectangles and lines, as well as callbacks for generating frame based overlays are provided.
- Filter Chains: IC Imaging Control allows filters or filter chains to be inserted in the image stream at three locations: device path, display path and sink path. Filters are called frame filters and are used to change or convert the video format of the image stream, implement image processing and control which frames are processed. For details on frame filters, please refer to the section Frame Filters.

Performance

As described above, IC Imaging Control provides very powerful components to manipulate and control the acquisition and display of image streams. It is obvious that this functionality requires a certain overhead for internal management and processing. This may lead to the conclusion that IC Imaging Control is not suitable for high speed image processing application. This is absolutely not the case, as all features that make it easy to build complex applications with IC Imaging Control may be switched off. For applications that require as much CPU time for image processing as possible, IC Imaging Control may be configured in a way that the overhead to process the image stream is comparable to a low level frame grabber or FireWire library. In order to reduce the internal overhead to a minimum, you have to:

- Switch off the display: this will remove the display path completely from the image stream.
- Prevent automatic color space conversion: by specifying the same video format for the device and the sink.
- Switching off all overlays.
- Do not use the ring buffer: by inserting one frame filter in the sink path that will implement the image processing or interface a third party image processing library instead of sending frames to the sink.
- Do not insert additional frame filters in the device path or in the sink path.

Doing so guarantees that the image data is not modified or copied by IC Imaging Control nor DirectShow. The figure below shows the layout of the image stream for this configuration.

8.5 Tools of economy, industry and company analysis.

EIC Analysis of a Company

Below are the further details of the components of EIC analysis, which analyst always consider before choosing or reaching any decision about any business.

- Economic Analysis
- Industry Analysis
- Company Analysis

1. **Economic Analysis:**

Every **common stock** is susceptible to the market risk. This feature of almost all **types of common stock** indicates their combined movement with the fluctuations in the economic conditions towards the improvement or deterioration.

Stock prices react favorably to the low inflation, earnings growth, a better balance of trade, increasing gross national product and other positive macroeconomic news. Indications that unemployment is rising, inflation is picking up or earnings estimates are being revised downward will negatively affect the stock prices. This relationship is reasonably reliable that the US economy is better represented by the Standard & Poor 500 stock index, which is famous market indicator. The stock market will forecast an economic boom or recession properly from the signs in front of average citizen. The **Federal bank of New York**has conducted a research that describes that the slope of the yield curve is the perfect indicator of the economic growth more than three months out. Recession is indicated by negative slope while positive slope is considered as good one.

The implications of market risk should be clear to the investor. When there is recession in the economy, the prices of stocks moves downward. All the companies suffer the effects of recession despite of the fact that these are high performing companies or low performing ones. Similarly the stock prices are positively affected by the boom period of the economy.

2. **Industry Analysis:**

It is clear there is certain level of market risk faced by every stock and the stock price decline during recession in the economy. Another point to be remembered is that the defensive kind of stock is affected less by the recession as compared to the cyclical category of stock. In the **industry analysis**, such industries are highlighted that can stand well in front of adverse economic conditions.

In 1980, Michael Porter proposed a standard approach to industry analysis which is referred to as competitive analysis frame work. Threats of new entrants evaluate the expected reaction of current competitors to new competitors and obstacles to entry into the industry. In certain industries it is quite difficult for new company to compete successfully.

For example new producers in the automobile industry face difficulty in competing the established companies, like **General Motors and Ford** etc. There are certain other industries where the entry of new company is easier like financial planning industry. No extraordinary efforts are required in such kind of industries to establish any new company. The growth in the industry is slowed down through the rivalry among the current competitors. Profits of the company are reduced when it tries to cover more market

share because under existing rivalry the company has to invest a large portion of its earnings in this enhancing market share. The industry where the rivalry is friendly or modest among competitors provides greater opportunity for product differentiation & increased profits. The intense competition is favorable for the customer but not good for the producer of the product. In case of airline industry there are common fare price wars among the competitors. When one airline company reduces its price then the other must also adjust its price accordingly in order to retain the existing customers.

Economic Industry Company Analysis | EIC Analysis of a Company

Economic Industry Company analysis is employed. EIC analysis is the abbreviation of economic, industry and company. The person conducting EIC analysis examines the conditions in the entire economy and then ascertains the most attractive industries in the light of the economic conditions. At last the most attractive companies within the attractive industries are pointed out by the analyst.

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Another threat faced by company in industry is the treat of substitutes which prevents the companies to enhance the price of their products. When there is much increase in the price of particular product, then the consumer simply switches to other alternative product which has lower price. For example there are two different video games named Sega and Nintendo. These games competes each other directly in the market. If the price of Nintendo is enhanced then the new video game customers are switch toward the Sage which has relatively lower price. The investor conducting industry analysis should focus the level of risk of product substitution which seriously affects the future growth of company.

Another aspect of the industry analysis is the bargaining power of buyers which can greatly influence the large percentage of sales of seller. In this condition the profit margins are lower. Concessions are necessary to be offered by the seller because it is not affordable for him to lose customer. For example there is ship building company and the US Navy is its main customer. Only two to three ships are produced by the company every year and so it is very harmful for the firm to lose the Navy contract. On the other hand in case of departmental store, there is large number of customers and so the bargaining power of customers is low. In this business, losing one or two customers will not much affect the sales or profitability of the retail store.

The only capital intensive industry should not be focused. There are other industries that are not capital intensive like consultants required in retail computer store. There is need that is present which force the computer technician to solve the problems of the computer systems of people. In

recent year, consumers are usually more sophisticated in area of personal computers. So they are better guided and they try to make their own decisions in the needs of software and hardware aspects. In fact they possess high power when they contact the sales staff.

The bargaining power of suppliers has also substantial influence over the profitability of the company. The supplies for manufacturing products are required by the company and it does not have sufficient control over the costs. It is not possible for the company to increase the price of its finished products in order to cover the increased costs due to the presence of powerful buyer groups in market of substitute products. So while conducing industry analysis, the presence of powerful suppliers should be considered as negative for the company.

The above considerations of industry structure should be analyzed by the investor in order to make an estimate about the future trends of the industry in the light of the economic conditions. When potential industry is identified then comes the final step of EIC analysis which is narrower relating to companies only.

3. Company Analysis:

In company analysis different companies are considered and evaluated from the selected industry so that most attractive company can be identified. Company analysis is also referred to as security analysis in which stock picking activity is done. Different analysts have different approaches of conducting company analysis like

1. Value Approach to Investing
2. Growth Approach to Investing

Additionally in company analysis, the **financial ratios** of the companies are analyzed in order to ascertain the category of stock as value stock or growth stock. These ratios include price to book ratio and price-earnings ratio. Other ratios like return on equity etc. can also be analyzed to ascertain the potential company for making investment.

UNIT IX: TECHNICAL ANALYSIS

Structure

9.1 Technical Analysis

Technical analysis is a trading discipline employed to evaluate investments and identify trading opportunities by analyzing statistical trends gathered from trading activity, such as price movement and volume

Technical analysis is a trading discipline employed to evaluate investments and identify trading opportunities by analyzing statistical trends gathered from trading activity, such as price movement and volume. Unlike fundamental analysts, who attempt to evaluate a security's intrinsic value, technical analysts focus on patterns of price movements, trading signals and various other analytical charting tools to evaluate a security's strength or weakness.

Technical analysis can be used on any security with historical trading data. This includes stocks, futures, commodities, fixed-income, currencies, and other securities. In this tutorial, we'll usually analyze stocks in our examples, but keep in mind that these concepts can be applied to any type of security. In fact, technical analysis is far more prevalent in commodities and forex markets where traders focus on short-term price movements.

The Basics Of Technical Analysis

Technical analysis as we know it today was first introduced by Charles Dowand the Dow Theory in the late 1800s. Several noteworthy researchers including William P. Hamilton, Robert Rhea, Edson Gould and John Magee further contributed to Dow Theory concepts helping to form its basis. In modern day, technical analysis has evolved to included hundreds of patterns and signals developed through years of research.

Technical analysts believe past trading activity and price changes of a securitycan be valuable indicators of the security's future price movements. They may use technical analysis independent of other research efforts or in combination with some concepts of intrinsic value considerations but most often their convictions are based solely on the statistical charts of a security. The Market Technicians Association (MTA) is one of the most popular groups supporting technical analysts in their investments with the Chartered Market Technicians (CMT) designation a popular certification for many advanced technical analysts.

The Underlying Assumptions of Technical Analysis

There are two primary methods used to analyze securities and make investment decisions: fundamental analysis and technical analysis. Fundamental analysis involves analyzing a company's financial statements to determine the fair value of the business, while technical analysis assumes that a security's price already reflects all publicly-available information and instead focuses on the statistical analysis of price movements. Technical analysis attempts to understand the market sentiment behind price trends by looking for patterns and trends rather than analyzing a security's fundamental attributes.

Charles Dow released a series of editorials discussing technical analysis theory. His writings included two basic assumptions that have continued to form the framework for technical analysis trading.

1. Markets are efficient with values representing factors that influence a security's price, but
2. Market price movements are not purely random but move in identifiable patterns and trends that tend to repeat over time

The efficient market hypothesis (EMH) essentially means the market price of a security at any given point in time accurately reflects all available information, and therefore represents the true fair value of the security. This assumption is based on the idea that the market price reflects the sum total knowledge of all market participants. While this assumption is generally believed to be true, it can be affected by news or announcements about a security that may have varied short-term or long-term influence on a security's price.Technical analysis only works if markets are weakly efficient.

The second basic assumption underlying technical analysis, the notion that price changes are not random, leads to the belief of technical analysts that market trends, both short-term and long-term, can be identified, enabling market traders to profit from investing based on trend analysis.

Today, technical analysis is based on three main assumptions:

1: The market discounts everything

Many experts criticize technical analysis because it only considers price movements and ignores fundamental factors. Technical analysts believe that everything from a company's fundamentals to broad market factors to market psychology are already priced into the stock. This removes the need to consider the factors separately before making an investment decision. The only thing remaining is the analysis of price movements, which technical analysts view as the product of supply and demand for a particular stock in the market.

2: Price moves in trends

Technical analysts believe that prices move in short-, medium-, and long-term trend. In other words, a stock price is more likely to continue a past trend than move erratically. Most technical trading strategies are based on this assumption.

3: History tends to repeat itself

Technical analysts believe that history tends to repeat itself. The repetitive nature of price movements is often attributed to market psychology, which tends to be very predictable based on emotions like fear or excitement.

Technical analysis uses chart patterns to analyze these emotions and subsequent market movements to understand trends. While many form of technical analysis have been used for more than 100 years, they are still believed to be relevant because they illustrate patterns in price movements that often repeat themselves.

How Technical Analysis Is Used

Technical analysis attempts to forecast the price movement of virtually any tradable instrument that is generally subject to forces of supply and demand, including stocks, bonds, futures and currency pairs. In fact, some view technical analysis as simply the study of supply and demand forces as reflected in the market price movements of a security. Technical analysis most commonly applies to price changes, but some analysts track numbers other than just price, such as trading volume or open interest figures.

Across the industry there are hundreds of patterns and signals that have been developed by researchers to support technical analysis trading. Technical analysts have also developed numerous types of trading systems to help them forecast and trade on price movements. Some indicators are focused primarily on identifying the current market trend, including support and resistance areas, while others are focused on determining the strength of a trend and the likelihood of its continuation. Commonly used technical indicators and charting patterns include trendlines, channels, moving averages and momentum indicators.

In general, technical analysts look at the following broad types of indicators:

- Price trends
- Chart patterns
- Volume and momentum indicators
- Oscillators
- Moving averages
- Support and resistance levels

The Difference Between Technical Analysis And Fundamental Analysis

Fundamental analysis and technical analysis, the major schools of thought when it comes to approaching the markets, are at opposite ends of the spectrum. Both methods are used for researching and forecasting future trends in stock prices, and like any investment strategy or philosophy, both have their advocates and adversaries.

Fundamental analysis is a method of evaluating securities by attempting to measure the intrinsic value of a stock. Fundamental analysts study everything from the overall economy and industry conditions to the financial condition and management of companies. Earnings, expenses, assets and liabilities are all important characteristics to fundamental analysts.

Technical analysis differs from fundamental analysis in that the stock's price and volume are the only inputs. The core assumption is that all known fundamentals are factored into price; thus, there is no need to pay close attention to them. Technical analysts do not attempt to measure a security's intrinsic value, but instead use stock charts to identify patterns and trends that suggest what a stock will do in the future.

Limitations Of Technical Analysis

The major hurdle to the legitimacy of technical analysis is the economic principle of the efficient markets hypothesis. According to the EMH, market prices reflect all current and past information already and so there is no way to take advantage of patterns or mispricings to earn extra profits, or alpha. Economists and fundamental analysts who believe in efficient markets do not believe that any actionable information is contained in historical price and volume data, and furthermore that history does not repeat itself; rather, prices move as a random walk.

A second criticism of technical analysis is that it works in some cases but only because it constitutes a self-fulfilling prophesy. For example, many technical traders will place a stop-loss order below the 200-day moving average of a certain company. If a large number of traders have done so and the stock reaches this price, there will be a large number of sell orders, which will push the stock down, confirming the movement traders anticipated.

Then, other traders will see the price decrease and also sell their positions, reinforcing the strength of the trend. This short-term selling pressure can be considered self-fulfilling, but it will have little bearing on where the asset's price will be weeks or months from now. In sum, if enough people use the same signals, they could cause the movement foretold by the signal, but over the long run this sole group of traders cannot drive price.

9.2 Concepts and tools

Introduction to Lean Six Sigma

Lean Six Sigma has its origins in the electronics company Motorola. It was coined in 1986 as a methodology to reduce defects.

It is a powerful tool. Over the last few decades, companies all over the world have saved countless millions by incorporating Lean and Six Sigma strategies into their processes.

It has a long record of being applied successfully across many industries. Information technology, telecommunications, sales, healthcare, finance, and even the military have used Lean Six Sigma to transform processes with business process management ideas – often proving the key the key to staying ahead in today's busy marketplace.

It is the combination of two different concepts, combined together to form a powerful tool to improve business processes. Lean and Six Sigma.

What is in this article?

Part I: Introduction to Lean Six Sigma

Part II: 8 Examples of Waste

Part III: Executive summary of 12 essential Lean Six Sigma strategies

What is lean?

Lean refers to reducing waste in your business. Waste is anything that doesn't benefit your bottom line or add value to your organization.

Do you regularly wait for product shipments? That's waste. Do processes go days without being actioned? That's waste. Do products sit in a room until they are needed? That's waste. The purpose of lean management is to synchronize all of your business processes so there is no downtime and your operation runs as smoothly as possible.

A lean approach will help your company eliminate activities that are devoid of value. A major benefit of lean is that you will deliver the same value to your customers but with less effort.

As such, Lean doesn't mean making employees work harder and faster, or at the very worst, make them redundant. A lean strategy will simply give your employees more time to spend on the value-adding processes that will add to your business's bottom line.

Lean is about working effectively, not quickly.

What is Six Sigma

If lean is about streamlining processes, Six Sigma Is about improving the quality of what your business delivers, ensuring that variation is kept to a minimum.

Six Sigma refers to a method of statistical quality control and is effectively a data-driven problem-solving methodology. The original definition is 3.4 defects per million output units.

Why such a precise figure and how does this relate to the corporate world?

Six Sigma actually has its origins in the world of manufacturing. It is the mathematical symbol for a standard deviation (sigma). Six Sigma is the ideal acceptable range of deviation from an ideal mathematical measurement.

Each level of Sigma allows a certain number of defects, with the number of defects reducing per level of sigma.

An occurrence that is six deviations from the mean should be incredibly rare, which works out to 3.4 deviations per million. That means 99.99966% of all processes should be completed without any inaccuracies or defects.

Easier said than done, I hear you say?

Many companies take on Six Sigma because it sets a goal that is in the realms of perfection – but realistic enough giving employees across an organization the desire and motivation to meet it.

Imagine if a busy train station had one million departures and arrivals every year. At Sigma level 4 there would be 5000 mistakes. Is that good enough?

At Sigma level 6 there would only be two mistakes.

Conversely, take a mobile phone which has thousands of components that must be assembled correctly to ensure the device works. A deviation worse than 99.9% would likely result in a device that doesn't work.

At the end of the day, the goal of Lean and Six Sigma is to eliminate waste, optimize processes, foster business process management and improve the quality of your product or service.

To summarise, Lean aims to clean up the activities between the value-adding processes and Six Sigma is about improving the outcome of the processes and the work being done.

Lean Six Sigma is a must for businesses of every size as it makes quality a quantifiable statistic. It enables businesses to observe and study processes in a scientific way with the end goal of eliminating waste.

8 Examples of waste

An easy way to remember the 8 examples of waste is DOWNTIME. Check out the picture below.

Waste is applicable to every industry and sector, from defence to hospitality. Here are examples of different kinds of waste and how they can affect your business.

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Waste is applicable to every industry and sector, from defence to hospitality. Here are examples of different kinds of waste and how they can affect your business.

1. Defects

Defects are one of the most visible examples of waste and can be easy to grasp in any industry. Defects refer to any product or service that doesn't meet commercial specifications and must be discarded, or fixed via additional resources.

Defects can cause waste in numerous ways in addition to the capital used to scrap or rebuild a product or service. Defects will affect delivery times, logistics, and ultimately customer satisfaction. Your business should not spend an extra second on the rescheduling, paperwork and critical thinking that goes into fixing defects.

2. Overproduction

Overproduction occurs when you produce more product that is required by your customers. Companies tend to make the mistake of producing a product in large batches. This may seem like a good idea on paper, but market forces change and consumer needs change over time. It's akin to putting all of your eggs in one basket and hoping for the best.

Overproduction leads to excess inventory, which then leads to additional expenditure on storage space and preservation. This does not add value.

3. Waiting

Nobody likes waiting. We've all experienced waiting to be served in a grocery store or having to sit on hold waiting for a contact centre. In a nutshell, waiting is the time it takes to begin another process after finishing one. The time spent waiting between processes and transactions will result in dissatisfied customers.

4. Non-utilized talent

Under-utilizing employees' talents, skills and knowledge can have a detrimental effect on an organization. There are innumerous benefits to recognizing the value of skills and ideas that improve a process, especially from employees on the frontline that see process waste on a daily basis. A few examples include; a lack of teamwork, limited training, poor communication, duplicated administrative tasks and much more. Employee engagement, not micromanagement, is key to finding out how you can fix waste in your company.

5. Transportation

Transportation waste involves the unnecessary movement of product or information that doesn't add value. This comes in the form of moving a process from one individual to another, within the same department, and to another department. All of this adds unnecessary time onto a process. To eliminate this kind of waste, you can combine tasks and roles, and in extreme cases, reorganize workspaces to reduce physical movement.

6. Inventory

Inventory waste occurs when a product or material is waiting to be sold. This is often the result of:

- Poor monitoring systems
- Misunderstood customer needs
- Unreliable supplier

The difference between inventory waste and overproduction waste is that inventory waste is the value that is being held at a cost. Unlike overproduction, which assumed supplies exceed demand, inventory is material or product that has value but is not moving fast enough to meet customer demand.

7. Motion

Motion is any process that takes up time or capital by employees or machines, that fails to add value to the product being sold. The difference between motion and transportation waste is that motion waste is employee-centric and opposed to product-centric.

Common reasons this occurs include:

- Poor process design and controls
- Poor workstation/shop layout
- Shared tools and machines
- Workstation congestion
- Isolated and siloed operations
- Lack of standard

8. Extra processing

Extra processing involves performing work on a product that does not conform to the customers' expectations. This can occur when a company doesn't have a firm grasp on customer requirements. This should not be confused with "going the extra mile" which does in fact value to a product or service as it can lead to additional commercial interest.

An example of extra processing can include duplicated or replicated data, overdesigned equipment's, multiple signatures and more. This often occurs due to the creation of multiple versions of the same task, process more than is required or long-winded poorly designed processes. Examples include:

- Excessive reports
- Multiple signatures
- Re-entering data and duplicated data
- Lack of standards

How to succeed with 12 essential lean six sigma strategies

1. Cellular manufacturing

What is it cellular manufacturing?

Cellular manufacturing is a lean manufacturing approach for process improvement. It is defined by two core characteristics. **Grouped components and manufacturing cells**. In cellular manufacturing, families of parts are created in a cell of machines. A cell is an area of production that is clearly defined and separated from other manufacturing cells – with each cell having ultimate responsibility for the family of parts and components. Think of cells like mini production facilities within a larger production facility. This is referred to as **group technology**.

It is an alternative to the traditional production line. A production line refers to one continuous line of workers that add value to the product from receiving the raw material to the finished product.

The major downside of a production line is that a disruption in any part of the line can halt the entire process as each component in the line relies on the components that precede it.

Cellular manufacturing involves the re-arrangement of workstations to facilitate production characterized continuous flow and less downtime.

In the world of manufacturing, all operations and machines that are needed to produce a component a placed in close proximity. Specifically a 'U' shape. By placing the machine in small manufacturing cells and adopting a 'U' shape, workers spend less time moving to and fro, between manufacturing lots, and more time adding value to the component.

By having equipment and workstations arranged in a sequence that supports logic, you can achieve **one-piece flow.** Also, know as single-piece flow and continuous flow, one-piece flow is when your products move through the manufacturing process at a rate determined by the needs of your customers.

Tips for cellular management

- Group your components together
- Organize your manufacturing cells into groups and sets.
- Envision your final product as the result of a number of modules and groups of components attached together

2. Takt Time

What is takt time?

Takt Time refers to the rate at which a finished product is completed to meet customer demand. It is an essential tool for discerning if goods a flowing from each station to the next in an efficient manner, ensuring that you can meet customer demand.

In German, 'Takt' resides in the lexical field of time and rhythm. In that sense, 'Takt' is the rhythmic pulse of your company, and like a music conductor, Takt Time is meant to give you the means to measure processes to ensure continuous flow and the optimum utilization of machines and processes.

How to calculate Takt Time

The mathematical calculation for tact time is as follows:

The time available for production should reflect the number of time employees spending working on the product, minus variables such as meetings breaks, and other related activities. Conversely, customer demand is a measure of how many products a customer expects to buy.

Both of these variables should be consistent over the same time frame, such as one day or a week.

Takt Time isn't the number of man-hours put into creating a product. It refers to the entire time span to create a product, from start to finish, ensuring that continuous flow is achieved and customer demand is satisfied.

The benefits of Takt Time

Takt Time is effectively your sell rate and is a good measurement of how efficient your work processes are. Ideally, an optimal organization should have the capacity that can easily meet demand without having too much stock in inventory. Utilized effectively, Takt Time can **Promote efficiency.** Your company will be able to measure waste and easily discern which areas of production are struggling, on schedule, and otherwise need to be adjusted

An Example of Takt Time

- Total Time: 8 Hours X 60 Minutes = 480 Minutes
- Breaks: 50 Minutes
- Time Available: 430 Minutes
- Customer Demand in 8 Hours: 100 units
- Takt Time: 430 / 100 = 4.3 Minutes = 258 Seconds

In this example, the customer will need one unit every 258 seconds. However, you might like to produce a single unit in little less than 258 seconds in order to accommodate any variation in process steps, it is vital that before you implement takt, you ensure that your processes are dependable and can deliver good quality and that your machine has a very high uptime.

3. Standardized Work

What is standardized work?

Standardized work is a simple concept. It refers to the process of documenting methods, processes, materials, tools, processing times and more. At its core, it is about ensuring your operations run as smoothly as possible and your process improvement strategy is constantly evolving and being adopted by your employees. Standardized work is very important to reaching your ideal Takt Time.

Benefits of standardized work

- Best practices are followed
- Process improvement never ends
- Reduces waste
- Improves scaling efforts
- Makes abnormalities more visible
- Less time spent on guesswork

Tips for standardizing work

Ensuring that your employees are using the best practices Is one of the best ways to increase efficiency. If you want to promote a working environment characterized by standardized work, you need to ensure that your standardization requirements are the reasonable and have scope for improvement.

In-fact, if you ignore the wishes of employees who will use these standards every day, you may end up with a less efficient work environment as innovation will be stifled. Standardization is simply eliminating alternative methods that are less efficient. Ultimately, this means standardization is more suited to tasks that are repeatable and cyclical.

So, as always, communication is key.

To ensure standards are adhered to you need to establish them. This entails:

- Finding a process or task that is repeatable.
- Establishing an ideal Takt Time for completing this process.
- Establishing the work sequence and method that is needed to perform each element of work.
- Communicating clearly how the job can be performed – this is typically achieved through.

4. One Piece Flow or Continuous Flow

This concept emphasises reducing the batch size in order to eliminate system constraints. A methodology by which a product or information is produced by moving at a consistent pace from one value-added processing step to the next with no delays in between.

5. Kanban pull system

What is a Kanban pull system?

With a Kanban pull system, a customer process signals a supplying process to produce a product or information when it is needed.

A pull system refers to JIT (Just in Time) efficiency, where the product meets customer demand, not exceeds it. With a pull system you will have an easier time responding to market forces, but, it is chiefly about making what the customer wants when they want it.

On the other hand, Kanban refers to the signals used within a pull system via scheduling combined with travel instructions in the form of simple visual cards and containers.

This is in contradiction of 'conventional wisdom' which states that a company should complete products in large batches. This kind of methodology is called a push system, which is a methodology where the product is completed before the customer is ready to receive it. The major downside of this system is that keeping inventory costs money, as does keeping process busy for the sake of it.

Benefits of a Kanban pull system

- **More capital** – less money will be invested in storage space for inventory
- **Increased market dynamism** – Whether it is market forces that affect scalability or an aspect of the product itself, it can be damaging to have inventory consisting of un-sellable products. Less work in progress (WIP)
- **Improved production environment** – Kanban provides visual clarity and can promote objective and rational discussion among team members
- **Easy monitoring** – All team members will have a constant feedback of performance via a breakdown of every stage from start to finish.

Tips for using a Kanban pull system

To successfully introduce a Kanban pull system into your work environment you need to take three steps.

Map your workflow – Visualizing your workflow it easily definable segments is the core aspect of Kanban. Whether you use a physical Kanban board or a digital version, they typically have 3 sections representing the state of your product. These are; requested, in progress, and done.

- **Pull in work** - When you start to receive work only pull in new work if there is concrete demand for it.
- **Manage bottlenecks and work in progress** – The purpose of your Kanban board is to enable a smooth workflow. You have to ensure your

processes don't get clogged by putting limits on the amount of WIP cars up at any given time.

6. Five Whys

What are the five whys?

The five why's are a tried and true method of analyzing and solving a problem. With the Five Why's you can often get to the root cause of an issue – instead of applying a quick fix which will ultimately lead to the same issue rearing its head in the future.

Asking yourself why is important because of the fastest way of getting to the root cause of a problem, cutting through the symptoms and getting right to the underlying issues.

Tips on using the 5 whys

You can use this method to garner an in-depth understanding of a problem, as opposed to filling in the blanks yourself. This makes it great for troubleshooting, but not necessarily problem-solving.

Another factor to consider is that you can succumb to tunnel vision and focus on a single cause when there could be multiple. It is always a good idea of repeating the 5 why test, while giving alternative answers, or, asking a co-worker to perform the 5 whys for comparison. For this reason, you can go beyond 5 whys, the key is to stop the exercise when the answers become unactionable or no more useful responses are given.

Example of the 5 whys

- **Problem** - We missed a customer delivery deadline
- **Why was the deadline missed?** Because we sent out the product one day late
- **Why was the product sent out late?** Our customer management system wasn't updated to reflect the new batch of orders
- **Why wasn't the database updated?** Because it was under maintenance
- **Why wasn't the update finished in time?** There are vacant positions open in the IT department which has increased turnaround times.
- **Why are there vacant positions in IT?** Several members of the IT staff are on holiday at the same time

7. Quick Changeover / SMED

What is quick Changeover / SMED?

SMED is the Single Minute Exchange of Dies, which is a process of reducing changeover time by categorizing machine elements as internal or external, and then converting the internal elements so they can be changed externally while the machine is still running.

As internal changes can only be performed while the machine is out of action, the internal setup tasks that can be changed to external the better.

A 3-stage methodology developed by Shigeo Shingo that reduces the time to changeover a machine byexternalizing and streamlining steps. Shorter changeover times are used to reduce batch sizes and produce just-in-time. This concept aids in reducing the setup time to improve flexibility and responsiveness to customer changes.

Benefits of SMED:

- Less downtime and improved responsiveness to customers.
- WIP and lot size reduction.
- Improved machine/resource utilization.

- By increasing the number of changeovers, we can carry less inventory of raw materials, supplies and finished goods.
- Become more efficient and identify opportunities for continuous improvement

8. Mistake Proofing / Poka Yoke

What is mistake proofing?

A methodology that prevents an operator from making an error by incorporating preventive in-built responsiveness within the design of product or production process.

Mistake proofing can be applied to most processes, but areas where it can prove vital include instances whereas certain process has been identified which results in frequent human error, in situations where the customer can make an error, when a minor error turns into a major error, or when at any point where an error will lead to major disruption.

Benefits of mistake proofing:

- Promotes accountability and process improvement
- Relatively low effort and not very time consuming
- Makes sure that proper circumstances exist before the actual creation, and prevents defects from taking place.
- Identifies and eliminates causes of disruption

Poka Yoke is a great way of nipping errors in the bud before they become bigger issues.

This process improvement methodology is comprised of three steps:

- Creating a flowchart of the process.
- Reviewing each step
- Determining where there is a potential error finding it at its source.
- Eliminate the source of error or reduce its effect
- Replace the error with a process that is error proof

9. Heijunka / Leveling the Workload

The idea that, although customer order patterns may be quite variable, all of our processes should build consistent quantities of work over time (day to day, hour to hour).

This strategy is adopted by intelligently planning different product mix, and its volumes over a period of times.

10. Total Productive Maintenance (TPM)

What is Total Productive Maintenance (TPM)?

A team-based system for improving Overall Equipment Effectiveness (OEE), which includes availability, performance, and quality. This aids in establishing a strategy for creating employee ownership autonomously for maintenance of equipment.

The goal of the TPM program is to markedly increase production while at the same time increasing employee morale and job satisfaction.

RELATED: The art of RoI

11. Five S

5S is a five-step methodology aimed at creating and maintaining an organized visual workplace for continued process improvement and efficiency.

This is a very practical system aids for analyzing the current organizational space and removing what isn't necessary.

Sorting out – This step entails going through all of your work tools and materials to determine what is needed and what isn't. To find the value of each item, ask yourself:

- **What** is the purpose of this item?
- **Why** is it here?
- **How** often is it used?
- **Who** uses it?

Can't find useful answers to these questions? You probably don't need it.

- **Set in order** – Once the unnecessary clutter has gone, you can rearrange the workspace to align with the goals and immediate requests of your team.
- **Sweep** – Create a plan for regular maintenance and cleaning for tools and equipment
- **Standardise** – Turn one time efforts into habits. Whether if its an online checklist or verbal reminders, set aside time to help foster an environment where tasks become routine.
- **Sustain** – Ensure long-term sustainability. Whether you're a manager or new starter, everyone needs to be on board with the new program. This is why documenting procedures and ensuring they are easy to find is so important for process improvement.

12. Problem Solving / PDCA / PDSA

What is the PDCA / PDSA Cycle?

The PDCA / PDSA cycle is a four-phase graphical model for carrying out change at your organization. The method is cyclical, so the PDCA / PDSA cycle should be repeated over and over. It is a good idea to use this model at the start of a process improvement project, especially for processes that are repetitive.

9.3 Assumption

Meanings:

Something that you accept as true without question or proof: *People tend to **make** assumptions **about** you when you have disability. These calculations are **based on** the assumption that prices will continue to rise.*

More examples

- *They make the naive assumption that because it's popular it must be good.*
- *The sales forecast is predicated on the assumption that the economy will grow by four percent this year.*
- *There's an unspoken assumption in the department that Sue will take over the post when Ian leaves.*
- *He premised his argument on several incorrect assumptions.*
- *The assumptions made about the economy's rate of growth proved to be incorrect.*

Kids Definition of *assumption*

1: the act of taking on the *assumption* of power

2: something accepted as true I'm making plans on the *assumption* that you will be here.

9.4 Theories

A **theory** is a contemplative and rational type of abstract or generalizing thinking about a phenomenon, or the results of such thinking. The process of contemplative and rational thinking often is associated with such processes likeobservational study, research. Theories may either be scientific or other than scientific (or scientific to less extent). Depending on the context, the results might, for example, include generalized explanations of how nature works. The word has its roots in ancient Greek, but in modern use it has taken on several related meanings.

In modern science, the term "theory" refers to scientific theories, a well-confirmed type of explanation of nature, made in a way consistent with scientific method, and fulfilling the criteria required by modern science. Such theories are described in such a way that scientific tests should be able to provide empirical support for, or empirically contradict ("falsify") it. Scientific theories are the most reliable, rigorous, and comprehensive form of scientific knowledge,[1] in contrast to more common uses of the word "theory" that imply that something is unproven or speculative (which in formal terms is better characterized by the word *hypothesis*).[2] Scientific theories are distinguished from hypotheses, which are individual empirically testable conjectures, and from scientific laws, which are descriptive accounts of the way nature behaves under certain conditions.

HYPOTHESIS, THEORY, LAW mean a formula derived by inference from scientific data that explains a principle operating in nature. HYPOTHESIS implies insufficient evidence to provide more than a tentative explanation. a *hypothesis* explaining the extinction of the dinosaurs THEORY implies a greater range of evidence and greater likelihood of truth. the *theory* of evolution LAW implies a statement of order and relation in nature that has been found to be invariable under the same conditions. the *law* of gravitation

The Difference Between *Hypothesis* and *Theory*

A hypothesis is an assumption, an idea that is proposed for the sake of argument so that it can be tested to see if it might be true.

In the scientific method, the hypothesis is constructed before any applicable research has been done, apart from a basic background review. You ask a question, read up on what has been studied before, and then form a hypothesis.

A hypothesis is usually tentative; it's an assumption or suggestion made strictly for the objective of being tested.

A theory, in contrast, is a principle that has been formed as an attempt to explain things that have already been substantiated by data. It is used in the names of a number of principles accepted in the scientific community, such as the *Big Bang Theory*. Because of the rigors of experimentation and control, it is understood to be more likely to be true than a hypothesis is.

In non-scientific use, however, *hypothesis* and *theory* are often used interchangeably to mean simply an idea, speculation, or hunch, with *theory* being the more common choice.

Since this casual use does away with the distinctions upheld by the scientific community, *hypothesis* and *theory* are prone to being wrongly interpreted even when they are encountered in scientific contexts—or at least, contexts that allude to scientific study without making the critical distinction that scientists employ when weighing hypotheses and theories.

The most common occurrence is when *theory* is interpreted—and sometimes even gleefully seized upon—to mean something having less truth value than other scientific principles. (The word *law* applies to principles so firmly established that they are almost never questioned, such as the law of gravity.)

This mistake is one of projection: since we use *theory* in general to mean something lightly speculated, then it's implied that scientists must be talking about the same level of uncertainty when they use *theory* to refer to their well-tested and reasoned principles.

The distinction has come to the forefront particularly on occasions when the content of science curricula in schools has been challenged—notably, when a school board in Georgia put stickers on textbooks stating that evolution was "a theory, not a fact, regarding the origin of living things." As Kenneth R. Miller, a cell biologist at Brown University, has said, a theory "doesn't mean a hunch or a guess. A theory is a system of explanations that ties together a whole bunch of facts. It not only explains those facts, but predicts what you ought to find from other observations and experiments."

While theories are never completely infallible, they form the basis of scientific reasoning because, as Miller said "to the best of our ability, we've tested them, and they've held up."

Two Related, Yet Distinct, Meanings of *Theory*

There are many shades of meaning to the word *theory*. Most of these are used without difficulty, and we understand, based on the context in which they are found, what the intended meaning is. For instance, when we speak of *music theory* we understand it to be in reference to the underlying principles of the composition of music, and not in reference to some speculation about those principles.

However, there are two senses of *theory* which are sometimes troublesome. These are the senses which are defined as "a plausible or scientifically acceptable general principle or body of principles offered to explain phenomena" and "an unproven assumption; conjecture." The second of these is occasionally misapplied in cases where the former is meant, as when a particular scientific theory is derided as "just a theory," implying that it is no more than speculation or conjecture. One may certainly disagree with scientists regarding their theories, but it is an inaccurate interpretation of language to regard their use of the word as implying a tentative hypothesis; the scientific use of *theory* is quite different than the speculative use of the word.

9.5 Dow Theory

The Dow Theory is a theory that says the market is in an upward trend if one of its averages (industrial 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 of time.

Understanding the Dow Theory

The Dow Theory is an approach to trading developed by Charles H. Dow who, with Edward Jones and Charles Bergstresser, founded Dow Jones & Company, Inc. and developed the DJIA. Dow fleshed out the theory in a series of editorials in the *Wall Street Journal*, which he co-founded.

Charles Dow died in 1902, and due to his death, he never published his complete theory on the markets, but several followers and associates have published works that have expanded on the editorials. Some of the most important contributions to Dow Theory include the following:

- William P. Hamilton's "The Stock Market Barometer" (1922)
- Robert Rhea's "The Dow Theory" (1932)
- E. George Schaefer's "How I Helped More Than 10,000 Investors To Profit In Stocks" (1960)
- Richard Russell's "The Dow Theory Today" (1961)

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.

The theory has undergone further developments in its 100-plus-year history, including contributions by William Hamilton in the 1920s, Robert Rhea in the 1930s, and E. George Schaefer and Richard Russell in the 1960s. Aspects of the theory have lost ground, for example, its emphasis on the transportation sector—or railroads, in its original form—but Dow's approach still forms the core of modern technical analysis.

Putting the Dow Theory to Work

There are six main components to the Dow Theory.

1. 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.

2. 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, there are minor trends lasting less than three weeks, which are largely noise.

3. 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.

4. Indices Must Confirm Each Other

In order 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 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.

5. 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.

6. 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.

Special Considerations

Here are some additional points to consider about Dow Theory.

Closing Prices and Line Ranges

Charles Dow relied solely on closing prices and was not concerned about the intraday movements of the index. For a trend signal to be formed, the closing price has to signal the trend, not an intraday price movement.

Another feature in Dow Theory is the idea of line ranges, also referred to as trading ranges in other areas of technical analysis. These periods of sideways (or horizontal) price movements are seen as a period of consolidation, and traders should wait for the price movement to break the trend line before coming to a conclusion on which way the market is headed. For example, if the price were to move above the line, it's likely that the market will trend up.

Signals and Identification of Trends

One difficult aspect of implementing Dow theory is the accurate identification of trend reversals. Remember, a follower of Dow theory

trades with the overall direction of the market, so it is vital that he or she identifies the points at which this direction shifts.

One of the main techniques used to identify trend reversals in Dow theory is peak-and-trough analysis. A peak is defined as the highest price of a market movement, while a trough is seen as the lowest price of a market movement. Note that Dow theory assumes that the market doesn't move in a straight line but from highs (peaks) to lows (troughs), with the overall moves of the market trending in a direction.

An upward trend in Dow theory is a series of successively higher peaks and higher troughs. A downward trend is a series of successively lower peaks and lower troughs.

The sixth tenet of Dow Theory contends that a trend remains in effect until there is a clear sign that the trend has reversed. Much like Newton's first law of motion, an object in motion tends to move in a single direction until a force disrupts that movement. Similarly, the market will continue to move in a primary direction until a force, such as a change in business conditions, is strong enough to change the direction of this primary move.

A reversal in the primary trend is signaled when the market is unable to create another successive peak and trough in the direction of the primary trend. For an uptrend, a reversal would be signaled by an inability to reach a new high followed by the inability to reach a higher low. In this situation, the market has gone from a period of successively higher highs and lows to successively lower highs and lows, which are the components of a downward primary trend.

The reversal of a downward primary trend occurs when the market no longer falls to lower lows and highs. This happens when the market establishes a peak that is higher than the previous peak, followed by a trough that is higher than the previous trough, which are the components of an upward trend.

9.6 Contrary opinion

Contrary opinion is the opposite **opinion** of the sentiment held by the majority. If eighty percent of traders are bearish then a bullish view would be a **contrary opinion**. As developer of the Bullish Consensus, R. Earl Hadady has fine-tuned sentiment, measuring the **opinion** of a specific majority, to a calculable figure.

The Importance of Contrary Opinion

Think about it. The vast majority of beginning traders (80% to 90%) fail to succeed in the first six months and give up. Of course, they don't all take the time and the care that you are in learning to trade, so failure is quite likely. Nonetheless, what does that say about whether you should trade with the herd, or whether a contrary view might be more worthwhile?

Contrary Opinion is best described as the idea that when the vast majority of people agree on anything, they are usually wrong. I'm not suggesting that you always do the opposite of the majority, but you should certainly consider that alternative. It's really a psychological concept, removed from the numerical constraints of fundamental and technical analysis.

Though expounded by Neil in his book 'The Art of Contrary Thinking' in the 1950s, it was in 1964 that Sibbet applied the principles to the futures market. He started an advisory service that polled the weekly market

advisory letters for bull or bearishness, and quantified the market sentiment from them. The assumption was that many traders are influenced by the letters, so they represent the overall futures market.

The Contrary Opinion theory is really not as far-fetched as it sounds. There are reasons that it might work. Consider that traders act on the advice of the newsletters that they receive. If the letter is bullish on the future, they will adopt an aggressive attitude to their trading, and commit all they can afford. At this point, you could say that the trader is 'overbought', as they have no or little extra money to take up any new trades.

Now if the majority of traders take this stance, there won't be much money left to push the market any higher. If the market can't go higher, then it is overbought as a whole, and looking for a correction. So out of a general bullish attitude, we get a market that cannot sustain the prices. Once sentiment is strongly expressed in the market, then there isn't enough buying or selling capacity left to sustain the trend, whether bull or bear.

Another way of looking at the philosophy of Contrary Opinion, specific to the futures market, comes from the fact that futures' trading is a zero sum game, less any charges. This means that every contract has two sides, a long and a short. Now if 80% of traders are optimistic and on the long side, then the remaining 20% who have the short positions must be very well financed to be able to hold so many contracts. One point of view is that the smaller traders in the long seat are weaker, and if there is any turn in the prices they will be forced to liquidate their positions quickly. Once again, the sentiment of the market points to its unsustainability.

These arguments only apply when the sentiment is at an extreme, as otherwise there is scope for discretionary spending. It's normally reckoned that the neutral sentiment point is about 55%, as there is a natural bullish bias amongst traders. This means that the extreme overbought position is when the bullish sentiment is over 90%; and t oversold condition is below about 20%. If these numbers are approached, then that is a warning for the trader who believes in Contrary Opinion. Even if the extremes are reached, it's probably wise to wait until a break in the trend before trading against it.

You can also learn something from the open interest that has been expressed in the market. When open interest is high, contrarian positions are more likely to prove correct; however, you shouldn't consider a contrarian trade while open interest is still rising, as that shows continued support for the current trend. I mentioned the Commitments of Traders Report in Module 5, and this breaks down the open interest by type of trader. You should check that not more than half is held by hedgers, as they are considered to be well financed and in a strong position. It's far better to trade against a mainly speculative market.

You can get further clues on whether a contrarian stance would be worthwhile by watching the markets response to good or bad news. If the market is up and may be overbought, then a failure of prices to rise appropriately on good news is a clear sign that it really is stretched, and a reversal may be near. Conversely, if the market is down and may be oversold, and bad news does not further depress prices, then it indicates that the market has taken into account in the current price any bad news that can emerge, and the slightest bit of good news may turn the tide.

Of course, I'm not saying that you should always trade against the majority. In fact, I can't say it too often, most of the time you will want to trade with the trend, which by definition will be with most traders. Where contrary opinion comes into play is when you can see indications that the market is reaching an extreme, and having a familiarity with these ideas should allow you to watch out for and get in early at any point of change. The sentiment of traders is what you must watch for, and be prepared to disagree with.

9.7 Confidence index,

In the United States of America, the U.S. consumer **confidence index** (CCI) is an economic **indicator** published by The Conference Board to measure consumer **confidence**, which is defined as the degree of optimism on the state of the U.S. economy that consumers are expressing through their activities of savings and spending.

The Consumer Confidence Index is a survey, administered by The Conference Board, that measures how optimistic or pessimistic consumers are regarding their expected financial situation.

Understanding the Consumer Confidence Index (CCI)

The Consumer Confidence Index (CCI) is based on the premise that if consumers are optimistic, they tend to purchase more goods and services, which should, inevitably, stimulate the whole economy.

The CCI is released on the last Tuesday of every month and is widely regarded as the most credible gauge of U.S. consumer confidence. Essentially, it is a barometer of the health of the U.S. economy and is based on consumers perceptions of current business and employment condition, and their expectations for business, employment, and income for the next six months. It is conducted for The Conference Board by Nielsen, a global provider of information and analytics on consumers' buying and watching habits.

The Consumer Confidence Index is based on the Consumer Confidence Survey, which is a survey of 5,000 households. The survey was first conducted in 1967 every two months. It changed to monthly tracking in 1977. There are five questions asked: two related to present economic conditions and three related to future expectations. Each response can be answered with one of three responses: positive, negative, or neutral. There is also a present situation index, which is an average of two questions related to current economic conditions. The responses to the other three questions form the basis for the expectations index. The index was set to 100 in 1985.

CCI: A Leading Indicator

The Organization for Economic Co-operation and Development (OECD) considers consumer confidence a leading indicator and the CCI fits that bill as the leading economic indicator for the U.S. economy. Leading indicators provide qualitative information used to monitor the current economic situation and as a warning of turning points in economic activity.

In July 2019, The Conference Board announced that CCI increased to 135.7 from the prior reading of 124.3 in June 2019. The "present situation" index increased from 164.3 to 170.9, while the "expectations" index increased from 97.6 in June 2019 to 112.2 in July 2019. Consumer

confidence rebounded in July 2019 after declining precipitously in June 2019 on the heels of an escalation of trade tensions with China.

The Conference Board is a global, independent business membership and research association. It was formed in 1916 and its mission is to provide the world's leading organizations with the practical knowledge they need to improve their performance and better serve society. The Board is designed to help its members understand and navigate the most critical issues of the present time. The Board also conducts research and forums where business leaders convene. These insights feed into its research and meeting agendas.

9.8 Breadth of market and Relative strength analysis

Market breadth indicators **analyze** the number of stocks advancing **relative** to those that are declining in a given index or on a stock exchange (such as the New York Stock Exchange or NASDAQ). ... They will not only look at whether a stock is advancing or declining in price, but also what the volume of those moves are.

Market breadth indicators analyze the number of stocks advancing relative to those that are declining in a given index or on a stock exchange (such as the New York Stock Exchange or NASDAQ). Positive market breadth occurs when more stocks are advancing than are declining. This suggests that thebulls are in control of the market's momentum and helps confirm a price rise in the index. Conversely, a disproportional number of declining securities is used to confirm bearish momentum and a downside move in the stock index.

Certain breadth indicators also incorporate volume. They will not only look at whether a stock is advancing or declining in price, but also what the volume of those moves are. This is because price moves on larger volume are considered to be more significant than price moves on lower volume.

Traders use market breadth indicators to assess the overall health of the market/index. Market breadth indicators can sometimes provide early warnings signs of a fall in the index, or forecast a coming rise in the index.

Understanding Market Breadth

Market breadth refers to how many stocks are participating in a given move in an index or on a stock exchange. An index may be rising yet more than half the stocks in the index are falling because a small number of stocks have such large gains that they drag the whole index higher. Market breadth indicators can reveal this and warn traders that most stocks are *not* actually performing well, even though the rising index makes it *look* like most stocks are doing well. An index is an average of the stocks in it. Volume may also be added into these indicator calculations to provide additional insight into how stocks within an index are acting overall.

Market breadth attempts to find how much underlying strength or weakness there is in a given stock index. By assessing the strength or weakness which isn't plainly visible by looking at a chart of the index, technical traders gain insight into what the index may do next.

A large number of advancing stocks is a sign of bullish market sentiment and is used to confirm a broad market uptrend. A large number of declining stocks shows sentiment is bearish, which would align with an index downtrend. When measuring market breadth, many indicators look at

the number of advancing and declining stocks, or the number of stocks that have created a recent 52-week high or low. This data can provide information about whether an index uptrend or downtrend is likely to continue.

Market Breadth Indicators and Uses

There are a number of market breadth indicators. Each is calculated differently and therefore may provide slightly different information. Some indicators look only at the number of advancing or declining stocks, others compare stock prices to another benchmark, and yet others also incorporate volume.

The tactic for most market breadth indicators is to monitor for confirmation and divergence. Confirmation is when the indicator is moving favorably and the index is rising. Divergence is when the index and indicator move in opposite directions. This warns that the index may see a reversal soon. Unfortunately, market breadth indicators are poor timing signals. They may provide signals way too early or may not forecast an index reversal that does occur.

Here is a sampling of the market breadth indicators available.

Advance-Decline Index: This indicator, also known as the AD line, calculates a running total of the difference between the number of advancing and declining stocks. Traders typically look for divergence between the indicator and a major market index, such as the Standard & Poor's 500 index(S&P 500). For example, if the S&P 500 is rising and the AD index is falling, it indicates the current uptrend in the index may be losing its momentum. On the other hand, if the S&P 500 is falling and the AD index is rising, it suggests that the move lower in the index may be about to reverse.

New Highs-Lows Index: The new highs-lows indicator compares stocks making 52-week highs to stocks making 52-week lows. A reading below 50% indicates that more stocks are reaching their lows compared to stocks that are reaching their highs and could signal a move into a bear market.Contrarian investors may use this market breadth indicator to buy or sell stocks when it gives extreme readings such as below 30% or above 70%.

S&P 500 200-Day Index: Traders can use this index to see what percentage of stocks in the S&P 500 are trading above their 200-day moving average. A rising indicator above 50% indicates broad market strength. Similar to the new highs-lows Index, traders often look for extreme readings to findoverbought and oversold conditions in the broader market. Short-term traders who want a more sensitive moving average to provide earlier signals can use a 50-day index that shows what percentage of stock are trading above their 50-day moving average.

Cumulative Volume Index: This indicator measures volume. Stocks that rise have their volume added to the positive volume. Stocks that declined have negative volume. The indicator keeps a running total of whether the overall volume is positive or negative, and by how much. The indicator is used in a similar fashion to the AD line.

On-Balance Volume: This indicator also looks at volume, except up or down volume is based on whether the index rises or falls. If the index falls,

the total volume is counted as negative. If the index rises, the total volume is negative. Each day is added or subtracted from prior readings to give a running total. It is used in a similar way to the AD line. (To learn more about other breadth indicators, see: Market Breadth: A Directory of Internal Indicators.)

Example of Market Breadth Analysis in Action

The following chart shows the SPDR S&P 500 (SPY) ETF along with the on-balance volume indicator and the cumulative volume index (for all US stocks).

During the rise in the S&P 500 on the left, the cumulative volume index confirmed the rise, as the indicator, continued to make higher highs along with the S&P 500. On-balance volume told a different story, as the indicator was mostly flat, issuing a warning sign that there was some underlying weakness in the rise. This was followed by a steep price decline.

9.9 Moving average analysis

A **moving average** is a technique often used in technical **analysis** that smooths price histories by averaging daily prices over some period of time. Simple **moving averages** (SMA) takes the arithmetic mean of a given set of prices over the past number of days, for example over the previous 15, 30, 100, or 200 days.

A moving average (MA) is a widely used indicator in technical analysis that helps smooth out price action by filtering out the “noise” from random short-term price fluctuations. It is a trend-following, or lagging, indicator because it is based on past prices.

The two basic and commonly used moving averages are the simple moving average (SMA), which is the simple average of a security over a defined number of time periods, and the exponential moving average (EMA), which gives greater weight to more recent prices.

The most common applications of moving averages are to identify the trend direction and to determine support and resistance levels. While moving averages are useful enough on their own, they also form the basis for other technical indicators such as the moving average convergence divergence (MACD).

Because we have extensive definitions and articles around specific types of moving averages, we will only define the term "moving average" generally here.

The Formulas For Moving Averages Are

Simple Moving Average

\begin{aligned} &SMA = \frac{A_1 + A_2 + \dotso + A_n}{n} \\ &\textbf{where:}\\ &A=\text{average in period }n\\ &n=\text{number of time periods}\\ \end{aligned}*SMA=nA1+A2+…+An*

where:*A*=average in period *nn*=number of time periods

The simple moving average calculates the arithmetic mean of a security over a number (n) of time periods, A.

Exponential Moving Average

\begin{aligned} &EMA_t = [V_t \times (\frac{\text{s}}{1 + d})] + EMA_y \times [1 - (\frac{\text{s}}{1 + d})] \\ &\textbf{where:}\\

&EMA_t = \text{EMA today}\\ & V_t = \text{Value today}\\ &EMA_t = \text{EMA today}\\ &s=\text{smoothing}\\ &d=\text{number of days}\\ \end{aligned}*EMAt*=[*Vt*×(1+*d*s)]+*EMAy*×[1−(1+*d*s)]**where:***EMAt*
=EMA today*Vt*=Value today*EMAt*
=EMA today*s*=smoothing*d*=number of days

To calculate an EMA, you must first compute the simple moving average (SMA) over a particular time period. Next, you must calculate the multiplier for weighting the EMA (the *smoothing*), which typically follows the formula: [2 ÷ (selected time period + 1)]. So, for a 20-day moving average, the multiplier would be [2/(20+1)]= 0.0952. Then you use the smoothing factor combined with the previous EMA to arrive at the current value. The EMA thus gives a higher weighting to recent prices, while the SMA assigns equal weighting to all values.

What Do Moving Averages Tell You?

Moving averages lag behind current price action because they are based on past prices; the longer the time period for the moving average, the greater the lag. Thus, a 200-day MA will have a much greater degree of lag than a 20-day MA because it contains prices for the past 200 days.

The length of the moving average to use depends on the trading objectives, with shorter moving averages used for short-term trading and longer-term moving averages more suited for long-term investors. The 50-day and 200-day MAs are widely followed by investors and traders, with breaks above and below this moving average considered to be important trading signals.

Moving averages also impart important trading signals on their own, or when two averages cross over. A rising moving average indicates that the security is in an uptrend, while a declining moving average indicates that it is in downtrend.

Similarly, upward momentum is confirmed with a bullish crossover, which occurs when a short-term moving average crosses above a longer-term moving average. Downward momentum is confirmed with a bearish crossover, which occurs when a short-term moving average crosses below a longer-term moving average.

Predicting trends in the stock market is no simple process. While you cannot predict what will happen exactly, you can give yourself better odds using technical analysis and research. Putting your research and technical analysis to the test in the market would require a brokerage account. Picking a broker can be frustrating due to the variety among them, but you can pick one of the best to find the right platform for your needs.

Moving averages are a totally customizable indicator, which means that the user can freely choose whatever time frame they want when creating the average. The most common time periods used in moving averages are 15, 20, 30, 50, 100, and 200 days. The shorter the time span used to create the average, the more sensitive it will be to price changes. The longer the time span, the less sensitive, or more smoothed out, the average will be.

There is no "right" time frame to use when setting up your moving averages. The best way to figure out which one works best for you is to experiment with a number of different time periods until you find one that fits your strategy.

Simple vs. Exponential Moving Average

The simplest form of a moving average, appropriately known as a simple moving average (SMA), is calculated by taking the arithmetic mean of a given set of values. In other words, a set of numbers, or prices in the case of financial instruments, are added together and then divided by the number of prices in the set.

The exponential moving average is a type of moving average that gives more weight to recent prices in an attempt to make it more responsive to new information. Learning the somewhat complicated equation for calculating an EMA may be unnecessary for many traders, since nearly all charting packages do the calculations for you.

Now that you have a better understanding of how the SMA and the EMA are calculated, let's take a look at how these averages differ. By looking at the calculation of the EMA, you will notice that more emphasis is placed on the recent data points, making it a type of weighted average.

In the figure below, the numbers of time periods used in each average is identical (15), but the EMA responds more quickly to the changing prices. Notice how the EMA has a higher value when the price is rising, and falls faster than the SMA when the price is declining. This responsiveness is the main reason why many traders prefer to use the EMA over the SMA.

Example of Calculating a Moving Average

Moving Average

A moving average (MA) is calculated in different ways depending on its type. Below, we look at a simple moving average (SMA) of a security with the following closing prices over 15 days:

- Week 1 (5 days): 20, 22, 24, 25, 23
- Week 2 (5 days): 26, 28, 26, 29, 27
- Week 3 (5 days): 28, 30, 27, 29, 28

A 10-day moving average would average out the closing prices for the first 10 days as the first data point. The next data point would drop the earliest price, add the price on day 11 and take the average, and so on as shown below. (For related reading, see "The Perfect Moving Averages for Day Trading")

Examples of Moving Average Indicators

Moving Average Convergence Divergence (MACD)

The moving average convergence divergence (MACD) is used by traders to monitor the relationship between two moving averages. It is generally calculated by subtracting a 26-day exponential moving average from a 12-dayexponential moving average.

When the MACD is positive, the short-term average is located above the long-term average. This an indication of upward momentum. When the short-term average is below the long-term average, this is a sign that the momentum is downward. Many traders will also watch for a move above or below the zero line. A move above zero is a signal to buy, while a cross below zero is a signal to sell.

Types of Moving Averages

A moving average can be calculated in different ways. A five-day simple moving average (SMA) adds up the five most recent daily closing

prices and divides it by five to create a new average each day. Each average is connected to the next, creating the singular flowing line.

Another popular type of moving average is the exponential moving average(EMA). The calculation is more complex, as it applies more weighting to the most recent prices. If you plot a 50-day SMA and a 50-day EMA on the same chart, you'll notice that the EMA reacts more quickly to price changes than the SMA does, due to the additional weighting on recent price data.

Charting software and trading platforms do the calculations, so no manual math is required to use a moving average.

One type of MA isn't better than another. An EMA may work better in a stock or financial market for a time, and at other times, an SMA may work better. The time frame chosen for a moving average will also play a significant role in how effective it is (regardless of type).

Moving Average Length

Common moving average lengths are 10, 20, 50, 100 and 200. These lengths can be applied to any chart time frame (one minute, daily, weekly, etc.), depending on the trader's time horizon.

The time frame or length you choose for a moving average, also called the "look back period," can play a big role in how effective it is.

An MA with a short time frame will react much quicker to price changes than an MA with a long look back period. In the figure below, the 20-day moving average more closely tracks the actual price than the 100-day moving average does.

The 20-day may be of analytical benefit to a shorter-term trader since it follows the price more closely and therefore produces less "lag" than the longer-term moving average. A 100-day MA may be more beneficial to a longer-term trader.

Lag is the time it takes for a moving average to signal a potential reversal. Recall that, as a general guideline, when the price is above a moving average, the trend is considered up. So when the price drops below that moving average, it signals a potential reversal based on that MA. A 20-day moving average will provide many more "reversal" signals than a 100-day moving average.

A moving average can be any length: 15, 28, 89, etc. Adjusting the moving average so it provides more accurate signals on historical data *may* help create better future signals.

Trading Strategies – Crossovers

Crossovers are one of the main moving average strategies. The first type is a price crossover, which is when the price crosses above or below a moving average to signal a potential change in trend.

Another strategy is to apply two moving averages to a chart: one longer and one shorter. When the shorter-term MA crosses above the longer-term MA, it's a buy signal, as it indicates that the trend is shifting up. This is known as a "golden cross."

Meanwhile, when the shorter-term MA crosses below the longer-term MA, it's a sell signal, as it indicates that the trend is shifting down. This is known as a "dead/death cross."

MA Disadvantages

Moving averages are calculated based on historical data, and nothing about the calculation is predictive in nature. Therefore, results using moving averages can be random. At times, the market seems to respect MA support/resistance and trade signals, and at other times, it shows these indicators no respect.

One major problem is that, if the price action becomes choppy, the price may swing back and forth, generating multiple trend reversal or trade signals. When this occurs, it's best to step aside or utilize another indicator to help clarify the trend. The same thing can occur with MA crossovers when the MAs get "tangled up" for a period of time, triggering multiple losing trades.

Moving averages work quite well in strong trending conditions but poorly in choppy or ranging conditions. Adjusting the time frame can remedy this problem temporarily, although at some point, these issues are likely to occur regardless of the time frame chosen for the moving average(s).

The Bottom Line

A moving average simplifies price data by smoothing it out and creating one flowing line. This makes seeing the trend easier. Exponential moving averages react quicker to price changes than simple moving averages. In some cases, this may be good, and in others, it may cause false signals. Moving averages with a shorter look back period (20 days, for example) will also respond quicker to price changes than an average with a longer look back period (200 days).

Moving average crossovers are a popular strategy for both entries and exits. MAs can also highlight areas of potential support or resistance. While this may appear predictive, moving averages are always based on historical data and simply show the average price over a certain time period.

9.10 Chart Patterns.

In technical analysis, transitions between rising and falling trends are often signaled by price patterns. By definition, a price pattern is a recognizable configuration of price movement that is identified using a series of trendlinesand/or curves. When a price pattern signals a change in trend direction, it is known as a reversal pattern; a continuation pattern occurs when the trend continues in its existing direction following a brief pause. Technical analystshave long used price patterns to examine current movements and forecast future market movements.

Reversal Patterns

- Double Top Reversal
- Double Bottom Reversal
- Head and Shoulders Top
- Head and Shoulders Bottom
- Falling Wedge
- Rising Wedge
- Rounding Bottom
- Triple Top Reversal
- Triple Bottom Reversal
- Bump and Run Reversal

Continuation Patterns

- Flag, Pennant
- Symmetrical Triangle
- Ascending Triangle
- Descending Triangle
- Rectangle
- Price Channel
- Measured Move - Bullish
- Measured Move - Bearish
- Cup with Handle

UNIT - X OPTIONS AND FUTURE

Structure

10.1 Options and Futures

Futures contracts have the buyer obligated to honor the contract, whereas in **options** contract, there is no obligation on the buyer to buy or sell. **Futures** require a higher margin of payment as compared to **options**. Future contracts are preferred by speculators, whereas **options** contracts are preferred by hedgers.

10.2 Types of options

Types of Options. There are many different **types of options** that can be traded and these can be categorized in a number of ways. In a very broad sense, there are two main **types**: calls and puts. Calls give the buyer the right to buy the underlying asset, while puts give the buyer the right to sell the underlying asset.

Types of Options

There are many different types of options that can be traded and these can be categorized in a number of ways. In a very broad sense, there are two main types: calls and puts. Calls give the buyer the right to buy the underlying asset, while puts give the buyer the right to sell the underlying asset. Along with this clear distinction, options are also usually classified based on whether they are American style or European style. This has nothing to do with geographical location, but rather when the contracts can be exercised. You can read more about the differences below.

Options can be further categorized based on the method in which they are traded, their expiration cycle, and the underlying security they relate to. There are also other specific types and a number of exotic options that exist. On this page we have published a comprehensive list of the most common categories along with the different types that fall into these categories. We have also provided further information on each type.

Calls Puts American Style European Style Exchange Traded Options Over The Counter Options	Option Type by Expiration Option Type by Underlying Security Employee Stock Options Cash Settled Options Exotic Options

10.3 Calls

Call options are contracts that give the owner the right to buy the underlying asset in the future at an agreed price. You would buy a call if you believed that the underlying asset was likely to increase in price over a

given period of time. Calls have an expiration date and, depending on the terms of the contract, the underlying asset can be bought any time prior to the expiration date or on the expiration date. For more detailed information on this type and some examples, please visit the following page

Puts

Put options are essentially the opposite of calls. The owner of a put has the right to sell the underlying asset in the future at a pre-determined price. Therefore, you would buy a put if you were expecting the underlying asset to fall in value. As with calls, there is an expiration date in the contact. For additional information and examples of how puts options work, please read the following page

American Style

The term "American style" in relation to options has nothing to do with where contracts are bought or sold, but rather to the terms of the contracts. Options contracts come with an expiration date, at which point the owner has the right to buy the underlying security (if a call) or sell it (if a put). With American style options, the owner of the contract also has the right to exercise at any time prior to the expiration date. This additional flexibility is an obvious advantage to the owner of an American style contract. You can find more information, and working examples, on the following page –

European Style

The owners of European style options contracts are not afforded the same flexibility as with American style contracts. If you own a European style contract then you have the right to buy or sell the underlying asset on which the contract is based only on the expiration date and not before. Please read the following page for more detail on this style

Exchange Traded Options

Also known as listed options, this is the most common form of options. The term "Exchanged Traded" is used to describe any options contract that is listed on a public trading exchange. They can be bought and sold by anyone by using the services of a suitable broker.

Over the Counter Options

"Over The Counter" (OTC) options are only traded in the OTC markets, making them less accessible to the general public. They tend to be customized contracts with more complicated terms than most Exchange Traded contracts.

Option Type by Underlying Security

When people use the term options they are generally referring to stock options, where the underlying asset is shares in a publically listed company. While these are certainly very common, there are also a number of other types where the underlying security is something else. We have listed the most common of these below with a brief description.

Stock Options: The underlying asset for these contracts is shares in a specific publically listed company.

Index Options: These are very similar to stock options, but rather than the underlying security being stocks in a specific company it is an index – such as the S&P 500.

Forex/Currency Options: Contracts of this type grant the owner the right to buy or sell a specific currency at an agreed exchange rate.

Futures Options: The underlying security for this type is a specified futures contract. A futures option essentially gives the owner the right to enter into that specified futures contract.

Commodity Options: The underlying asset for a contract of this type can be either a physical commodity or a commodity futures contract.

Basket Options: A basket contract is based on the underlying asset of a group of securities which could be made up stocks, currencies, commodities or other financial instruments.

Option Type by Expiration

Contracts can be classified by their expiration cycle, which relates to the point to which the owner must exercise their right to buy or sell the relevant asset under the terms of the contract. Some contracts are only available with one specific type of expiration cycle, while with some contracts you are able to choose. For most options traders, this information is far from essential, but it can help to recognize the terms. Below are some details on the different contract types based on their expiration cycle.

Regular Options: These are based on the standardized expiration cycles that options contracts are listed under. When purchasing a contract of this type, you will have the choice of at least four different expiration months to choose from. The reasons for these expiration cycles existing in the way they do is due to restrictions put in place when options were first introduced about when they could be traded. Expiration cycles can get somewhat complicated, but all you really need to understand is that you will be able to choose your preferred expiration date from a selection of at least four different months.

Weekly Options: Also known as weeklies, these were introduced in 2005. They are currently only available on a limited number of underlying securities, including some of the major indices, but their popularity is increasing. The basic principle of weeklies is the same as regular options, but they just have a much shorter expiration period.

Quarterly Options: Also referred to as quarterlies, these are listed on the exchanges with expirations for the nearest four quarters plus the final quarter of the following year. Unlike regular contracts which expire on the third Friday of the expiration month, quarterlies expire on the last day of the expiration month.

Long-Term Expiration Anticipation Securities: These longer term contracts are generally known as LEAPS and are available on a fairly wide range of underlying securities. LEAPS always expire in January but can be bought with expiration dates for the following three years.

Employee Stock Options

These are a form of stock option where employees are granted contracts based on the stock of the company they work for. They are generally used as a form of remuneration, bonus, or incentive to join a company. You can read more about these on the following page.

Cash Settled Options

Cash settled contracts do not involve the physical transfer of the underlying asset when they are exercised or settled. Instead, whichever party to the

contract has made a profit is paid in cash by the other party. These types of contracts are typically used when the underlying asset is difficult or expensive to transfer to the other party. You can find more on the following page.

Exotic Options

Exotic option is a term that is used to apply to a contract that has been customized with more complex provisions. They are also classified as Non-Standardized options. There are a plethora of different exotic contracts, many of which are only available from OTC markets. Some exotic contracts, however, are becoming more popular with mainstream investors and getting listed on the public exchanges. Below are some of the more common types.

Barrier Options: These contracts provide a pay-out to the holder if the underlying security does (or does not, depending on the terms of the contract) reach a pre-determined price. For more information please read the following page.

Binary Options: When a contract of this type expires in profit for the owner, they are awarded a fixed amount of money. Please visit the following page for further details on these contracts.

10.4 The advantages and disadvantages of options

Options are a very unique investment vehicle so it is important to learn the unique characteristics of options before you decide to trade them.

Advantages:

Leverage:

Options allow you to employ considerable leverage. This is an advantage to disciplined traders who know how to use leverage.

Risk/reward ratio:

Some strategies, like buying options, allows you to have unlimited upside with limited downside.

Unique Strategies:

Options allow you to create unique strategies to take advantage of different characteristics of the market - like volatility and time decay.

Low capital requirements:

Options allow you to take a position with very low capital requirements. Someone can do a lot in the options market with $1,000 but not so much with $1,000 in the stock market.

Disadvantages

Lower liquidity

Many individual stock options don't have much volume at all. The fact that each option able stock will have options trading at different strike prices and expirations means that the particular option you are trading will be very low volume unless it is one of the most popular stocks or stock indexes. This lower liquidity won't matter much to a small trader that is trading just 10 contracts though.

Higher spreads. ***Options tend to have higher spreads because of the lack of liquidity. This means it will cost you more in indirect costs when doing an option trade because you will be giving up the spread when you trade.***

Higher commissions. ***Options trades will cost you more in commission per dollar invested. These commissions may be even higher for spreads where you have to pay commissions for both sides of the spread.***

Complicated. ***Options are very complicated to beginners. Most beginners, and even some advanced investors, think they understand them when they don't.***

Time Decay. ***When buying options you lose the time value of the options as you hold them. There are no exceptions to this rule.***

Less information. ***Options can be a pain when it is harder to get quotes or other standard analytical information like the implied volatility.***

Options not available for all stocks. ***Although options are available on a good number of stocks, this still limits the number of possibilities available to you.***

10.5 Valuation of options

Option Valuation

There are two types of **options**: the European **options**, which can be exercised only at expiration, and the American **options**, which may be exercised any time prior to expiration. The American **option** offers greater flexibility and hence its value, in general, is greater than the European one.

There are two types of options: the European options, which can be exercised only at expiration, and the American options, which may be exercised any time prior to expiration. The American option offers greater flexibility and hence its value, in general, is greater than the European one. We shall see the difference in their valuation a little later. At this point, we are examining options on stocks that are not paying any dividends. When a stock pays a dividend then the value of the stock drops on the ex dividend date. This predictable drop in the price of a stock will have an effect on the price of the options on that stock. We shall look at the problem of dividend-paying stocks later. Finally, we are not taking into consideration the transaction costs. Since the commission costs for trading options can be considerable, some of the results obtained in this section will appear to be violated in real life.

Properties of Option Values

1. The minimum value of an option is zero. This is because an option is only a choice, not an obligation. The value of an option cannot be negative, because you do not have to do anything to get rid of it. The option will always have a zero, or a positive value.

2. The maximum value of a call option is equal to the value of the underlying asset. This makes a lot of economic sense. An option allows you to buy a given asset at a certain exercise price. The most valuable option will be the one that allows you to acquire the asset at no cost, and the value of this option will be equal to the value of the underlying asset. 3. The total value of an option is the sum of its intrinsic value and its time premium. Total value of an option = Intrinsic value of the option + Time premium of the option Derivative Securities

3. The intrinsic value of an option is the value, or benefit, obtained by the holder by exercising the option immediately. The time premium of the option is its value, or benefit, of being able to wait and see. At expiration, the ability to wait is not there and so the time value of the option becomes zero.

10.6 Characteristics of options

There are two basic types of **options**, call **options** and put **options**. A call **option** gives its owner a right to buy the underlying asset, while a put **option** gives its owner a right to sell the underlying asset.

The five basic characteristics (or parameters) which define every option contract:

- Underlying asset
- Call vs. put
- Strike price
- Expiration date
- American vs. European

Underlying Asset

Option is a derivative security, a contract giving the owner (buyer) of the option the right (but not the obligation) to buy or sell a defined quantity of a defined asset. This asset is called **underlying asset** or **underlying security** or just **underlying**.

The use and popularity of options has been expanding rapidly in the last decades and there is a wide range of underlying assets for which options exist today. Perhaps the best known underlying are single stocks (shares in companies traded in the stock market).

There are also options on various indices like the S&P500 or the VIX (volatility index). You can also trade options on futures, bonds, interest rates, currencies, ETFs, and many other kinds of assets or economic variables.

Call Option vs. Put Option

There are two basic types of options, call options and put options. A **call option** gives its owner a right to buy the underlying asset, while a **put option** gives its owner a right to sell the underlying asset.

Strike Price

Strike price is the price for which the option's owner can buy or sell the *underlying security*, if he decides to **exercise the option**.

An option's **strike price** is fixed and does not change during the whole life of the option. For one underlying and one type of options (calls or puts) there are usually at least several different strike prices available. For example for a stock which currently trades at 57 you can trade call options with strike prices of 50, 55, 60, 65 etc. and put options with strikes

of 50, 55, 60, 65 etc. But of course every single option always has only one strike price defined and once you own it you can't change its strike – it's fixed.

Remember that an option's **strike price** is a different thing than an **option's market price**. Option's market price is the price for which you trade the *option itself* and it changes during the life of the option, as supply and demand in the options market change.

Expiration Date

Options have limited life. Every option has a defined **expiration date** that is also fixed during its whole life and nothing can change or move it. If an option is not **exercised** before or on its expiration date, it becomes worthless (it expires) after that date.

American vs. European

The distinction between American and European options is about when an option's owner can **exercise the option**. An **American option** can be exercised during its whole life, this means from the moment you buy it till the moment it expires (its expiration date). On the contrary, a **European option** can be exercised only at one single moment – the moment it is expiring.

10.7 Future forward and futures

Futures Contracts. Like **forward** contracts, **futures**contracts involve the agreement to buy and sell an asset at a specific price at a **future** date. The **futures** contract, however, has some differences from the **forward** contract. ... Furthermore, a settlement for **futures** contracts can occur over a range of dates.

Difference Between Forward and Futures Contract

A forward contract **is a contract whose terms are tailor-made i.e. negotiated between buyer and seller. It is a contract in which two parties trade in the underlying asset at an agreed price at a certain time in future. It is not exactly same as a futures contract, which is a standardized form of the forward contract. A** futures contract **is an agreement between parties to buy or sell the underlying financial asset at a specified rate and time in future.**

BASIS FOR COMPARISON	FORWARD CONTRACT	FUTURES CONTRACT
Meaning	Forward Contract is an agreement between parties to buy and sell the underlying asset at a specified date and agreed rate in future.	A contract in which the parties agree to exchange the asset for cash at a fixed price and at a future specified date, is known as future contract.
What is it?	It is a tailor made contract.	It is a standardized contract.

BASIS FOR COMPARISON	FORWARD CONTRACT	FUTURES CONTRACT
Traded on	Over the counter, i.e. there is no secondary market.	Organized stock exchange.
Settlement	On maturity date.	On a daily basis.
Risk	High	Low
Default	As they are private agreement, the chances of default are relatively high.	No such probability.
Size of contract	Depends on the contract terms.	Fixed
Collateral	Not required	Initial margin required.
Maturity	As per the terms of contract.	Predetermined date
Regulation	Self regulated	By stock exchange
Liquidity	Low	High

10.8 Differences Between Futures and Options

Futures contracts have the buyer obligated to honor the contract, whereas in **options** contract, there is no obligation on the buyer to buy or sell. **Futures** require a higher margin of payment as compared to **options**. Future contracts are preferred by speculators, whereas **options** contracts are preferred by hedgers.

Futures and Options Comparison Table

Basis of Comparison between Futures vs Options	FUTURES	OPTIONS
Meaning	Agreement ing theterparties and sell cial instrumentpredetermined and a specificin the future.	A contract allowing the toinvestors the right to buy aor sell an instrument at a pre-decided price. It is to be executed on or before the date of expiry.
Level of Risk	High	Restricted to the amount of premium paid.
Buyer's Obligation	Full obligation	There is no obligation

	to execute the contract	
Seller's Obligation	Complete obligation	If the buyer chooses then the seller will have to abide by it.
Payment in Advance	No advance payment to be made except commission	Paid in the form of premium which is a small percentage of the entire amount.
Extent of Gain/Loss	No Restriction	Unlimited Profits but limited loss
Date of Execution	On the pre-decided date as per contract	Any point of time before the date of expiry.
Time Value of Money	Not Considered	Relied heavily upon

BLOCK - III PORTFOLIO CONSTRUCTION AND PERFORMANCE MEASURES

UNIT – XI PORTFOLIO CONSTRUCTION AND CHOICE

Structure

11.1 Portfolio Construction and choice

Portfolio construction refers to a process of selecting the optimum mix of securities for the purpose of achieving maximum returns by taking minimum risk. ... (3) Selection of **Portfolio**: The optimum asset mix for an investor depends upon his investment objectives.

Portfolio management is the art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance. Portfolio management is all about determining strengths, weaknesses, opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and many other trade-offs encountered in the attempt to maximize return at a given appetite for risk.

Understanding Portfolio Management

Although it is common to use the terms "portfolio management" and "financial planning" as synonyms, these staples of the financial services industry are not the same. Portfolio management is the act of creating and maintaining an investment account, while financial planning is the process of developing financial goals and creating a plan of action to achieve them. Professional licensed portfolio managers are responsible for portfolio management on behalf of others, while individuals may choose to self-direct their own investments and build their own portfolio. Portfolio management's ultimate goal is to maximize the investments' expected return given an appropriate level of risk exposure.

Portfolio management, in general, can by either passive or active in nature..Passive management is a set-it-and-forget-it long-term strategy that often involves simply tracking a broad market index (or group of indexes), commonly referred to as indexing or index investing.

Active management instead involves a single manager, co-managers or a team of managers who attempt to beat the market return by actively managing a fund's portfolio through investment decisions based on research and decisions on individual holdings. Closed-end funds are generally actively managed.

The Key Elements of Portfolio Management

Asset Allocation: The key to effective portfolio management is the long-term mix of assets. Asset allocation is based on the understanding that different types of assets do not move in concert, and some are more volatile than others. Asset allocation seeks to optimize the risk/return profile of an investor by investing in a mix of assets that have low correlation to each other. Investors with a more aggressive profile can weight their portfolio toward more volatile investments. Investors with a more conservative profile can weight their portfolio toward more stable investments. Indexed portfolios may employ modern portfolio theory (MPT) to aid in building an optimized portfolio, while active managers may use any number of quantitative and/or qualitative models.

Diversification: The only certainty in investing is it is impossible to consistently predict the winners and losers, so the prudent approach is to create a basket of investments that provide broad exposure within an asset class. Diversification is the spreading of risk and reward within an asset class. Because it is difficult to know which particular subset of an asset class or sector is likely to outperform another, diversification seeks to capture the returns of all of the sectors over time but with less volatility at any one time.Proper diversification takes place across different classes of securities, sectors of the economy and geographical regions.

Rebalancing is a method used to return a portfolio to its original target allocation at annual intervals. It is important for retaining the asset mix that best reflects an investor's risk/return profile. Otherwise, the movements of the markets could expose the portfolio to greater risk or reduced return opportunities. For example, a portfolio that starts out with a 70% equity and 30% fixed-income allocation could, through an extended market rally, shift to an 80/20 allocation that exposes the portfolio to more risk than the investor can tolerate. Rebalancing almost always entails the sale of high-priced/low-value securities and the redeployment of the proceeds into low-priced/high-value or out-of-favor securities. The annual iteration of rebalancing enables investors to capture gains and expand the opportunity for growth in high potential sectors while keeping the portfolio aligned with the investor's risk/return profile.

Active Portfolio Management

Investors who implement an active management approach use fund managers or brokers to buy and sell stocks in an attempt to outperform a specific index, such as the Standard & Poor's 500 Index or the Russell 1000 Index.

An actively managed investment fund has an individual portfolio manager, co-managers, or a team of managers actively making investment decisions for the fund. The success of an actively managed fund depends on combining in-depth research, market forecasting, and the experience and expertise of the portfolio manager or management team.

Portfolio managers engaged in active investing pay close attention to market trends, shifts in the economy, changes to the political landscape, and factors that may affect specific companies. This data is used to time the purchase or sale of investments in an effort to take advantage of irregularities. Active managers claim that these processes will boost the

potential for returns higher than those achieved by simply mimicking the stocks or other securities listed on a particular index.

Since the objective of a portfolio manager in an actively managed fund is to beat the market, he or she must take on additional market risk to obtain the returns necessary to achieve this end. Indexing eliminates this, as there is no risk of human error in terms of stock selection. Index funds are also traded less frequently, which means that they incur lower expense ratios and are more tax-efficient than actively managed funds.

Active management traditionally charges high fees, and recent research has cast doubts on managers' ability to consistently outperform the market.

Passive Portfolio Management

Passive management, also referred to as index fund management, involves the creation of a portfolio intended to track the returns of a particular market index or benchmark as closely as possible. Managers select stocks and other securities listed on an index and apply the same weighting. The purpose of passive portfolio management is to generate a return that is the same as the chosen index instead of outperforming it.

A passive strategy does not have a management team making investment decisions and can be structured as an exchange-traded fund (ETF), a mutual fund, or a unit investment trust. Index funds are branded as passively managed because each has a portfolio manager replicating the index, rather than trading securities based on his or her knowledge of the risk and reward characteristics of various securities. Because this investment strategy is not proactive, the management fees assessed on passive portfolios or funds are often far lower than active management strategies.

11.2 Markowtz Diversification

1. Introduction to Markowitz Theory 2. Assumptions of Markowitz Theory 3. Diversification 4. Criteria of Dominance 5. Measurement of Risk.

Contents:

1. Introduction to Markowitz Theory
2. Assumptions of Markowitz Theory
3. Diversification of Markowitz Theory
4. Criteria of Dominance
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1. Introduction to Markowitz Theory:

Harry M. Markowitz is credited with introducing new concepts of risk measurement and their application to the selection of portfolios. He started with the idea of risk aversion of average investors and their desire to maximise the expected return with the least risk.

Markowitz model is thus a theoretical framework for analysis of risk and return and their inter-relationships. He used the statistical analysis for measurement of risk and mathematical programming for selection of assets in a portfolio in an efficient manner. His framework led to the concept of efficient portfolios. An efficient portfolio is expected to yield the highest return for a given level of risk or lowest risk for a given level of return.

Markowitz generated a number of portfolios within a given amount of money or wealth and given preferences of investors for risk and return. Individuals vary widely in their risk tolerance and asset preferences. Their

means, expenditures and investment requirements vary from individual to individual. Given the preferences, the portfolio selection is not a simple choice of any one security or securities, but a right combination of securities.

Markowitz emphasized that quality of a portfolio will be different from the quality of individual assets within it. Thus, the combined risk of two assets taken separately is not the same risk of two assets together. Thus, two securities of TISCO do not have the same risk as one security of TISCO and one of Reliance.

Risk and Reward are two aspects of investment considered by investors. The expected return may vary depending on the assumptions. Risk index is measured by the variance of the distribution around the mean, its range etc., which are in statistical terms called variance and covariance. The qualification of risk and the need for optimisation of return with lowest risk are the contributions of Markowitz. This led to what is called the Modern Portfolio Theory, which emphasizes the tradeoff between risk and return. If the investor wants a higher return, he has to take higher risk. But he prefers a high return but a low risk and hence the problem of a tradeoff.

A portfolio of assets involves the selection of securities. A combination of assets or securities is called a portfolio. Each individual investor puts his wealth in a combination of assets depending on his wealth, income and his preferences. The traditional theory of portfolio postulates that selection of assets should be based on lowest risk, as measured by its standard deviation from the mean of expected returns. The greater the variability of returns, the greater is the risk.

Thus, the investor chooses assets with the lowest variability of returns. Taking the return as the appreciation in the share price, if TELCO shares price varies from Rs. 338 to Rs. 580 (with variability of 72%) and Colgate from Rs. 218 to Rs. 315 (with a variability of 44%) during 1998, the investor chooses the Colgate as a less risky share.

As against this Traditional Theory that standard deviation measures the variability of return and risk is indicated by the variability, and that the choice depends on the securities with lower variability, the modern Portfolio Theory emphasizes the need for maximization of returns through a combination of securities, whose total variability is lower.

The risk of each security is different from that of others and by a proper combination of securities, called diversification one can arrive at a combination wherein the risk of one is offset partly or fully by that of the other. In other words, the variability of each security and covariance for their returns reflected through their inter-relationships should be taken into account.

Thus, as per the Modern Portfolio Theory, expected returns, the variance of these returns and covariance of the returns of the securities within the portfolio are to be considered for the choice of a portfolio. A portfolio is said to be efficient, if it is expected to yield the highest return possible for the lowest risk or a given level of risk.

A set of efficient portfolios can be generated by using the above process of combining various securities whose combined risk is lowest for a given level of return for the same amount of investment, that the investor is

capable of. The theory of Markowitz, as stated above is based on a number of assumptions.

2. Assumptions of Markowitz Theory:

The Portfolio Theory of Markowitz is based on the following assumptions:

(1) Investors are rational and behave in a manner as to maximise their utility with a given level of income or money.

(2) Investors have free access to fair and correct information on the returns and risk.

(3) The markets are efficient and absorb the information quickly and perfectly.

(4) Investors are risk averse and try to minimise the risk and maximise return.

(5) Investors base decisions on expected returns and variance or standard deviation of these returns from the mean.

(6) Investors choose higher returns to lower returns for a given level of risk.

A portfolio of assets under the above assumptions is considered efficient if no other asset or portfolio of assets offers a higher expected return with the same or lower risk or lower risk with the same or higher expected return. Diversification of securities is one method by which the above objectives can be secured. The unsystematic and company related risk can be reduced by diversification into various securities and assets whose variability is different and offsetting or put in different words which are negatively correlated or not correlated at all.

Diversification of Markowitz Theory:

Markowitz postulated that diversification should not only aim at reducing the risk of a security by reducing its variability or standard deviation, but by reducing the covariance or interactive risk of two or more securities in a portfolio. As by combination of different securities, it is theoretically possible to have a range of risk varying from zero to infinity.

Markowitz theory of portfolio diversification attaches importance to standard deviation, to reduce it to zero, if possible, covariance to have as much as possible negative interactive effect among the securities within the portfolio and coefficient of correlation to have – 1 (negative) so that the overall risk of the portfolio as a whole is nil or negligible.

11.3 Efficient Frontier

The **efficient frontier** is the set of optimal portfolios that offer the highest expected return for a defined level of risk or the lowest risk for a given level of expected return. Portfolios that lie below the **efficient frontier** are sub-optimal because they do not provide enough return for the level of risk. The efficient frontier is the set of optimal portfolios that offer the highest expected return for a defined level of risk or the lowest risk for a given level of expected return. Portfolios that lie below the efficient frontier are sub-optimal because they do not provide enough return for the level of risk. Portfolios that cluster to the right of the efficient frontier are sub-optimal because they have a higher level of risk for the defined rate of return.

Understanding Efficient Frontier

The efficient frontier rates portfolios (investments) on a scale of return (y-axis) versus risk (x-axis). Compound Annual Growth Rate (CAGR) of an investment is commonly used as the return component while standard deviation(annualized) depicts the risk metric. The efficient frontier theory was introduced by Nobel Laureate Harry Markowitz in 1952 and is a cornerstone ofmodern portfolio theory (MPT).

The efficient frontier graphically represents portfolios that maximize returns for the risk assumed. Returns are dependent on the investment combinations that make up the portfolio. The standard deviation of a security is synonymous with risk. Ideally, an investor seeks to populate the portfolio with securities offering exceptional returns but whose combined standard deviation is lower than the standard deviations of the individual securities. The less synchronized the securities (lower covariance) then the lower the standard deviation. If this mix of optimizing the return versus risk paradigm is successful then that portfolio should line up along the efficient frontier line.

A key finding of the concept was the benefit of diversification resulting from the curvature of the efficient frontier. The curvature is integral in revealing how diversification improves the portfolio's risk / reward profile. It also reveals that there is a diminishing marginal return to risk. The relationship is not linear. In other words, adding more risk to a portfolio does not gain an equal amount of return. Optimal portfolios that comprise the efficient frontier tend to have a higher degree of diversification than the sub-optimal ones, which are typically less diversified.

Optimal Portfolio

One assumption in investing is that a higher degree of risk means a higher potential return. Conversely, investors who take on a low degree of risk have a low potential return. According to Markowitz's theory, there is an optimal portfolio that could be designed with a perfect balance between risk and return. The optimal portfolio does not simply include securities with the highest potential returns or low-risk securities. The optimal portfolio aims to balance securities with the greatest potential returns with an acceptable degree of risk or securities with the lowest degree of risk for a given level of potential return. The points on the plot of risk versus expected returns where optimal portfolios lie are known as the efficient frontier.

Selecting Investments

Assume a risk-seeking investor uses the efficient frontier to select investments. The investor would select securities that lie on the right end of the efficient frontier. The right end of the efficient frontier includes securities that are expected to have a high degree of risk coupled with high potential returns, which is suitable for highly risk-tolerant investors. Conversely, securities that lie on the left end of the efficient frontier would be suitable for risk-averse investors.

Limitations

The efficient frontier and modern portfolio theory have many assumptions that may not properly represent reality. For example, one of the assumptions is that asset returns follow a normal distribution. In reality,

securities may experience returns that are more than three standard deviations away from the mean in more than 0.03% of the observed values. Consequently, asset returns are said to follow a leptokurtic distribution or heavy-tailed distribution.

Additionally, Markowitz posits several assumptions in his theory, such as that investors are rational and avoid risk when possible; there are not enough investors to influence market prices; and investors have unlimited access to borrowing and lending money at the risk-free interest rate. However, reality proves that the market includes irrational and risk-seeking investors, there are large market participants who could influence market prices, and there are investors who do not have unlimited access to borrowing and lending money.

11.4 Risk – Return Indifferent Curves

the **risk** aversion increases, an investor demands more**return** for every unit of increase in **risk**. ... An **indifference curve** presents the **risk-return** requirements of an investor at a certain level of utility. The following graph shows three**indifference curves** for the same investor.

For analysis of choice of a portfolio of assets by individuals or firms we require to explain the concept of risk-return trade-off function which are represented by indifference curves between degree of risk and rate of return from investment.

The theory of choice under risk and uncertainty is also applicable in case of an investor who has to invest his savings in various types of assets having varying degrees of risk to get optimum return from them.

For instance, if an investor does not want to bear risk at all he may go in for investing in Fixed Deposits of the State Bank of India which carry a fixed rate of interest. If he is prepared to take risk he may be interested in buying shares from the stock market whose value and dividend can vary a good deal.

From these shares he can get much higher return if the stock market goes well or his return may be very low if the stock market is gripped by depression. Obviously, he faces a choice problem of combining the assets with assured fixed returns such as Fixed Deposits in Banks, debentures of reputed companies with some equity shares to arrive at an optimum portfolio of investment.

The indifference curve between expected income or return (measured along the vertical axis) and the degree of risk (measured by standard deviation and shown on the horizontal axis). Each indifference curve or what is also called risk-return trade off curve shows all those combinations of degree of risk (i.e. standard deviation) and expected return that give the individual same level of utility.

As riskiness is 'bad' or undesirable and therefore more of it yields less satisfaction and therefore as we move rightward indicating greater risk or standard deviation of the variability of return, the investor should receive higher expected return to give him equal utility or satisfactions. Therefore, indifference curves (i.e. risk – return trade off curves) between degree of risk and expected return slope upward (i.e. are positively sloped).

The concept of indifference curve or risk-return trade-off function can be better explained with Fig. 17.10 where on the X- axis, we measure risk in

terms of standard deviation (σ) of probability distribution, and rate of return as per cent of investment is measured along the Y-axis.

11.5 Portfolio choice

Portfolio choice is the process of allocating one's investable wealth to various assets, especially financial assets, repeatedly over time, in such a way as to optimize some criterion. The set of asset proportions at any time defines a **portfolio**.

Portfolio choice involves decisions about the way we want to hold our assets (or to structure our liabilities).[1] It is a fancy term for something we do all the time. For example, a yard sale is an example of portfolio adjustment. People holding a yard sale are attempting to convert assets in the form clothing and household items into cash. They are not changing the amount of assets they have, but rather the form in which they hold them.

From a macroeconomic perspective, most important cases of portfolio adjustment involve financial assets. When we look at financial assets, there are three characteristics that most people want to have in their assets. First, they like assets with **low risk**. Second, they want assets that are **liquid**, assets that can easily be converted to money and spent. Third, they like assets that give them a **high rate of return**. Because no asset combines all three characteristics, people face tradeoffs. If they want a higher return, they usually have to accept more risk or less liquidity. For example, over the past half century the average return on holding common stocks has been higher than the return on holding passbook savings in a bank. However, the high average return on common stocks is the result of some stocks performing very well while others perform poorly. Investment in stocks can be quite risky.

Many issues in portfolio choice can be illustrated with a **balance sheet**. A balance sheet is based on the definition of net worth or wealth:

(1) Net Worth = Assets - Liabilities

An asset is what one owns and a liability is what one owes. Using very elementary algebra, one can rewrite this equation as:

(2) Assets = Net Worth + Liabilities

Since this equation is based on a definition, the right-hand and left-hand sides must equal each other or balance, and hence the name balance sheet.

Balance sheets provide a precise way to analyze banking transactions. To give you some taste of what is to come, consider the table below which shows balance sheets of a hypothetical commercial bank and one of its customers. The deposits of customers are liabilities to the bank because they are amounts that the bank owes to them. On the other hand, these same deposits are assets for the customers. The loans the bank makes to consumers and businesses are assets to the bank but liabilities to the consumers and businesses.

11.6 Single and Two Factorial Models

ATWO-ASSET PORTFOLIO WITH TWO-FACTOR MODELS

The core of the factor models is the variance-covariance matrix of the risk factors, E, and the factor loadings of each factor, plus the constants and the residuals. The variance-covariance matrix of factors is common to all assets. The residuals of each model have a mean of zero and a variance that

depends on the model and the risk decomposition varies accordingly with each asset. Residuals, for each asset, have no correlation with the factors, but they might have cross-correlations between themselves differing from zero. Accordingly, we make explicit the variance-covariance matrix of residuals. In this sub-section, we show that the portfolio can be dealt with as a single asset by using asset weights within the portfolio.

Note that in the above matrix, the double index refers to factors only, unlike the double index used in the two-factor model, where the first subscript refers to the factor and the second one to the asset.

We have two models, one for each of the two assets. There are two sets of sensitivities with same factors, plus residuals attached to each of the two assets. The factor models for each asset return are:

The coefficients of the two models have double subscripts, one for the asset and another for the factor. The first subscript refers to the factor and the second subscript refers to the asset. Note that the double subscripts are different for the variance-covariance matrix of factors, where they refer to factors only, and for the coefficients of the models, where they refer to factor (first subscript) and to asset (second subscript).

The constant of each model, are, respectively, RQ1 = 0.1 and RQ2 = 0.05. They do not contribute to variances and covariances, but they contribute to the expected return of the portfolio. The matrix of coefficients of the two models is as follows, ignoring the two constants because they do not contribute to risk.

We first derive the portfolio return and show that it has the same generic format as the single-asset two-factor model, although we need to input the weights of each asset in the formulas. The rest follows as in the single-asset model: variance-covariance matrix of asset returns and risk decomposition.

This chapter attempts to evaluate investment performance in terms of the three major portfolio performance evaluation techniques, which take return and risk simultaneously into account. These measures, referred to, as composite performance measures are Sharpe's, Treynor's and Jensen's measures. The resultant performance is further analysed in relation to the three fond characteristics of nature, sponsorship and investment objectives with a view to bring out any bias in performance

The Sharpe ratio was developed by Nobel laureate William F. Sharpe and is used to help investors understand the return of an investment compared to its risk. The ratio is the average return earned in excess of the risk-free rate per unit of volatility or total risk.

Subtracting the risk-free rate from the mean return allows an investor to better isolate the profits associated with risk-taking activities. Generally, the greater the value of the Sharpe ratio, the more attractive the risk-adjusted return.

Sharpe Ratio

The Sharpe ratio is calculated by subtracting the risk-free rate from the return of the portfolio and dividing that result by the standard deviation of the portfolio's excess return.

Formula and Calculation for Sharpe Ratio

$$Sharpe\ Ratio = \frac{R_p - R_f}{\sigma_p}$$

where:

R_p = return of portfolio

R_f = risk-free rate

σ_p = standard deviation of the portfolio's excess return

The Treynor ratio, also known as the reward-to-volatility ratio, is a performance metric for determining how much excess return was generated for each unit of risk taken on by a portfolio.

Excess return in this sense refers to the return earned above the return that could have been earned in a risk-free investment. Although there is no true risk-free investment, treasury bills are often used to represent the risk-free return in the Treynor ratio. Risk in the Treynor ratio refers to systematic risk as measured by a portfolio's beta. Beta measures the tendency of a portfolio's return to change in response to changes in return for the overall market.

The Treynor ratio was developed by Jack Treynor, an American economist who was one of the inventors of the Capital Asset Pricing Model (CAPM).

The Formula for the Treynor Ratio is:

$$\text{Treynor Ratio} = \frac{r_p - r_f}{\beta_p}$$

where:

r_p = Portfolio return

r_f = Risk-free rate

β_p = Beta of the portfolio

The Jensen's measure is a risk-adjusted performance measure that represents the average return on a portfolio or investment, above or below that predicted by the capital asset pricing model (CAPM), given the portfolio's or investment's beta and the average market return. This metric is also commonly referred to as Jensen's alpha, or simply alpha.

Understanding Jensen's Measure

To accurately analyze the performance of an investment manager, an investor must look not only at the overall return of a portfolio, but also at the risk of that portfolio to see if the investment's return compensates for the risk it takes. For example, if two mutual funds both have a 12% return, a rational investor should prefer the less risky fund. Jensen's measure is one of the ways to determine if a portfolio is earning the proper return for its level of risk. If the value is positive, then the portfolio is earning excess returns. In other words, a positive value for Jensen's alpha means a fund manager has "beat the market" with his stock-picking skills.

Jensen's Measure Calculation Example

Assuming the CAPM is correct, Jensen's alpha is calculated using the following four variables:

R(i) = the realized return of the portfolio or investment

R(m) = the realized return of the appropriate market index
R(f) = the risk-free rate of return for the time period
B = the beta of the portfolio of investment with respect to the chosen market index
Using these variables, the formula for Jensen's alpha is:
Alpha = R(i) - (R(f) + B x (R(m) - R(f)))
For example, assume a mutual fund realized a return of 15% last year. The appropriate market index for this fund returned 12%. The beta of the fund versus that same index is 1.2, and the risk-free rate is 3%. The fund's alpha is calculated as:
Alpha = 15% - (3% + 1.2 x (12% - 3%)) = 15% - 13.8% = 1.2%.
Given a beta of 1.2, the mutual fund is expected to be riskier than the index, and thus earn more. A positive alpha in this example shows that the mutual fund manager earned more than enough return to be compensated for the risk he took over the course of the year. If the mutual fund only returned 13%, the calculated alpha would be -0.8%. With a negative alpha, the mutual fund manager would not have earned enough return given the amount of risk he was taking.

UNIT-XII PORTFOLIO MANAGEMENT

Structure

12.1 INTRODUCTION

Although it is common to use the terms "portfolio management" and "financial planning" as synonyms, these staples of the financial services industry are not the same. Portfolio management is the act of creating and maintaining an investment account, while financial planning is the process of developing financial goals and creating a plan of action to achieve them. Professional licensed portfolio managers are responsible for portfolio management on behalf of others, while individuals may choose to self-direct their own investments and build their own portfolio. Portfolio management's ultimate goal is to maximize the investments' expected return given an appropriate level of risk exposure.

Portfolio management, in general, can by either passive or active in nature.. Passive management is a set-it-and-forget-it long-term strategy that often involves simply tracking a broad market index (or group of indexes), commonly referred to as indexing or index investing.

Active management instead involves a single manager, co-managers or a team of managers who attempt to beat the market return by actively managing a fund's portfolio through investment decisions based on research and decisions on individual holdings. Closed-end funds are generally actively managed.

Meaning of Portfolio Management

Portfolio management is the art and science of making decisions about investment mix and policy, matching investments to objectives, asset allocation for individuals and institutions, and balancing risk against performance. Portfolio management is all about determining strengths, weaknesses, opportunities and threats in the choice of debt vs. equity, domestic vs. international, growth vs. safety, and many other trade-offs encountered in the attempt to maximize return at a given appetite for risk.

12.2 ELEMENTS OF PORTFOLIO MANAGEMENT

Asset Allocation: The key to effective portfolio management is the long-term mix of assets. Asset allocation is based on the understanding that different types of assets do not move in concert, and some are more volatile than others. Asset allocation seeks to optimize the risk/return profile of an investor by investing in a mix of assets that have low correlation to each other. Investors with a more aggressive profile can weight their portfolio toward more volatile investments. Investors with a more conservative profile can weight their portfolio toward more stable investments. Indexed portfolios may employ modern portfolio theory (MPT) to aid in building an optimized portfolio, while active managers may use any number of quantitative and/or qualitative models.

Diversification: The only certainty in investing is it is impossible to consistently predict the winners and losers, so the prudent approach is to create a basket of investments that provide broad exposure within an asset class.Diversification is the spreading of risk and reward within an asset class. Because it is difficult to know which particular subset of an asset class or sector is likely to outperform another, diversification seeks to capture the returns of all of the sectors over time but with less volatility at any one time. Proper diversification takes place across different classes of securities, sectors of the economy and geographical regions.

Rebalancing is a method used to return a portfolio to its original target allocation at annual intervals. It is important for retaining the asset mix that best reflects an investor's risk/return profile. Otherwise, the movements of the markets could expose the portfolio to greater risk or reduced return opportunities. For example, a portfolio that starts out with a 70% equity and 30% fixed-income allocation could, through an extended market rally, shift to an 80/20 allocation that exposes the portfolio to more risk than the investor can tolerate. Rebalancing almost always entails the sale of high-priced/low-value securities and the redeployment of the proceeds into low-priced/high-value or out-of-favor securities. The annual iteration of rebalancing enables investors to capture gains and expand the opportunity for growth in high potential sectors while keeping the portfolio aligned with the investor's risk/return profile.

Active Portfolio Management

Investors who implement an active management approach use fund managers or brokers to buy and sell stocks in an attempt to outperform a specific index, such as the Standard & Poor's 500 Index or the Russell 1000 Index.

An actively managed investment fund has an individual portfolio manager, co-managers, or a team of managers actively making investment decisions for the fund. The success of an actively managed fund depends on combining in-depth research, market forecasting, and the experience and expertise of the portfolio manager or management team.

Portfolio managers engaged in active investing pay close attention to market trends, shifts in the economy, changes to the political landscape, and factors that may affect specific companies. This data is used to time the purchase or sale of investments in an effort to take advantage of irregularities. Active managers claim that these processes will boost the potential for returns higher than those achieved by simply mimicking the stocks or other securities listed on a particular index.

Since the objective of a portfolio manager in an actively managed fund is to beat the market, he or she must take on additional market risk to obtain the returns necessary to achieve this end. Indexing eliminates this, as there is no risk of human error in terms of stock selection. Index funds are also traded less frequently, which means that they incur lower expense ratios and are more tax-efficient than actively managed funds.

Active management traditionally charges high fees, and recent research has cast doubts on managers' ability to consistently outperform the market.

Passive Portfolio Management

Passive management, also referred to as index fund management, involves the creation of a portfolio intended to track the returns of a particular market index or benchmark as closely as possible. Managers select stocks and other securities listed on an index and apply the same weighting. The purpose of passive portfolio management is to generate a return that is the same as the chosen index instead of outperforming it.

A passive strategy does not have a management team making investment decisions and can be structured as an exchange-traded fund (ETF), a mutual fund, or a unit investment trust. Index funds are branded as passively managed because each has a portfolio manager replicating the index, rather than trading securities based on his or her knowledge of the risk and reward characteristics of various securities. Because this investment strategy is not proactive, the management fees assessed on passive portfolios or funds are often far lower than active management strategies.

Index mutual funds are easy to understand and offer a relatively safe approach to investing in broad segments of the market.

12.3 PORTFOLIO PERFORMANCE EVALUATION METHODS

The objective of modern portfolio theory is maximization of return or minimization of risk. In this context the research studies have tried to evolve a composite index to measure risk based return. The credit for evaluating the systematic, unsystematic and residual risk goes to Sharpe, Treynor and Jensen.

The portfolio performance evaluation can be made based on the following methods:

Sharpe's Measure

Treynor's Measure

Jensen's Measure

1. Sharpe's Measure

Sharpe's Index measure total risk by calculating standard deviation. The method adopted by Sharpe is to rank all portfolios on the basis of evaluation measure. Reward is in the numerator as risk premium. Total risk is in the denominator as standard deviation of its return. We will get a measure of portfolio's total risk and variability of return in relation to the risk premium. The measure of a portfolio can be done by the following formula:

$SI = (Rt - Rf)/\sigma f$

Where,

SI = Sharpe's Index

Rt = Average return on portfolio

Rf = Risk free return

σf = Standard deviation of the portfolio return.

2. Treynor's Measure

The Treynor's measure related a portfolio's excess return to non-diversifiable or systematic risk. The Treynor's measure employs beta. The Treynor based his formula on the concept of characteristic line. It is the risk measure of standard deviation, namely the total risk of the portfolio is replaced by beta. The equation can be presented as follow:

$Tn = (Rn - Rf)/\beta m$

Where,

Tn = Treynor's measure of performance

Rn = Return on the portfolio

Rf = Risk free rate of return

βm = Beta of the portfolio (A measure of systematic risk)

3. Jensen's Measure

Jensen attempts to construct a measure of absolute performance on a risk adjusted basis. This measure is based on Capital Asset Pricing Model (CAPM) model. It measures the portfolio manager's predictive ability to achieve higher return than expected for the accepted riskiness. The ability to earn returns through successful prediction of security prices on a standard

measurement. The Jensen measure of the performance of portfolio can be calculated by applying the following formula:

Rp = Rf + (RMI – Rf) x β

Where,

Rp = Return on portfolio

RMI = Return on market index

Rf = Risk free rate of return

12.4 PORTFOLIO RETURN & RISK

Investing in a portfolio involves both returns and risks. In order to evaluate the performance, we should consider both the aspects. Evaluating a portfolio's performance involves comparing it to an appropriate benchmark. Let's assume you have invested in a portfolio that gave a return of 20% over a year, whereas the market index has given returns of 15% over the same year. You might think that your portfolio has generated better returns, but how do you confirm this? In order to have a proper comparison against the benchmark, you should have methods to evaluate both returns and risk. We will now understand how to measure the returns and risks of a portfolio.

The return of a portfolio is derived from the **weighted average** returns of the assets in the portfolio. For a portfolio with *n* number of assets, the portfolio returns are:

$$r_P = w_1 r_1 + w_2 r_2 + \ldots + w_n r_n$$

Total risk of the portfolio can be determined by its **volatility**, which is the standard deviation of its returns over a period of time. For *n*period returns of a portfolio, volatility is:

$$\sigma_P = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(r_i - r_{mean})^2}$$

The **total risk** has two components:

1. **Systematic risk** of a portfolio is the inherent risk in the portfolio that cannot be diversified. It's measured as **beta**, relative to the market as

a whole.

2. **Unsystematic risk:** the component of risk that can be diversified away

Let's assume that over the year, your portfolio had a standard deviation of 12% and that of the market index was 7%. So now you can see that your portfolio had more risk than the benchmark

12.5 PORTFOLIO RISK AND EXPECTED RETURN

MPT makes the assumption that investors are risk-averse, meaning they prefer a less risky portfolio to a riskier one for a given level of return. This implies that an investor will take on more risk only if he or she is expecting more reward.

The expected return of the portfolio is calculated as a weighted sum of the individual assets' returns. If a portfolio contained four equally-weighted assets with expected returns of 4, 6, 10, and 14%, the portfolio's expected return would be:

(4% x 25%) + (6% x 25%) + (10% x 25%) + (14% x 25%) = 8.5%

The portfolio's risk is a complicated function of the variances of each asset and the correlations of each pair of assets. To calculate the risk of a four-asset portfolio, an investor needs each of the four assets' variances and six correlation values, since there are six possible two-asset combinations with four assets. Because of the asset correlations, the total portfolio risk, or standard deviation, is lower than what would be calculated by a weighted sum.

12.6 TERMINOLOGIES

1) Portfolio 2) Management 3) Measures 4) Techniques 5) Evaluation

12.7 MODEL QUESTIONS

1. Explain the Elements of Portfolio management?
2. Explain the Portfolio Performance Evaluation methods?
3. Discuss the Portfolio Return and Risk?
4. Explain the Portfolio Risk and Expected Return?
5. Explain the Importance of Portfolio management?

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UNIT XIII: CAPITAL ASSET PRICING MODEL

Structure

13.1 Capital Asset Pricing Model

The Capital Asset Pricing Model (CAPM) describes the relationship between systematic risk and expected return for assets, particularly stocks. CAPM is widely used throughout finance for pricing risky securities and generating expected returns for assets given the risk of those assets and cost of capital.

The CAPM uses the principles of Modern Portfolio Theory to determine if a security is fairly valued. It relies on assumptions about investor behaviors, risk and return distributions, and market fundamentals that don't match reality. However, the underlying concepts of CAPM and the associated efficient frontier can help investors understand the relationship between expected risk and reward as they make better decisions about adding securities to a portfolio. Six assumptions that you need to avoid.

13.2 Assumptions and Application

1. Users Always Need to Sign Up First

Think from a user's perspective: why would they sign up for your app without thoroughly knowing what your app is all about? Many apps work on this design model where the user needs to sign up first before using the application. But this may appear devious to users, and often times they would prefer bouncing back than exploring. I am sure you don't want to take chances here. So, give your users freedom to explore the usability of your app, and when they find it worthy, signup will follow soon. However, without signup, you can give users an access to limited features and let them enjoy complete features once they sign up.

2. Cross-Functional App Interaction Pattern Dilemma

What works for one app may not work for another, so when designing an app, do remember that regular app interaction patterns may or may not work in every case. It all drills down to the kind of app you're designing. A travel-based mobile app cannot use the interaction pattern of a food delivery-based mobile app. Interaction patterns can only be evaluated depending upon the type and functionality of a specific app. Besides, when designing your mobile application, keep your desktop version in mind, too. What works on the desktop may not look appealing on a mobile application. For instance, a simple drop-down menu may look decent enough on a desktop, but at the same time, it may flood your mobile screen, thereby spoiling the customer interaction with your app. Thus,

assuming that the tried and tested method is the only approach to make your app a success may not be the case.

3. No Difference between Mobile App Design and Responsive Web Design

This is a common assumption, that mobile app design is same as responsive web design. Certainly there is a similarity between responsive design and mobile app design, but it cannot be regarded as the same. When it comes to mobile apps, certain interaction patterns and interface elements are expected, such as all major is apps having the option of a back button in the top left for heading back to the previous screen.

In a mobile browser, there is no requirement for a back button, so don't make the mistake of using your web code and wrapping it as an app. Instead, design for a mobile app, but not for the mobile web. This is a very basic example, but even such minor interactions, when ignored, can interfere with a rich user experience.

There are some nuances of every platform, from image display to pop-ups and font sizes. What looks polished and appropriate on web design may look unpleasant and untidy on a mobile app, therefore affecting the end user experience badly.

4. Users Can Easily Understand Symbols

While designing apps, many designers feel that symbols are universal and widely known by the users. Symbols are a convenient and visually attractive way to convey information, but only when they are fairly popular, or else you run the risk of playing with the user-experience of your app.

For example, the symbol displayed in the image is interpreted as both, a reply icon as well as a share icon. Now, the only way users will be able to comprehend your symbol is through the context of your application. But such small nuances can be disturbing and greatly interfere with the user experience.

Here, to increase the chances of success of your application, you can run an A/B test. Start by setting up a scenario wherein users are asked to accomplish a task by choosing between a set of symbols. The results will help you analyze clearly which symbol can be considered most effective in communicating the action that you wish your users to accomplish. Thus, when picking symbols for your mobile app, don't just assume- rather, conduct a test first to understand the psychology of users, then implement it.

5. Users Will Easily Give Way to Notifications on the First Use

A majority of mobile apps swear by the OS (operating system's) default “allow notifications: pop-up window. This is an absolute "NO," as in the very first attempt, why would a user give permission to invade their

privacy? This can push users to bounce back from your application, so it is ideal to embed an "allow notifications" interface into your app.

The idea behind this concept is that you need to first make users understand how it will be valuable for them to get your app's notifications, and also assure them that they won't be unnecessarily bombarded with any spam messages.

6. Users Read the Tutorial or Help Messages

Before I elaborate on this point, I have one question: when was the last time you read a tutorial or manual before using a new gadget? Well, chances are you cannot recall. We don't pay much heed to instruction manuals, tutorials, or help messages that come along with these devices. The reason being, we are used to technology being intuitive. We expect to use our new devices and gadgets the moment they are out of the box, without reading any tutorial or manual.

The same is the case with mobile apps; don't expect users to read your tutorials or instruction messages. Rather, show them how thoughtfully designed your app is by letting them use it. But still, if you think yours is the kind of app that needs some step-by-step instructions, then it is good to keep it brief, and a great way is to offer it through a help menu.

13.3 Capital Market Line

Capital market line (CML) is a graph that reflects the expected return of a portfolio consisting of all possible proportions between the **market** portfolio and a risk-free asset.

Capital market line (**CML**) is the tangent line drawn from the point of the risk-free asset to the feasible region for risky assets. The tangency point M represents the market portfolio, so named since all rational investors (minimum variance criterion) should hold their risky assets in the same proportions as their weights in the market portfolio

Definition

Capital market line (CML) is a graph that reflects the expected return of a portfolio consisting of all possible proportions between the market portfolio and a risk-free asset. The market portfolio is completely diversified, carries only systematic risk, and its expected return is equal to the expected market return as a whole. In general terms, the expected return of a particular portfolio ($E(R_C)$) can be calculated as follows

$$\mathbf{E(R_c) = y \times E(R_M) + (1 - y) \times R_F}$$

where y is a proportion of a market portfolio, $E(R_M)$ is an expected return of a market portfolio, (1-y) is a proportion of a risk-free asset, and RF is a risk-free rate.

The return of no leveraged portfolios can be less than or equal market return (if the proportion of the market portfolio equals 1 or 100%), but the return of a leveraged portfolio can significantly exceed market return.

Formula

The CML results from the combination of the market portfolio and the risk-free asset (the point L). All points along the CML have superior risk-

return profiles to any portfolio on the efficient frontier, with the exception of the Market Portfolio, the point on the efficient frontier to which the CML is the tangent. From a CML perspective, the portfolio M is composed entirely of the risky asset, the market, and has no holding of the risk free asset, i.e., money is neither invested in, nor borrowed from the money market account. Points to the left of and above the CML are infeasible, whereas points to the right/below are attainable but inefficient.

Addition of leverage (the point R) creates levered portfolios that are also on the CML. Capital market line, Sharpe ratio and alpha All of the portfolios on the CML have the same Sharpe ratio as that of the market portfolio, i.e.

In fact, the slope of the CML is the Sharpe ratio of the market portfolio. A stock picking rule of thumb is to buy assets whose Sharpe ratio will be above the CML and sell those whose Sharpe ratio will be below. Indeed, from the efficient market hypothesis it follows that it's impossible to beat the market. Therefore, all portfolios should have a Sharpe ratio less than or equal to the market's. In consequence, if there is a portfolio (or asset) whose Sharpe ratio will be bigger than the market's then this portfolio (or asset) has a higher return per unit of risk (i.e. the volatility), which contradicts the efficient market hypothesis.

13.4 Security Market Line

The **security market line** (SML) is a **line** drawn on a chart that serves as a graphical representation of the capital asset pricing model (CAPM), which shows different levels of systematic, or **market**, risk of various marketable **securities** plotted against the expected return of the entire **market** at a given point in time.

The security market line (SML) is a line drawn on a chart that serves as a graphical representation of the capital asset pricing model (CAPM), which shows different levels of systematic, or market, risk of various marketable securities plotted against the expected return of the entire market at a given point in time. Also known as the "characteristic line," the SML is a visual of the capital asset pricing model (CAPM), where the x-axis of the chart represents risk in terms of beta, and the y-axis of the chart represents expected return. The market risk premium of a given security is determined by where it is plotted on the chart in relation to the SML.

The security market line is an investment evaluation tool derived from the CAPM, a model that describes risk-return relationships for securities, and is based on the assumptions that investors have to be compensated for both the time value of money and the corresponding level of risk associated with any investment, referred to as the risk premium.

The concept of beta is central to the capital asset pricing model and the security market line. The beta of a security is a measure of its systematic risk that cannot be eliminated by diversification. A beta value of one is considered as the overall market average. A beta value higher than one represents a risk level greater than the market average, while a beta value lower than one represents a level of risk below the market average. The formula for plotting the security market line is as follows:

Required Return = Risk Free Rate of Return + Beta (Market Return - Risk Free Rate of Return)

Using the Security Market Line

The security market line is commonly used by investors in evaluating a security for inclusion in an investment portfolio in terms of whether the security offers a favorable expected return against its level of risk. When the security is plotted on the SML chart, if it appears above the SML, it is considered undervalued because the position on the chart indicates that the security offers a greater return against its inherent risk. Conversely, if the security plots below the SML, it is considered overvalued in price because the expected return does not overcome the inherent risk. The SML is frequently used in comparing two similar securities offering approximately the same return, in order to determine which of the two securities involves the least amount of inherent market risk in relation to the expected return. The SML can also be used to compare securities of equal risk to see which one offers the highest expected return against that level of risk.

While the SML can be a valuable tool in equity evaluation and comparison, it should not be used in isolation, as the expected return of an investment over the risk-free rate of return is not the sole consideration when making investment choices.

UNIT XIV: EFFICIENT MARKET HYPOTHESES

Structure

14.1 Efficient market hypotheses

Efficient Market Hypothesis (EMH)?

The Efficient Market Hypothesis, or EMH, is an investment theory whereby share prices reflect all information and consistent alpha generation is impossible. Theoretically, neither technical nor fundamental analysis can produce risk-adjusted excess returns, or alpha, consistently and only inside information can result in outsized risk-adjusted returns. According to the EMH, stocks always trade at their fair value on stock exchanges, making it impossible for investors to either purchase undervalued stocks or sell stocks for inflated prices. As such, it should be impossible to outperform the overall market through expert stock selection or market timing, and the only way an investor can possibly obtain higher returns is by purchasing riskier investments.

The Efficient Market Hypothesis Explained

Although it is a cornerstone of modern financial theory, the EMH is **highly** controversial and often disputed. Believers argue it is pointless to search for undervalued stocks or to try to predict trends in the market through either fundamental or technical analysis.

While academics point to a large body of evidence in support of EMH, an equal amount of dissension also exists. For example, investors such as Warren Buffett have consistently beaten the market over long periods of time, which by definition is impossible according to the EMH. Detractors of the EMH also point to events such as the 1987 stock market crash, when the Dow Jones Industrial Average (DJIA) fell by over 20 percent in a single day, as evidence that stock prices can seriously deviate from their fair values.

Real World Implications for Investors

Proponents of the Efficient Market Hypothesis conclude that, because of the randomness of the market, investors could do better by investing in a low-cost, passive portfolio.

Data compiled by Morningstar Inc., in its June 2015 Active/Passive Barometer study, supports the EMH. Morningstar compared active managers' returns in all categories against a composite made of related index funds and exchange-traded funds (ETFs). The study found that year-over-year, only two groups of active managers successfully outperformed passive funds more than 50 percent of the time—U.S. small growth funds and diversified emerging markets funds. In all of the other categories,

including U.S. large blend, U.S. large value and U.S. large growth, among others, investors would have fared better by investing in low-cost index funds or ETFs.

While a percentage of active managers do outperform passive funds at some point, the challenge for investors is being able to identify which ones will do so over the long-term. Less than 25 percent of the top-performing active managers are able to consistently outperform their passive manager counterparts over time.

14.2 The weakly efficient, semi strongly efficient and strongly efficient market forms

Though the efficient market hypothesis as a whole theorizes that the market is generally efficient, the theory is offered in three different versions: weak, semi-strong and strong.

The basic efficient market hypothesis posits that the market cannot be beaten because it incorporates all important determinative information into current share prices. Therefore, stocks trade at the fairest value, meaning that they can't be purchased undervalued or sold overvalued. The theory determines that the only opportunity investors have to gain higher returns on their investments is through purely speculative investments that pose substantial risk.

Weak Form

The three versions of the efficient market hypothesis are varying degrees of the same basic theory. The weak form suggests that today's stock prices reflect all the data of past prices and that no form of technical analysis can be effectively utilized to aid investors in making trading decisions. Advocates for the weak form efficiency theory believe that if fundamental analysis is used, undervalued and overvalued stocks can be determined, and investors can research companies' financial statements to increase their chances of making higher-than-market-average profits.

Semi-Strong Form

The semi-strong form efficiency theory follows the belief that because all information that is public is used in the calculation of a stock's current price, investors cannot utilize either technical or fundamental analysis to gain higher returns in the market. Those who subscribe to this version of the theory believe that only information that is not readily available to the public can help investors boost their returns to a performance level above that of the general market.

Strong Form

The strong form version of the efficient market hypothesis states that all information – both the information available to the public and any information not publicly known – is completely accounted for in current stock prices, and there is no type of information that can give an investor an advantage on the market. Advocates for this degree of the theory suggest that investors cannot make returns on investments that exceed normal market returns, regardless of information retrieved or research conducted.

Anomalies

There are anomalies that the efficient market theory cannot explain and that may even flatly contradict the theory. For example, the price/earnings (P/E) ratio shows that firms trading at lower P/E multiples are often responsible for generating higher returns. The neglected firm effect suggests that companies that are not covered extensively by market analysts are sometimes priced incorrectly in relation to their true value and offer investors the opportunity to pick stocks with hidden potential. The January effect shows historical evidence that stock prices – especially smaller cap stocks – tend to experience an upsurge in January.

Though the efficient market hypothesis is an important pillar of modern financial theories and has a large backing, primarily in the academic community, it also has a large number of critics. The theory remains controversial, and investors continue attempting to outperform market averages with their stock selections.

14.3 Random

This form allows you to generate **random** integers. The randomness comes from atmospheric noise, which for many purposes is better than the pseudo-**random**

Perhaps you have wondered how predictable machines like computers can generate randomness. In reality, most random numbers used in computer programs are *pseudo-random*, which means they are generated in a predictable fashion using a mathematical formula. This is fine for many purposes, but it may not be random in the way you expect if you're used to dice rolls and lottery drawings.

RANDOM.ORG offers *true* random numbers to anyone on the Internet. The randomness comes from atmospheric noise, which for many purposes is better than the pseudo-random number algorithms typically used in computer programs. People use RANDOM.ORG for holding drawings, lotteries and sweepstakes, to drive online games, for scientific applications and for art and music. The service has existed since 1998 and was built by Dr Mads Haahr of the School of Computer Science and Statistics at Trinity College, Dublin in Ireland. Today, RANDOM.ORG is operated by Randomness and Integrity Services Ltd.

14.4 Walk Theory

Random **walk theory** suggests that changes in stock prices have the same distribution and are independent of each other. Random **walk theory** infers that the past movement or trend of a stock price or market cannot be used to predict its future movement.

Random walk theory suggests that changes in stock prices have the same distribution and are independent of each other. Therefore, it assumes the past movement or trend of a stock price or market cannot be used to predict its future movement. In short, random walk theory proclaims that stocks take a random and unpredictable path that makes all methods of predicting stock prices futile in the long run. Random walk theory suggests that changes in stock prices have the same distribution and are independent of each other.

- Random walk theory infers that the past movement or trend of a stock price or market cannot be used to predict its future movement.
- Random walk theory believes it's impossible to outperform the market without assuming additional risk.
- Random walk theory considers technical analysis undependable because it results in chartists only buying or selling a security after a move has occurred.
- Random walk theory considers fundamental analysis undependable due to the often-poor quality of information collected and its ability to be misinterpreted.
- Random walk theory claims that investment advisors add little or no value to an investor's portfolio.

Efficient Markets are Random

The random walk theory raised many eyebrows in 1973 when author Burton Malkiel coined the term in his book "A Random Walk Down Wall Street." The book popularized the efficient market hypothesis (EMH), an earlier theory posed by University of Chicago professor William Sharp. The efficient market hypothesis states that stock prices fully reflect all available information and expectations, so current prices are the best approximation of a company'sintrinsic value. This would preclude anyone from exploiting mispriced stocks consistently because price movements are mostly random and driven by unforeseen events. Sharp and Malkiel concluded that, due to the short-term randomness of returns, investors would be better off investing in a passively managed, well-diversified fund. A controversial aspect of Malkiel's book theorized that "a blindfolded monkey throwing darts at a newspaper's financial pages could select a portfolio that would do just as well as one carefully selected by experts."

14.4.1 Random Walk Theory in Action

The most well-known practical example of random walk theory occurred in 1988 when the Wall Street Journal sought to test Malkiel's theory by creating the annual Wall Street Journal Dartboard Contest, pitting professional investors against darts for stock-picking supremacy. Wall Street Journal staff members played the role of the dart-throwing monkeys. After 100 contests, the Wall Street Journal presented the results, which showed the experts won 61 of the contests and the dart throwers won 39. However, the experts were only able to beat the Dow Jones Industrial Average (DJIA) in 51 contests. Malkiel commented that the experts' picks benefited from the publicity jump in the price of a stock that tends to occur when stock experts make a recommendation. Passive management proponents contend that, because the experts could only beat the market half the time, investors would be better off investing in a passive fund that charges far lower management fees.